[Course Overview](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live)

[Course Overview](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live)

[Hello, my name is Deborah Kurata, and I'd](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=5.83) [like to welcome you to my course, Angular:](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=8.54) [Getting Started, from Pluralsight. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=10.95) [beginner‑level course takes you on a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=13.93) [journey through the basic features of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=15.66) [Angular. It guides you down the right](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=17.66) [path, making your own journey with Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=20.02) [more pleasant and productive. Along the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=22.62) [way, we build a sample application so you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=25.44) [can code along or use it as a reference](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=28.28) [for your own development. You'll see how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=30.84) [Angular provides a consistent set of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=33.6) [patterns for building components,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=35.77) [templates, modules, and services, helping](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=38.24) [you come up to speed quickly. This course](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=41.66) [covers how to build components, how to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=44.6) [create the user interface for your](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=46.97) [application in a template, and power it up](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=48.64) [with data binding and directives. You'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=51.29) [discover how to build services for logic](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=53.97) [needed across components and inject those](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=56.61) [services where they are needed. You'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=59.27) [learn how to send requests to a web server](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=61.58) [using HTTP and observables. And you'll see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=64.14) [how to set up routing to navigate between](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=68.08) [the views of your application. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=70.55) [addition, you'll see how to use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=73) [Angular command‑line interface, or CLI, to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=74.89) [generate, execute, test, and deploy your](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=78.76) [Angular application. By the end of this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=81.97) [course, you will know the basics you need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=84.71) [to get started building your own Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=86.54) [applications. I hope you'll join me on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=88.91) [this journey through Angular: Getting Started, from Pluralsight.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m0&clip=0&mode=live&start=91.73)

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My name is Deborah Kurata,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=14.5) [and this course provides the basics you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=17.34) [need to get started building an Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=19.56) [application. As we journey through this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=21.91) [course, we'll discover Angular's many](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=25.1) [features and uncover the answers to key](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=27.3) [questions. For example, what is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=29.56) [component? Where do we put the HTML for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=32.67) [our user interface? When should we use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=35.76) [data binding? Why do we need a service?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=38.51) [And how? How do we build an Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=41.235) [application? The who, of course, is you.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=44.67) [This course guides you down the right](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=47.97) [path, making your own journey with Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=49.87) [more pleasant and productive. As we start](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=52.36) [this journey, let's get the lay of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=55.95) [land and take a high‑level look at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=57.85) [Angular. Simply stated, Angular is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=59.78) [JavaScript framework for building](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=62.98) [client‑side applications using HTML, CSS,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=64.96) [and TypeScript, which is a typed superset](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=69.08) [of JavaScript. Why Angular and not some](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=72.05) [other JavaScript framework? And there are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=75.09) [lots of JavaScript frameworks out there.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=77.42) [Angular makes our HTML more expressive. It](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=79.32499999999999) [powers up our HTML with features such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=83.06) [if conditions, for loops, and local](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=85.52) [variables. Angular has powerful data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=87.36) [binding. We can easily display fields from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=90.09) [our data model, track changes, and process](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=92.73) [updates from the user. Angular promotes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=95.52) [modularity by design. Our applications](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=98.05) [become a set of building blocks, making it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=100.81) [easier to create and reuse content. And](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=102.74) [Angular has built‑in support for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=105.44) [communication with a back‑end service.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=107.17) [This makes it easy for our web](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=109.74) [applications to integrate with a back‑end](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=111.1) [service to get and post data or execute](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=113.19) [server‑side business logic. No wonder](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=115.89) [Angular is so very popular with millions](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=118.39) [of web developers. With so many developers](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=120.83) [already using AngularJS, why did we need a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=124.15) [new Angular? Angular is built for speed.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=127.63) [It has faster initial loads, faster change](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=131.47) [detection, and improved rendering times.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=133.97) [Angular is modern. It takes advantage of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=136.71) [features provided in the latest JavaScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=139.55) [standards and beyond, such as classes,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=141.73) [modules, and decorators, yet it supports](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=144.24) [both greenfield and legacy browsers.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=147.03) [Angular has a simplified API. It has fewer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=150.04) [built‑in directives to learn, simpler](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=153.42) [bindings, and a lower overall concept](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=155.69) [count. And Angular enhances our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=158.25) [productivity to improve our day‑to‑day](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=160.53) [workflow. You'll see these productivity](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=163.04) [improvements as we go through this course,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=165.53) [and we'll discern a consistency of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=168.24) [patterns for building the blocks that form](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=170.28) [an Angular application. In this first](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=172.78) [module, we lay out the anatomy of an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=176.44) [Angular application. We consider several](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=178.57) [suggestions for getting the most from this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=181.28) [course. We explore the sample application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=183.32) [that we'll build throughout this course,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=186.23) [and we'll look at the topics we'll cover](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=188.47) [in the remainder of this course. Now let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=190.44) [check out the anatomy of an Angular application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=0&mode=live&start=193.5)

[Anatomy of an Angular Application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live)

[In Angular, an application is comprised of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=2.44) [a set of components and services that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=5.23) [provide functionality across those](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=8.14) [components. So what is an Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=10.92) [component? Each component is comprised of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=13.04) [a template, which is the HTML for the user](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=16.73) [interface fragment defining a view for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=19.36) [application. Add to that a class for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=21.47) [code associated with the view. The class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=24.3) [contains the properties or data elements](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=26.88) [available for use in the view and methods,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=28.96) [which perform actions for the view, such](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=31.65) [as responding to a button click. A](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=33.6) [component also has metadata, which](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=36.46) [provides additional information about the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=38.63) [component to Angular. It is this metadata](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=40.48) [that identifies the class as an Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=43.34) [component. So a component is a view](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=45.69) [defined with a template. It's associated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=48.61) [code defined with a class and additional](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=50.81) [information defined with metadata. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=53.43) [look at this in more detail in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=56.37) [upcoming modules. As we build these](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=58.09) [components, how do we pull them together](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=60.71) [into an application? We define Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=63.2) [modules. Angular modules help us organize](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=66.39) [our application into cohesive blocks of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=69.84) [functionality. Every Angular application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=72.18) [has at least one Angular module called the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=75.37) [applications root Angular module. An](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=78.31) [application can have any number of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=81.38) [additional Angular modules, including](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=83.35) [feature modules that consolidate the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=85.86) [components for a specific application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=87.86) [feature. We'll see much more about Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=90.08) [modules along our journey. For now, let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=92.89) [look at some tips for getting the most from this course.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=1&mode=live&start=96.2)

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[First are the prerequisites. 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You don't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=13.98) [have to have much experience, but a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=17.12) [working knowledge of each will help you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=18.82) [get the most from this course. Though not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=20.42) [required, it is helpful if you have had](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=23.01) [some exposure to object‑oriented](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=24.92) [programming concepts, maybe through coding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=26.74) [with C++, C#, Java, or PHP. But if you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=29.16) [don't have any exposure to OOP, that's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=32.82) [okay. You do not need any prior knowledge](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=35.16) [of Angular or TypeScript. We'll cover what](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=38.19) [you need in this course. Another way to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=40.82) [get the most from this course is to join](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=43.88) [the discussion. Thoughts, comments, or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=45.78) [questions as you watch this course? Feel](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=48) [free to use the Discussion tab. 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It would be great to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=56.7) [hear about your experiences with Angular.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=59.26) [There is also a blog post specifically for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=62.74) [this course at the URL shown here. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=65.33) [post lists common issues along with their](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=68.74) [solutions. If you are having problems with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=70.91) [the code for the course, check here first.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=73.5) [There may already be a solution posted.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=76.46) [Keep this URL handy as you work through](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=79.19) [the course. When building web](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=81.53) [applications, regardless of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=83.72) [technologies we use, there are often lots](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=85.29) [of steps and places where things can go](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=87.94) [wrong. That's where a good checklist can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=89.91) [come in. I'll present checklists at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=92.32) [end of each module, and we'll use them as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=94.77) [a brief review of what was covered in that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=96.98) [module. Feel free to jump ahead to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=98.95) [checklist if you have any problems when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=101.34) [coding along with the demos in the module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=103.26) [And consider referencing these checklists](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=105.6) [as you start building your own Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=107.67) [applications. Coding along on this journey](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=109.57) [is another great way to get the most from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=113.09) [this course. Though not required, it is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=114.95) [often helpful to try out the presented](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=117.28) [code as you navigate through the course.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=119.19) [To get you started, I've set up a public](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=121.13) [GitHub repository specifically for this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=123.61) [course. It is called](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=126.3) [Angular‑GettingStarted, and you can find](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=127.92) [it at this URL. The starter files for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=129.85) [sample application are here. You can use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=132.82) [these files as a starting point if you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=135.29) [want to code along with the demos. If](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=137.05) [you'd prefer to follow along with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=139.43) [completed code, you can find that here. If](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=141.08) [you're new to GitHub, simply click this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=144.37) [button to download all of this code as a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=146.05) [ZIP file. So what is this sample application? Let's take a look.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=2&mode=live&start=148.24)

[Sample Application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live)

[To demonstrate the basic features of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=2.64) [Angular, we'll build a sample application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=4.27) [step by step as we journey through this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=6.52) [course. Let's see the finished sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=8.51) [application in action. Welcome to Acme](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=10.7) [Product Management. As its name implies,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=14.14) [this application manages our current list](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=17.09) [of products. Here at the top is our menu](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=19.47) [for access to the key features of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=22.4) [application. In a full‑featured](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=24.19) [application, there would, of course, be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=26.63) [more options here, but we want to limit](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=28.28) [this sample application to the features we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=30.62) [can build within this course. Clicking on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=32.75) [the Product List option displays the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=35.87) [Product List page. We see the page title](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=37.75) [and a table containing the list of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=40.85) [products. If the user clicks the Show](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=42.43) [Image button, the product images appear,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=45) [and the button changes to Hide Image.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=47.5) [Click the button again to hide the images](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=50.03) [and compress the display. Notice the nice](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=51.97) [formatting of our price. And instead of a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=54.4) [number for the rating, we display the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=56.97) [rating in stars. Here at the top is an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=58.49) [input box where the user can enter a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=61.4075) [filter string. When the input box contains](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=63.19) [a value, a Filtered by message appears,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=66.07) [and the product list is filtered to only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=68.53) [those with a product name that contained](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=70.56) [the entered string. Click on a product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=72.5) [name to navigate to the product details.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=75.04) [On the Product Detail page, we see the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=77.95) [page title with the name of the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=79.8) [and all of the product details, including](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=81.72) [a product description, the nicely](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=84.12) [formatted price, and the star rating.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=86.09) [Click the Back button to navigate back to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=89.34) [the Product List page. So not a huge app,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=91.41) [but big enough to demonstrate the basics](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=94.39) [of Angular. As with any Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=96.24) [application, this application is comprised](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=98.41) [of a set of components, including a nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=100.71) [component for the rating stars. It has a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=103.31) [service to get the data, and it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=106.3) [incorporates routing to navigate between](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=108.14) [the pages. Now that we've seen the sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=110.28) [application, how do we build it? As stated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=113.02) [earlier, an Angular application is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=116.69) [comprised of a set of components and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=118.84) [services that provide data and logic](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=121.16) [across those components. With that in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=123.39) [mind, let's break the sample application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=126.18) [into components and services. For the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=128.14) [Welcome page, we'll build a welcome](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=130.63) [component. For the Product. List page,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=132.25) [we'll build a product list component.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=134.73) [Recall that we had a nice visual display](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=137.02) [of stars for our ratings. We want to reuse](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=139.06) [that feature, so we'll build a separate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=141.89) [nestable star component. Clicking on a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=144.1) [product in the Product List page displayed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=146.87) [the product detail. We'll build a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=149.06) [component for that as well and reuse the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=150.93) [star component. Then we need a app](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=153.91) [component that ties our application pieces](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=156.735) [together. And our application gets data,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=159) [so we'll want a product data service.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=162.02) [Lastly, we need an index.html file. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=164.75) [is the file that is downloaded by the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=168.44) [browser when a user accesses our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=170.17) [application. We'll build the basics of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=172.13) [each of these pieces and learn how to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=174.73) [organize the components into Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=176.8) [modules as we journey through this course.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=179.06) [Now let's finish up this introductory](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=182.38) [module with a look at the outline for the remainder of this course.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=3&mode=live&start=184.11)

[Course Outline](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live)

[We start with first things first. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=3) [discuss the tools we'll use, then walk](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=5.65) [through how to set up and run an Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=7.95) [application. Next, we'll dive into](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=10.32) [components. We'll build the app component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=12.49) [using a simple template and minimal](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=14.739999999999998) [component code and metadata. We'll see how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=16.59) [to build the user interface for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=19.46) [application using templates,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=20.99) [interpolation, and directives. We'll power](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=22.51) [up that user interface with data binding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=25.48) [and nicely format our data with pipes.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=27.75) [Next, we'll tackle some additional](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=30.84) [component techniques. We'll define](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=32.48) [interfaces, encapsulate styles, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=34.69) [leverage lifecycle hooks to build better](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=36.87) [components. We'll see how to build a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=39.17) [component designed to be nested within](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=41.67) [other components and how to communicate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=43.7) [between the nested component and its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=46.03) [container. We often have logic or data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=47.69) [that is needed across components. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=50.58) [learn how to build services specifically](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=52.99) [for this purpose and use dependency](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=54.97) [injection to inject those services into](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=57.48) [the components that need them. Most web](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=59.78) [applications need to communicate with a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=62.43) [back‑end server to get or post data and to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=64.26) [execute back‑end business logic. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=66.99) [module, we'll leverage HTTP to retrieve](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=69.84) [the data for our application. Our sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=72.61) [application displays multiple views. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=75.62) [see how to set up routing to navigate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=78.29) [between those views. Next is Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=80.31) [modules. We learn about and use the root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=83.41) [Angular module throughout this course. But](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=86.44) [as the application grows, we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=89.14) [separate its concerns. This course module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=91.11) [reviews the basics of Angular modules and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=94.27) [refactors our application into logical](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=97.22) [blocks using multiple Angular modules.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=99.69) [Through the majority of this course, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=103.24) [create our components and other code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=105.09) [manually, but, spoiler alert, there is an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=106.96) [easier way. We'll learn how to use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=110.37) [Angular CLI to build, test, and deploy our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=112.82) [application. We're covering a lot of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=116.03) [territory, and by the end of our journey,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=118.35) [we'll have a simple, but fully operational](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=120.59) [Angular application. You can use that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=123.26) [application as a reference for your own](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=125.77) [development. Let's start our journey through Angular.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m1&clip=4&mode=live&start=127.96)

[First Things First](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live)

[First things first. Before we can start](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=2.54) [coding with Angular, there are some](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=5.31) [preparatory steps. Welcome back to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=7.25) [Angular: Getting Started, from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=9.92) [Pluralsight. My name is Deborah Kurata,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=11.42) [and in this module, we set up what we need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=14.14) [to work with Angular. A little preparation](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=16.82) [goes a long way toward a successful](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=20.41) [adventure. Before we take that first step](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=22.58) [on our journey with Angular, we need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=25.48) [gather our tools and get everything ready.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=27.47) [In this module, we introduced TypeScript.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=30.78) [We install the tools will need. Then we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=33.81) [set up our Angular application, and we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=36.39) [talk about modules and what they mean in Angular. Let's get started.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=0&mode=live&start=38.75)

[TypeScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live)

[TypeScript is the language we use when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=1.44) [working with Angular. Because we'll use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=3.54) [TypeScript throughout this course, let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=6.14) [take a moment to look at what TypeScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=8.22) [is all about. But first things first.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=10.01) [Let's talk about JavaScript. JavaScript is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=13.13) [the language for the web and is executed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=16.6) [by all browsers. The JavaScript language](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=19.14) [specification standard is officially](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=21.85) [called ECMAScript, or ES. Up until](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=23.93) [recently, the ES versions were defined by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=27.36) [a sequential number. ES3 is supported by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=29.67) [older browsers. ES5 is supported by most](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=32.73) [modern browsers. The ES6 specification was](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=36.21) [renamed ES2015 and introduced many key new](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=39.67) [features, such as classes and arrow](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=43.82) [functions, as we'll see later in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=46.785) [course. Since then, a new version of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=49) [specification has been released each year.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=51.74) [Any newer JavaScript features that we use,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=54.97) [but a browser doesn't support, must first](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=57.65) [be transpiled. What does that mean? Newer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=60.44) [JavaScript features in our code must be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=64.16) [compiled by a tool that converts the newer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=66.33) [JavaScript syntax to comparable older](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=68.85) [syntax before the browser executes it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=71.91) [TypeScript is an open source language](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=75.73) [developed by Microsoft. It is a superset](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=78.05) [of JavaScript, meaning all JavaScript is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=81.11) [valid TypeScript. TypeScript code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=84.42) [transpiles to plain JavaScript. What does](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=86.73) [that mean? Code developed with TypeScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=90.14) [must be compiled and converted to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=92.7) [comparable JavaScript syntax before the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=94.9) [browser executes it. That way we, as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=97.55) [developers, get the benefits of TypeScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=100.48) [features during development, and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=102.69) [browser still get code they understand.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=104.68) [One of the key benefits of TypeScript is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=106.63499999999999) [at strong typing, meaning that everything](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=109.75) [has a data type. Because of the strong](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=112.49) [typing, TypeScript has great tooling,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=115.01) [including inline documentation, syntax](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=117.64) [checking, code navigation, and advanced](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=120.68) [refactorings. So TypeScript helps us](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=123.68) [better reason about our code. And](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=126.46) [TypeScript implements the ES2015](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=129.03) [class‑based object orientation, plus more.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=131.63) [It implements classes, interfaces, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=135.27) [inheritance. So if you have experience](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=137.67) [with an object‑oriented programming](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=140.38) [language, such a C#, C++, or Java, using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=142.01) [TypeScript may feel very natural to you.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=146.78) [This course does not require any prior](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=150.03) [knowledge of TypeScript. I'll cover what](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=152.28) [you need as you need it. But if you want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=154.6) [to learn more about TypeScript, check out](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=156.8) [the TypeScript playground. This website](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=159.01) [allows you to do live coding with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=161.54) [TypeScript, see the transpiled JavaScript,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=163.14) [and run the result, all without installing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=166.1) [anything. There are also several](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=169.48) [TypeScript courses in the Pluralsight](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=172.04) [library, including TypeScript: Getting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=173.94) [Started and TypeScript Fundamentals.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=176.27) [Again, you do not have to know TypeScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=179.34) [for this course. We'll learn it as we go.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=181.37) [Now let's install what we need to get started building our Angular application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=1&mode=live&start=183.70499999999998)

[Installing What We Need: Editor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live)

[The first step in our journey is to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=1.47) [install what we need, starting with a code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=3.41) [editor. There are many editors that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=6.23) [support TypeScript either out of the box](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=8.79) [or with a plugin. We'll select one of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=11.22) [most common editors used by Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=13.84) [developers, Visual Studio Code, often just](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=16.655) [called VS Code. You are welcome to use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=19.94) [your editor of choice, but keep in mind](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=22.93) [that your experience with TypeScript will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=25.4) [be much more pleasurable if you select an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=27.2) [editor that understands TypeScript. If](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=29.81) [your project requires use of Visual](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=33.04) [Studio, consider learning Angular using VS](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=35.06) [Code first. Then migrate your skills to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=38.27) [Visual Studio. You'll be glad you did. So](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=41) [what is VS Code? It's a code editor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=44.72) [created by Microsoft. It runs in Linux,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=47.67) [Windows, and OS X on a Mac. It has great](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=50.834999999999994) [features that support TypeScript coding,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=54.25) [such as auto‑completion, IntelliSense,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=56.64) [syntax checking, and refactorings. It also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=58.975) [integrates well with source control, such](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=63.04) [as Microsoft's TFS and GitHub. And it's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=65.41) [free. If you don't have VS Code installed,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=69.16) [you can download and install it from this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=72.54) [URL. Select the install appropriate for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=74.83) [your OS. Consider pausing the course and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=77.55) [installing VS Code now if you don't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=80.32) [already have it. VS Code is easy to use,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=82.51) [and I'll demonstrate its features as we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=85.61) [progress through this course. If you want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=87.81) [to learn more about VS Code, check out](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=90.59) [their website or this Pluralsight course.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=92.82) [Now that we have a code editor installed, there is one more thing we need.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=2&mode=live&start=96.6)

[Installing What We Need: npm](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live)

[As we prepare for our Angular journey,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=1.44) [there is something more to install before](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=3.46) [we begin, npm, which stands for Node](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=6) [package manager. What's that, you ask? You](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=9.79) [can think of npm as two things. First,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=13.63) [it's an online registry or repository of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=16.66) [open source and free libraries and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=19.88) [packages. It contains many JavaScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=22.74) [packages, such as Angular, TypeScript, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=25.45) [Bootstrap, which is a web‑styling](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=28.39) [framework. Second, npm is a command‑line](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=30.54) [utility for interacting with that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=34.04) [repository. We can type commands such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=36.55) [npm install some library name. Npm will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=39.89) [locate the specified library in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=43.88) [repository and install it on your local](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=45.69) [machine in a subfolder of the current](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=48.48) [folder named node\_modules. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=50.88) [illustration, I'm in the user's Deborah](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=54.91) [folder and install a specific package, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=57.05) [fictitious abc package in this example.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=60.31) [After executing the install command, npm](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=63.36) [locates the abc package in the repository,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=66.33) [creates a node\_modules subfolder in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=69.41) [current folder, and installs the specified](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=71.73) [library and its dependencies in that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=74.57) [subfolder. So npm is a repository and a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=77.72) [command‑line utility you can use to access](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=81.9) [that repository. Npm has become the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=84.45) [package manager for JavaScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=88.13) [applications. With npm, we can install](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=90.02) [libraries, packages, and applications,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=93.07) [along with their dependencies. We'll need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=95.58) [npm to install all the libraries for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=98.32) [Angular. The npm command‑line utility can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=100.51) [also execute scripts to perform tasks such](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=104.32) [as running our application, as we'll see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=107.98) [shortly. Before we can use npm to install](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=110.28) [other things or execute our scripts, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=113.81) [need to install npm. But we can't install](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=116.61) [npm directly. We install it by installing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=120.01) [Node using this link. Let's take a look.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=123.38) [Following this link takes us to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=127.34) [download page for Node, which installs](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=129.15) [npm. Angular minimally requires this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=131.88) [version of npm. Then select the installer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=134.93) [appropriate for your OS. Feel free to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=138.29) [pause the course here and install Node now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=140.98) [if you don't already have it. Installing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=143.6) [Node installs npm. Before we move on,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=145.9) [let's check our npm version. Open a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=149.67) [command window and type npm ‑v, for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=152.71) [version. Be sure you have at least this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=156.16) [version of npm. We now have a code editor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=158.6) [and the required version of npm installed. Do we need anything else?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=3&mode=live&start=162.57)

[Installing What We Need: package.json](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live)

[Now that we have npm installed, we could](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=1.51) [use it to install everything else we need.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=4.06) [So what else do we need? Well, we need the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=6.65) [Angular libraries that comprise the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=9.98) [Angular framework. We'll want the Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=11.85) [CLI, which is the command line interface](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=14.4) [for Angular. We can use the CLI to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=17.05) [generate code, execute our application,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=19.43) [deploy it to production, and much more as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=22.36) [we'll see throughout this course. We need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=24.82) [TypeScript, which is the language we use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=27.43) [with Angular, and we'll want testing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=29.34) [tools, linters, and other supporting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=31.73) [libraries. So, do we need to manually](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=33.72) [install each of these with npm? Luckily,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=37.03) [the answer to that question is no, at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=40.22) [least not directly. A more common practice](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=42.64) [is to define a package.json file that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=45.77) [lists each package we need for our Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=49.06) [application. And as you can see, there are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=51.53) [many of them. We can also specify the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=54.35) [desired version of each package. We then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=57.09) [tell npm to use the package.json file to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=60.08) [install all of the defined packages along](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=63.38) [with their dependencies. In the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=65.88) [package.json file, the list of packages is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=68.34) [divided into two parts. The dependencies](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=71.34) [list is for the packages we need for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=74.2) [development that must also be deployed.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=75.96) [The devDependencies list is for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=79.32) [packages we only need for development. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=81.14) [dependencies list includes the primary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=84.48) [Angular packages, along with supporting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=86.63) [packages, such a RxJS for working with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=88.98) [data. The devDependencies include the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=91.95) [Angular CLI. Here is a linter which](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=95.12) [evaluates our code for best practices.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=97.79) [TypeScript is here in the devDependencies](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=100.5) [since we transpile the code to JavaScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=102.02) [before deployment. And many of these are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=105.4) [for unit and end‑to‑end code tests. By](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=108.12) [defining a package.json file for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=111.62) [Angular application, we ensure everyone on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=113.88) [the team installs the appropriate packages](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=116.55) [and versions. We'll see how to install all](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=119.17) [of the packages in the package.json file as we set up our Angular application next.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=4&mode=live&start=122.46)

[Setting up the Angular Application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live)

[I've already set up the package.json file](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=1.44) [for the Angular application we'll build](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=4.02) [throughout this course. I've also set up](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=5.99) [the support files, style sheets, and data.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=8.44) [These files are available in my GitHub](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=11.31) [repository at this link. We'll create an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=13.26) [Angular application from scratch later in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=16.55) [this course. For now, using these starter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=19.69) [files allows us to get going quickly](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=22.41) [building our Angular application. Let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=24.24) [download these files now. I've navigated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=27.29) [to my GitHub repository following the URL](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=30.35) [from the slide. If you are comfortable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=33) [with Git, you can clone this repository.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=35.73) [Otherwise, click this button to download](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=38.57) [all of the files as a single ZIP file. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=40.81) [APM‑Final folder contains the completed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=44.19) [code for our sample application. Use these](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=47.11) [files if you want to see the end result.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=50.18) [The APM‑Start folder contains the starter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=52.89) [files. These are the files we will use as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=55.29) [the starting point for building our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=58.18) [Angular application. After downloading the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=59.99) [files, copy or extract the files in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=63.03) [APM‑Start folder to a working directory](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=65.82) [called just APM, Your APM folder should](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=68.41) [then look like this. Now let's open the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=72.46) [APM folder with a code editor. I've opened](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=75.31) [the APM working folder with VS Code.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=79.47) [First, let's talk about the directory](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=82.34) [structure. By convention, all of our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=84.3) [source files are under a folder called](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=86.71) [src. Under that folder is an app folder](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=89) [that contains the source files specific](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=92.38) [for our application. We only have a few](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=94.55) [folders and files here now, but we'll add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=97.04) [more as we progress through this course.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=99.66) [For applications of any size, we'll have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=101.52) [subfolders under the app folder for each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=104.81) [major feature in the application. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=107.04) [other files here are configuration and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=109.81) [setup files, often called boilerplate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=112.15) [files. To get us going quickly, we won't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=114.96) [dive into all of these files now. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=117.85) [learn more about them in the building,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=120.65) [testing, and deploying with the CLI module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=122.76) [later in this course. Before we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=125.68) [execute this code, we need to install all](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=128.79) [of the libraries required to develop and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=131.45) [run our application. Where are those](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=133.79) [defined? In the package.json file here.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=136.15) [This file contains a list of all of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=140.1) [application's dependencies. Toward the top](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=142.2) [of this file is a set of scripts. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=145.08) [execute these scripts using npm. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=147.85) [learn more about these scripts throughout](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=150.81) [this course. For now, let's install all of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=152.65) [these libraries. First, open a command](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=155.7) [prompt or terminal. VS Code has an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=158.82) [integrated terminal we can use, View,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=161.21) [Terminal. Next, navigate to the folder](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=163.5) [containing the package.json file. VS Code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=167.29) [did that for us. Then type npm install.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=170.82) [This installs all of the dependencies](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=174.95) [defined in the package.json file, along](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=177.22) [with any of their dependencies. Note that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=180.43) [you may see some warnings and messages](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=183.33) [during this installation process, like](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=185.49) [these. In most cases, you can ignore them.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=188.31) [If you see something like this at the end,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=191.57) [the installation completed successfully.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=194.02) [If you see a message telling you to run a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=197.14) [fix, don't do it. Running a fix will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=199.14) [attempt to update the versions of some of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=201.95) [the packages without updating all of them,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=204.07) [which will cause errors when you try to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=206.97) [run the application. This fix message](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=208.76) [tells you that there are vulnerabilities](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=211.37) [and libraries that will never be deployed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=213.13) [anyway, like the testing libraries, so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=215.17) [ignore this message. Notice that we now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=218.18) [have a node\_modules folder here. This is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=221.02) [where npm installed all our packages. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=223.52) [folder is large, so you may want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=226.76) [exclude it when you check your files into](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=228.79) [a source control system. Now that we have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=230.99) [the libraries installed for our sample application, let's try running it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=5&mode=live&start=233.71)

[Running an Angular Application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live)

[I've included enough additional code with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=1.44) [the starter files to run the sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=3.42) [application, so let's give it a try.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=5.27) [Remember the scripts area in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=8.31) [package.json file? Here is the start](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=10.09) [script. When we type npm start, it will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=12.82) [execute the command defined here. The ng](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=15.98) [executes the Angular CLI. The string after](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=19.26) [the ng is the CLI command. The serve](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=22.31) [command builds the application and starts](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=25.5) [a local web server that allows us to serve](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=27.94) [up the application without deploying it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=30.82) [The ‑o is a command option that opens the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=33.94) [URL in our default browser. The CLI has](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=36.62) [many more commands and options. We'll see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=40.46) [more of them as we progress through this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=42.8) [course. Are we ready to make a go? Let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=44.61) [try out this start script. Back at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=48.01) [command prompt or terminal, type npm](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=50.37) [start. This executes the start script. If](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=53.02) [this is the first time using the Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=56.61) [CLI, you will be asked if you'd like to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=58.46) [share anonymous usage data with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=60.74) [Angular team. This can help the team](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=62.79) [better understand your usage scenarios.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=65.1) [I'll answer with y, but select whichever](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=68.04) [option you prefer. The CLI then builds the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=70.56) [application, starts a web server, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=75.09) [opens the URL in the default browser,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=78.59) [which in my case is Chrome. If all is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=81.31) [well, the application appears in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=84.17) [browser and displays some text, as shown](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=85.83) [here. If the text does not appear or you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=88.58) [see errors in the console, ensure that you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=91.83) [ran npm install successfully, as defined](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=94.52) [in the prior clip. As you can see, our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=97.83) [application doesn't look like much, but](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=100.78) [we'll fix that on our journey through](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=102.91) [Angular. I've moved the windows around so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=104.8) [that we could see the editor, the browser,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=107.7) [and the terminal window. Let's see what](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=109.9) [happens when we make a code change. In the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=112.21) [editor, open the app.component.html file.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=114.86) [Don't worry too much about the syntax here](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=119.3) [yet. We'll talk about it shortly. For now,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=121.31) [we'll just change the welcome text. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=124.24) [immediately see here that our code has](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=126.89) [recompiled, the browser refreshes, and or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=128.81) [updated text appears. So any time we make](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=132.26) [a change to our application, we'll be able](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=135.05) [to immediately see the effect of that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=137.35) [change. That will be helpful. When we are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=139.28) [finished working with our files, we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=142.13) [close the browser, but the server keeps](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=144.28) [running. To stop it, go back to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=147.01) [command prompt or terminal and press](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=149.6) [Ctrl+C or Command+C and Y for Yes. Then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=151.51) [you can exit. Any time you want to run the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=155.89) [application and keep it running to watch](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=158.81) [the effect of your code changes, simply](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=161.39) [open the terminal and use npm start again.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=163.77) [So now we know how to build and run our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=167.39) [code. Yay! You may have noticed that I](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=169.47) [didn't save the file after I made the code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=172.43) [change. When using VS Code, we can set it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=174.89) [to automatically save our changes. Here,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=178.08) [under File, Preferences, Settings,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=181.36) [Workspace settings, I have it set to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=184.58) [automatically save after a short delay.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=187.5) [Before we go any further, let's take a moment and talk about modules.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=6&mode=live&start=190.69)

[About Modules](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live)

[Module is one of those overloaded terms.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=1.5) [Pluralsight uses the term module to refer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=4.58) [to a chapter of learning content.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=6.85) [JavaScript, specifically ES 2015, uses the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=9.24) [term module for the pieces when splitting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=12.86) [up JavaScript programs. In ES 2015, a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=15.37) [module is a file, and a file is a module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=19.27) [So when coding in ES 2015, we don't need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=22.91) [to define or name modules. Just create a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=25.92) [file, write some code, export or import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=28.93) [something, and, bang, the file becomes a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=31.51) [module. Angular leverages ES 2015 modules.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=33.81) [So as we create code files and import or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=38.84) [export something, we create the modules](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=41.58) [for our application. But wait, there's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=44.03) [more. Angular also has Angular modules.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=46.97) [Angular modules are separate and different](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=51) [from Angular's implementation of ES 2015](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=53.44) [modules. Let's look first at how Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=56.74) [makes use of ES 2015 modules. Then we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=59.49) [introduce Angular modules. How do ES 2015](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=63.19) [modules work? Say we create a code file](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=67.91) [called product.ts and export a class named](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=70.92) [Product from that file. This file then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=74.68) [becomes a module. Because the class is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=77.55) [exported, we can use that class in any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=80.83) [other module by importing it. So here we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=82.53) [have a file called product‑list.ts, and we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=85.79) [import our Product class. This file also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=89.76) [becomes a module because we imported](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=93.12) [something. Notice the syntax here. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=95.25) [curly braces, we define the name we want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=98.2) [to import, in this case Product, and we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=100.56) [define the file we want to import it from.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=103.74) [Here we want to import from product.js.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=106.88) [Wait. What? The Product class is in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=110.34) [product.ts. But when we compile, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=113.39) [TypeScript file is transpiled into an ES5](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=116.91) [JavaScript file. So at runtime, we are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=120.03312499999998) [importing from the .js file. But notice](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=123.14) [that we don't list the extension here](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=126.72) [anyway. Now let's look at Angular modules.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=128.53) [Angular modules help organize an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=132.74) [application into cohesive blocks of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=134.78) [functionality. Every Angular application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=136.98) [has at least one Angular module by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=139.93) [convention called app module. As an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=142.89) [application gets more features, we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=145.77) [group those features into their own](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=147.74) [feature modules. We can even define shared](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=149.68) [or common modules for code used by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=152.87) [multiple Angular modules. This keeps the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=155.11) [code organized and provides a cohesive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=157.84) [unit we can load on Start or lazy load as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=160.4) [it is needed. In each Angular module, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=163.08) [declare the set of components and other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=165.89) [code files associated with the module and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=167.99) [the dependencies needed by those](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=170.98) [components. Each component we create is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=172.85) [declared in and belongs to one and only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=175.93) [one Angular module. We'll talk much more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=179.47) [about Angular modules throughout this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=183.26) [course. Let's clarify the difference](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=185.29) [between ES 2015 modules and Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=188.2) [modules. ES modules are code files that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=191.59) [import or export something. Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=195.03) [modules are code files that organize the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=197.99) [application into cohesive blocks of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=200.52) [functionality. ES modules organize our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=202.73) [code files. Angular modules organize our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=206.31) [application. ES modules modularize our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=210.13) [code. Angular modules modularize our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=213.8025) [application. ES modules promote code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=217) [reuse. Angular modules promote boundaries](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=220.755) [within our application. So ES modules are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=223.77) [about code files, and Angular modules are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=227.65) [about our application. To keep these terms](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=230.89) [straight, I'll refer to the ES 2015](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=233.98) [modules as ES modules and Angular modules as Angular modules.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=7&mode=live&start=236.71)

[Summary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live)

[In this module, we introduced TypeScript.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=1.49) [TypeScript has all the productivity](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=4.47) [features of newer versions of JavaScript,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=6.24) [plus strong typing for better tooling.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=8.69) [Next, we installed what we needed. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=11.54) [installed VS Code as our code editor, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=13.97) [installed Node, which installed npm, or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=16.55) [Node package manager. We downloaded the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=19.46) [starter files from my GitHub repository](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=22.24) [and used npm to install the packages for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=24.53) [our Angular application, as defined in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=27.35) [package.json file. We then saw how to open](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=29.94) [this sample application in VS Code and use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=33.21) [npm scripts to run that application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=35.805) [Lastly, we covered ES modules and how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=39.14) [TypeScript uses ES module syntax to export](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=41.75) [and import functionality from our ES](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=44.94) [modules. We introduced Angular modules and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=47.4) [how they organize our application and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=50.81) [promote application boundaries. Recall the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=53.38) [architecture for the sample application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=56.84) [that we are building that we outlined in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=58.85) [the first module? Since I used the Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=60.62) [CLI to create the starter files, it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=63.08) [created the index.html file and our root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=65.91) [AppComponent. In the next module, we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=69.68) [examine these files and start writing some Angular code.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m2&clip=8&mode=live&start=72.57)

[Introduction to Components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live)

[In the last module, we set up the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=1.44) [infrastructure for our Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=3.18) [application. Now we are ready to build our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=4.62) [first component. Welcome back to Angular:](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=7.67) [Getting Started, from Pluralsight. My name](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=10.66) [is Deborah Kurata, and in this module, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=13.31) [walk through building a very basic](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=16.12) [component with a focus on clearly defining](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=17.7) [the component's parts, their meaning, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=20.45) [their purpose. We can think of our Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=23.3) [application as a set of components. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=26.39) [create each component, then arrange them](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=29.09) [to form our application. If all goes well,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=31.48) [those components work together in harmony](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=34.58) [to provide the user with a great](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=36.92) [experience. In this module, we take a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=38.7) [closer look at what an Angular component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=42.51) [is and examine the code we need to build](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=44.72) [one. We walk through how to create the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=47.04) [component's class and how and why we need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=49.26) [to define metadata. We look at how to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=51.86) [import what we need from external modules,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=54.42) [and we discover how to bootstrap the app](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=57.49) [component to bring our application to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=59.959999999999994) [life. We'll continue to add to this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=62.25) [application throughout this course.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=64.38) [Lastly, we discuss the Angular compiler](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=67.3) [and where to find syntax and compiler](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=70.28) [error messages in case something goes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=72.71) [wrong along the way. Looking again at our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=75.18) [application architecture that we defined](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=78.46) [in the first module, I had used the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=80.68) [Angular CLI to create the initial content](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=83.05) [for my starter files, including the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=85.81) [index.html file and the app component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=88.37) [which I then updated for our sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=91.95) [application. In this module, we'll rebuild this app component. Let's get started.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=0&mode=live&start=94.09)

[What Is a Component?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live)

[An Angular component includes a template,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=2.34) [which lays out the user interface](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=4.87) [fragment, defining a view for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=6.69) [application. It is created with HTML and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=8.55) [defines what is rendered on the page. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=12.09) [use Angular binding and directives in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=14.8) [HTML to power up the view. We'll cover](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=17.01) [binding and directives in a later module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=20.07) [Add to that a class for the code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=23.04) [associated with the view, the classes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=24.75) [created with TypeScript. The class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=27.2) [contains the properties or data elements](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=29.77) [available for use in the view. For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=32.12) [example, if we want to display a title in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=34.31) [the view, we define a class property for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=36.84) [that title. The class also contains](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=39.37) [methods, which are the functions for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=41.74) [logic needed by the view. For example, if](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=43.57) [we want to show and hide an image, we'd](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=46.89) [write the logic in a class method. A](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=49.01) [component also has metadata, which](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=51.92) [provides additional information about the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=54.5) [component to Angular. It is this metadata](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=56.48) [that defines this class as an Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=59.69) [component. The metadata is defined with a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=62.26) [decorator. A decorator is a function that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=65.42) [adds metadata to a class, its members, or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=68.27) [its method arguments. So a component is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=71.49) [view defined in a template, it's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=74.78) [associated code defined with the class,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=77.05) [and metadata defined with a decorator.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=79.64) [Want to see what a component looks like in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=83.14) [TypeScript? Here is a simple component. It](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=86.25) [might look complex at first, so let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=89.1) [break this component into chunks, starting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=91) [at the bottom. Here is our class. It](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=93.22) [defines the properties and methods needed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=96.37) [by our view. Here is the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=98.52) [decorator that defines the metadata. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=101.13) [metadata includes the template that lays](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=104.05) [out the view managed by this component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=106.5) [and here we import the members that we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=109.24) [need. Let's examine each of these chunks](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=111.51) [in more detail, starting at the bottom with the class.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=1&mode=live&start=114.29)

[Creating the Component Class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live)

[If you have done any object‑oriented](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=2.34) [programming in languages such a C#,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=4.43) [VB.NET, Java, or C++, this code should](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=6.99) [look familiar. A class is a construct that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=10.72) [allows us to create a type with properties](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=13.8) [that define the data elements and methods](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=16.48) [that provide functionality. We define a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=18.96) [class using the class keyword followed by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=21.72) [the class name. A common Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=24.59) [convention is to name each component class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=26.96) [with the feature name, then append the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=29.49) [word component as the suffix. Also, by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=31.47) [convention, the root component for an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=34.78) [application is called AppComponent, as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=36.61) [shown here. This class name is used as the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=39.51) [component name when the component is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=42.44) [referenced in code. The export keyword](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=44.25) [here at the front exports this class,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=47.1) [thereby making it available for use by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=49.79) [other components of the application. And](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=52) [as we learned in the last course module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=54.85) [since this file exports something, this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=57.16) [file is now an ES module. Within the body](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=59.19) [of the class are the properties and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=62.42) [methods. In this example, we only have one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=64.37) [property and no methods. A property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=67.36) [defines a data element associated with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=70.35) [class. We start with the property name,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=72.79) [which by convention is a noun describing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=75.65) [the data element, and it is in camelCase,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=78.05) [whereby the first letter of the name is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=80.95) [lowercase. In this example, it is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=82.78) [title of the page. Using TypeScript's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=85.51) [strong typing, we follow the property name](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=88.59) [with a colon and its data type. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=91.09) [example, the pageTitle property is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=93.99) [string. We can optionally assign a default](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=95.99) [value to the property as shown in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=98.98) [example. Methods are normally defined](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=101.75) [within the class body after all of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=103.71) [properties. Method names are often verbs](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=106.09) [that describe the action the method](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=109.09) [performs. Method names are also in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=110.76) [camelCase, whereby the first letter of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=113.26) [name is lowercase. So that's it for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=115.28) [class. But a class alone is not enough to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=118.97) [define a component. We need to define the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=122.06) [template associated with this component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=124.79) [class. How do we provide this extra](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=126.93) [information to Angular? With metadata. Let's look at that next.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=2&mode=live&start=129.54)

[Defining the Metadata with a Decorator](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live)

[A class becomes an Angular component when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=2.55) [we give it component metadata. Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=4.94) [needs that metadata to understand how to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=8.06) [instantiate the component, construct the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=10.47) [view, and interact with the component. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=12.21) [define a component's metadata with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=15.22) [Angular component function. In TypeScript,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=17.21) [we attach that function to the class as a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=20.36) [decorator. A decorator is a function that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=22.73) [adds metadata to a class, its members, or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=26.67) [its method arguments. A decorator is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=29.67) [JavaScript language feature that is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=32.72) [implemented in TypeScript. The scope of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=34.74) [the decorator is limited to the feature](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=37.33) [that it decorates. A decorator is always](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=39.41) [prefixed with an @ sign. Angular has](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=42.54) [several built‑in decorators we used to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=45.27) [provide additional information to Angular.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=47.48) [We can also build our own decorators, but](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=50.01) [that is out of the scope of this course.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=52.57) [We apply a decorator by positioning it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=55.44) [immediately in front of the feature we are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=57.72) [decorating. When decorating a class, as in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=59.52) [this example, we define the decorator](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=62.43) [immediately above the class signature.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=64.61) [Notice that there is no semicolon here.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=67.34) [This syntax is similar to attributes used](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=69.87) [in other programming languages. We used](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=72.42) [the @Component decorator to identify the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=75.13) [class as a component. Since the decorator](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=77.57) [is a function, we always add parentheses.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=80.61) [We pass an object to the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=83.42) [function as indicated with the curly](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=85.29) [braces. The object we pass in, has many](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=87.2) [properties. We are only using two of them](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=90.44) [here. If we plan to reference the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=93.03) [component in any HTML, we specify a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=95.7) [selector. The selector defines the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=98.69) [component's directive name. A directive is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=101.16) [simply a custom HTML tag. Whenever this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=104.35) [directive is used in the HTML, Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=107.93) [renders this component's template. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=110.59) [see how this works in the upcoming demo. A](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=113.52) [component should always have a template.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=116.38) [Here we define the layout for the user](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=118.85) [interface fragment or view managed by this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=121.34) [component. The double curly braces](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=123.56) [indicate data binding. We bind the h1](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=126.12) [element value to the pageTitle property of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=129.36) [the class. So when this HTML is rendered,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=131.92) [the h1 element displays Acme Product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=135.42) [Management. We'll see that in the upcoming](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=138.15) [demo as well, and we'll cover more about](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=140.68) [binding in a later module. There is one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=142.91) [more key task before our component is complete, importing.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=3&mode=live&start=145.65)

[Importing What We Need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live)

[Before we can use an external function or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=2.44) [class, we need to define where to find it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=4.48) [We do that with an import statement. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=7.58) [import statement is part of ES2015 and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=10.66) [implemented in TypeScript. It is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=13.78) [conceptually similar to the import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=15.92) [statement in Java or the C# using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=17.87) [statement. The import statement allows us](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=20.59) [to use exported members from external](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=23.28) [modules. Remember how we just exported our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=25.85) [class using the export keyword? That means](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=29.13) [that other modules in our application can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=32.02) [import our exported class if needed. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=34.11) [use the import statement throughout our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=37.42) [code to import any third‑party library,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=39.2) [any of our own modules, or from Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=42.15) [itself. We can import from Angular because](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=45.17) [Angular is modular. It is a collection of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=49.04) [library modules. Each library is itself a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=52.41) [module made up of several related feature](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=55.79) [modules. When we need something from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=58.3) [Angular, we import it from an Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=60.58) [library module, just like we import from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=62.55) [any other external module. Use this link](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=65.37) [if you want to view the list of available](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=68.66) [Angular library packages and their current](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=70.61) [versions. In our component code, we use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=73.28) [the @Component decorator function from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=76.65) [Angular to define our class as a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=78.75) [component. We need to tell Angular where](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=80.69) [to find this function, so we add an import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=83.66) [statement and import { Component } from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=86.4) ['@angular/core'; like this. We start with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=88.7) [the import keyword. We identify the name](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=91.83) [of the member we need within curly braces.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=94.71) [In this case, we need the @Component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=97.6) [decorator function, and we define the path](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=99.36) [to the module containing that member. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=102.3) [this case, the @angular/core library](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=104.82) [module. If we need multiple members from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=106.87) [the same module, we can list them all in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=109.74) [the imports list, separated by commas.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=112.17) [We'll see examples of that later in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=115.03) [course. So this is a component. Now we're](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=117.05) [ready to build the first component for our sample application. Let's jump in.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=4&mode=live&start=121.07)

[Demo: Creating the App Component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live)

[In this demo, we build our app component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=1.54) [which is the root component for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=4.03) [application. Here we are in the editor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=5.83) [with the APM folder open. This is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=8.54) [folder we set up in the last module from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=11.19) [the starter files I provided. Let's open](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=13.4) [the src folder, and under that, the app](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=16.02) [folder. Since I used the Angular CLI to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=18.97) [create the starter files, it created the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=21.68) [root app component. It named the file](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=24.29) [app.component.ts. The file naming](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=27.37) [convention that we'll follow throughout](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=31) [this course is to start with the feature](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=32.68) [name. This is our root application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=35.02) [component, so by convention, it's called](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=37.36) [app, then a dot, then the type of ES](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=40.04) [module defined in this file, in this case,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=42.98) [component, to identify this ES module as a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=45.87) [component. Another dot and the extension.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=49.16) [Since we are using TypeScript, we'll use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=52.14) [ts as the extension. Let's open that file.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=55.41) [In VS Code, I can click the Explorer icon](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=59.94) [to close the Explorer and see more of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=62.8) [code. I can reopen the Explorer by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=65.1) [clicking the icon again. Now I'll delete](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=67.65) [the starter code for this file so we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=70.19) [build the app component from scratch. I](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=72.41) [like to start coding by building the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=75) [class, but the order of these steps really](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=76.47) [don't matter. When we build a class, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=78.88) [first type in the export keyword to ensure](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=81.39) [that other parts of the application can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=84.19) [use this class. Next, we type in the class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=86.19) [keyword, then the name of the class. Since](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=89.05) [this is our application component class,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=91.94) [we'll follow conventions and name it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=94.19) [AppComponent. Inside this class, we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=96.12) [define one property, the pageTitle. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=98.99) [type the property name followed by a colon](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=102.44) [and the property data type, which for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=105.06) [pageTitle is a string. Notice how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=108.01) [IntelliSense helps us here. For this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=110.54) [property, we want to define a default](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=112.94) [value for the pageTitle. Next, we define](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=115.15) [the Component decorator above the class.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=118.69) [The Component decorator always begins with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=121.84) [an at sign, then the name of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=124.2) [decorator, and we're using the Component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=126.25) [decorator. The Component decorator is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=128.86) [function, so we type parentheses. And](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=131.46) [we're going to pass in an object, so we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=134.52) [type in curly braces. Notice how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=136.86) [TypeScript has underlined the Component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=139.96) [decorator and flagged it as an error. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=141.9) [error is, Can't find name 'Component'. Any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=144.82) [guesses on what the problem is? If you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=148.38) [said that we are missing the import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=150.82) [statement, you are right. We need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=152.53) [import the Component decorator from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=155.46) [Angular/core. Now the error underline goes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=159.83) [away, and we can complete the metadata. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=163.09) [the Component metadata, we specify a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=166.44) [selector for the name of this component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=168.52) [when used as a directive in the HTML. Now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=170.83) [that we've imported the appropriate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=174.08) [module, we get IntelliSense for these](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=175.66) [properties. We set the selector two](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=178.42) [pm‑root. The current convention is to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=181.13) [prefix each selector with something to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=184.46) [identify it as part of our application, so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=186.44) [we selected pm for product management. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=189.43) [end with a name that represents this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=193.04) [component, so we used root since this is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=194.91) [our root app component. We'll see how to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=197.99) [identify our desired selector prefix to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=200.69) [the Angular CLI in the building, testing,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=203.21) [and deploying with the CLI module later in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=206.13) [this course. Next, we define the template.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=208.66) [To specify another property here, we enter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=211.59) [a comma and then the name of the other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=215.06) [property. We want to define template. Any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=217.41) [valid HTML can be specified in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=220.83) [template. We'll dive deeper into templates](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=223.12) [in a later module. So for this example,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=225.62) [I'll just paste in the HTML, and we're](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=228.62) [done. We have now created the first](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=232) [component for our application. Yay! But](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=234.74) [how do we use it? How do we display its template?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=5&mode=live&start=238.28)

[Bootstrapping Our App Component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live)

[You may have heard the saying, pulling](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=2.44) [yourself up by your bootstraps, originally](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=4.42) [meaning to improve your situation by your](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=7.3) [own efforts. In tech, it has come to mean](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=9.49) [a self‑starting process that loads and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=12.01) [goes. We need to tell Angular to load our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=14.42) [root component through a process that is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=17.07) [called bootstrapping. We first set up the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=19.13) [index.html file to host our application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=21.88) [Then we define our root Angular module to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=25.42) [bootstrap our root component. Let's look](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=27.84) [at both of these steps. Client‑side web](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=30.75) [applications often work like this: A user](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=33.9) [accesses a specific URL. The server](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=36.98) [associated with that URL is located and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=40.21) [sent a request. The server responds by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=43.12) [returning its default web page,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=46.3) [index.html. The browser receives and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=48.53) [processes that index.html file. For an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=52.36) [Angular application, the index.html file](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=56.29) [contains script tags referencing the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=59.57) [application files that were transpired and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=61.79) [bundled into several JavaScript files.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=64.88) [These application files are then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=68.23) [downloaded to and processed by the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=69.94) [browser, and the application's main page](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=71.99) [appears. The index.html file contains that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=74.88) [main page for the application. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=79.15) [index.html file is often the one true web](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=82.17) [page of the application. Hence, an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=85.92) [application is often called a single‑page](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=88.43) [application, or SPA. But don't worry. It](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=91.26) [will look to the user like we have lots of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=95.3) [pages, as we saw in the demo at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=97.35) [beginning of this course. What we do is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=99.26) [insert bits of HTML into the one HTML page](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=101.9) [defined in index.html. Let's see how that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=105.625) [works. Here again is our AppComponent just](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=109.37) [shifted to the right. Recall that the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=113.09) [selector is the name of the component when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=115.58) [we use it as a directive in HTML. And the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=117.75) [template defines the HTML that we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=121.21) [display. So in the index.html file we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=123.67) [simply add the selector where we want our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=127.69) [template displayed. Here in the template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=130.15) [we call this a directive. A directive is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=132.64999999999998) [basically a custom element. As soon as the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=135.62) [loading is complete, the HTML defined in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=138.64) [the component template is inserted between](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=141.47) [the selector element tags and appears on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=143.87) [the page. But how does the Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=146.85) [compiler know about this custom HTML](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=149.55) [element? It looks in an Angular module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=152.55) [Angular modules help us organize our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=156.77) [application into cohesive blocks of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=158.97) [functionality and provide boundaries](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=160.96) [within our application. They also provide](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=163.58) [a template resolution environment. What](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=166.94) [does that mean? When the Angular compiler](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=169.79) [sees a directive and a template, it looks](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=172.45) [to the Angular module for the definition.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=174.9) [So we declare the AppComponent in an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=178.05) [Angular module so the compiler can find](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=180.15) [it. We also use the module to bootstrap](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=182.77) [our startup component, which is our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=185.87) [AppComponent. And we want our application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=188.19) [to work correctly in the browser, so we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=191.18) [add Angular's BrowserModule to our Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=193.43) [module's imports. Okay, pictures are nice,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=196.5) [but what does that look like in code? Here](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=200.34) [is our application's root Angular module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=203.61) [As with most everything in Angular, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=207.13) [define an Angular module using a class. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=209.17) [identify the class as an Angular module by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=212.72) [attaching the NgModule decorator and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=215.93) [passing in metadata defining the details](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=219.04) [of this Angular module. For the NgModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=221.67) [decorator, the properties are arrays. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=225.01999999999998) [the declarations array, we define which of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=228.38) [our components belong to this module. By](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=230.91) [convention, our root application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=234.41) [component, AppComponent, belongs to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=236.41) [application's root Angular module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=239.23) [AppModule, so we declare it here. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=241.77) [add other components here as well. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=245.39) [cover best practices for organizing our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=247.94) [application into Angular modules later in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=250.19) [this course. For now, all of our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=252.93) [components will be declared here. In the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=255.23) [imports array, we define the external](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=258.15) [modules that we want to have available to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=260.79) [all of the components that belong to this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=263.18) [Angular module. External modules could be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=265.36) [modules provided by Angular, a third](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=268.21) [party, or our own Angular modules. Here we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=270.67) [import BrowserModule, which every browser](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=274.59) [application must import. BrowserModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=277.41) [registers important application service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=280.48) [providers such as error handling. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=283.28) [bootstrap array defines the startup](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=285.43) [component of the application, which is our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=287.55) [AppComponent. The startup component should](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=290.36) [contain the selector we use in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=293.07) [index.html file, which in this case it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=295.07) [does. Now let's check it out in the sample application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=6&mode=live&start=298.53)

[Demo: Bootstrapping Our App Component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live)

[In this demo, we'll set up index.html to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=1.63) [host our application and examine the root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=4.92) [Angular module that bootstraps our app](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=8) [component. Here we are back with our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=10.942499999999999) [sample application exactly how we left it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=14.11) [Since I used the Angular CLI to create](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=17.11) [these starter files, the index.html file](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=19.79) [is already hosting our app component, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=23.25) [the app.module.ts file already bootstraps](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=26.05) [our app component. Let's take a look](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=29.81) [starting with the index.html file. To host](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=32.39) [our application, we use the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=35.91) [selector as a directive here within the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=38.1) [body element. We can think of a directive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=40.14) [as simply a custom HTML tag. Since I used](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=42.9) [the Angular CLI to create the starter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=46.74) [files, the directive is already included](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=48.7) [here. Now let's open the app.module.ts](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=51.22) [file. Here is the class, and here is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=54.5) [@NgModule decorator defining this class as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=58.63) [an Angular module. The declaration's array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=61.62) [declares the AppComponent so that Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=64.56) [can locate its selector. The imports array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=67.16) [includes BrowserModule so the application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=70.07) [runs correctly in the browser, and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=72.9) [bootstrap array lists our AppComponent as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=75.26) [the starting component for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=78.01) [application. Looks like we are ready to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=79.52) [run. We saw in the last module how to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=82.23) [start the application by typing npm start](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=85.17) [in a terminal or command window. When the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=88.33) [root AppComponent is loaded, the HTML from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=91.31) [our component appears, and the binding in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=94.36) [that HTML is replaced with the value of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=97.06) [our page title property. We now have a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=99.57) [working, albeit very small, application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=102.12) [Before closing the browser, let's take a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=105.655) [moment and look at the browser developer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=108.44) [tools. In Chrome, I'll press F12. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=110.44) [exact tools you see here depend on the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=114.21) [browser you are using. I'm using Chrome.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=116.14) [Most modern browsers provide a Console tab](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=119.43) [as part of the development tools. This is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=121.96) [always the first place to look if the page](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=124.47) [does not appear as expected or doesn't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=126.27) [appear at all. Errors, warnings, and other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=128.71) [information is displayed here. Use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=131.29) [Elements tab or DOM explorer to view the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=134.13) [HTML displayed in the page. This is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=136.86) [depiction of the DOM, or document object](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=140.05) [model. The document object model is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=142.63) [document model loaded into the browser and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=145.4) [represents our HTML as a node tree where](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=148.25) [each node is a part of our HTML. Notice](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=151.31) [these scripts listed here. These aren't in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=154.56) [our source index.html file. We'll talk](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=157.12) [about these bundles, what they are, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=160.28) [how they got here in the Building,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=162.48) [Testing, and Deploying with the CLI module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=164.5) [later in this course. Here is our selector](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=167.05) [tag. Open the selector tag, and we see the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=170.87) [HTML that we defined in our Components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=173.61) [template. This view is a great way to see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=176.12) [the HTML for the rendered page. There is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=178.91) [also a debugger option available here on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=182.37) [the Sources tab to view in debugger code.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=185.02) [Since the Angular CLI uses webpack, our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=188.67) [TypeScript files are listed under the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=191.75) [webpack node here. And because the Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=193.68) [CLI serve feature generates the map files,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=197.32) [we can debug our TypeScript code directly.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=200.48000000000002) [We can set a break point, refresh the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=203.74) [browser, and it hits that break point. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=206.35) [can step through and check the value of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=209.82) [any of our properties. Click here to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=211.93) [resume. Use these debugging features](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=215.07) [anytime you need them. Before we move on,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=218.03) [let's talk a moment about the Angular compiler.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=7&mode=live&start=221.51999999999998)

[Angular Compiler and Compiler Errors](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live)

[Because browsers don't understand the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=1.34) [components and templates we build, Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=3.27) [applications require a compile process to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=5.89) [convert our templates and TypeScript code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=9.17) [into JavaScript. Angular has two](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=11.62) [compilers, a Just In Time, or JIT,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=14.72) [compiler, which was used during](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=17.66) [development. It compiles our application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=19.44) [in the browser at runtime, making it quick](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=22.13) [and forgiving. And an Ahead Of Time, or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=25.45) [AOT, compiler, which was used for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=28.555) [deployment. It compiles the application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=30.99) [ahead of time before serving it to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=33.9) [browser, so we don't need to include the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=36.15) [Angular compiler and the compiled bundles,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=38.76) [which means smaller bundles, less for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=41.52) [users to download, and faster rendering.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=43.94) [Having two compilers was sometimes a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=47.44) [problem in that our code would work fine](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=49.5) [when compiled with the JIT compiler during](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=51.79) [development, but would fail when compiled](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=53.86) [with the AOT compiler for production.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=56.66) [Starting with Angular version 9, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=60.19) [performance of the AOT compiler was](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=62.71) [improved enough to use it for development](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=65.43) [as well. It now compiles before serving](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=68.28) [the application to the browser. Using one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=71.815) [compiler for both development and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=74.72) [deployment mitigates any issues early and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=77.1) [not during that final build for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=80.43) [production. However, the AOT compiler](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=82.27) [comes with some changes in how we see our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=85.83) [syntax and compile errors. When we start](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=88.49) [our application with npm start, Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=92.22) [compiles then serves the application to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=96.08) [the browser. If the application has](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=98.36) [compilation errors, we may see this in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=101.5) [browser, cannot GET. That's not very](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=104.52) [helpful. Using the F12 developer tools, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=107.95) [see Failed to load resource: the server](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=111.14) [responded with a status of 404 (Not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=113.88) [Found). In this case, this message is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=116.71) [telling us that Angular could not serve](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=119.82) [our application to the browser because it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=122.19) [could not successfully compile it. If the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=124.88) [application was already running](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=128.2) [successfully, and then we make a change](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=129.89) [that causes a compile error, we may see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=132.57) [the last successful compile files in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=135.28) [browser, or we may see a black overlay](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=137.7) [with an error message. In any of these](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=140.83) [cases, the best course of action is to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=144.02) [open the VS Code terminal window. It will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=146.58) [display any and all compile errors.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=149.65) [Consider the terminal window to be the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=152.61) [source of truth for compile‑related](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=154.54) [errors. You may, however, find from time](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=156.86) [to time that as you modify the code, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=160.09) [terminal window shows errors that were](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=163.13) [already corrected. When that happens, stop](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=165.31) [the compiler with Ctrl+C or Cmd+C and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=168.77) [restart it with npm start. Now let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=172.35) [finish up this module with some checklists we can use as we build our own components.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=8&mode=live&start=176.04)

[Checklists and Summary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live)

[Angular is all about components, so our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=1.54) [first set of checklists are for building a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=4.29) [component. We create a class for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=6.53) [component with code to support the view.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=8.9) [We use a decorator to define the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=11.47) [metadata, which includes the HTML for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=13.94) [component's template. And we import what](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=16.61) [we need from any third‑party library, from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=19.24) [our modules, or from Angular itself. When](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=21.9) [creating the component class, we give it a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=25.625000000000004) [clear name. This is not only the name of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=27.87) [the class but the name of the component as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=30.14) [well. Be sure to watch the casing since](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=32.26) [JavaScript is case sensitive. By](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=35.05) [convention use PascalCasing, whereby every](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=37.57) [word of the name is capitalized. It is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=40.64) [common to append component to the end of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=43.19) [the class name to make it clear that it is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=45.29) [a component class. Be sure to include the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=47.8) [export keyword on the class signature.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=50.88) [Recall what the export keyword does? It](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=53.81) [makes the class accessible to be imported](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=56.73) [by other parts of the application. If the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=59.07) [component view displays data, such as a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=61.72) [title, the data element is defined as a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=64.21) [property of the class. To leverage](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=66.94) [TypeScript's strong typing, be sure to set](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=69.95) [the appropriate data type for each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=71.85) [property, and set a default value where](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=73.66) [appropriate. Use camelCase for property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=76.42) [names with the first letter lowercase. If](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=79.26) [the component view has functionality, such](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=82.39) [as hiding and showing an image, the logic](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=84.99) [is defined as methods in the class. Use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=87.38) [camelCase for method names with the first](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=90.45) [letter lowercase. How do we define the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=92.84) [metadata for our component? If you said a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=96.22) [component decorator, you are right. A](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=99.15) [class is not a component unless it has a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=101.82) [component decorator. Be sure to prefix the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=104.2) [decorator with an @. Since a decorator is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=107.33) [a function, add parentheses, and pass in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=110.08) [the appropriate object properties. Use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=112.38) [selector property to define the name of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=115.38) [the component when used as a directive in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=117.41) [HTML. Be sure to prefix the selector for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=120.195) [clarity. Note that the selector property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=122.91) [is not needed if the component is not used](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=125.48) [in any HTML, as we'll see later in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=128.31) [course. Use the template property in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=131.95) [component metadata to define the view's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=133.91) [HTML. Since we define the HTML in a string](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=136.34) [literal, we often get no IntelliSense or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=140.13) [syntax checking. So take care to define](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=142.99) [correct HTML syntax. We'll see alternate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=146.37) [ways to create the template for a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=149.08) [component in the next module. So why do we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=150.71) [need to use import? The import statement](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=154.91) [tells Angular where to find the members](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=157.95) [that this component needs from any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=159.89) [external modules. The import statement](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=161.61) [requires the import keyword followed by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=164.83) [the member name and module path. Take care](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=167.28) [when defining the member name as it is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=170.13) [case sensitive. The path to the module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=172.1) [file must be enclosed in quotes and is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=174.98) [also case sensitive. And remember that we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=177.77) [don't need to specify the file extension.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=180.61) [So what do you do if you followed the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=184.14) [steps, but the sample application doesn't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=186.97) [work for you? You follow the Something's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=188.71) [Wrong! checklist. First, press the F12 key](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=191.19) [in the browser to view the developer tools](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=194.61) [and check the console. If that wasn't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=197.1) [helpful, check the VS Code terminal](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=199.73) [window. That will display any syntax or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=201.89) [compile errors. The compile messages are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=204.68) [often quite clear if you scroll up and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=207.78) [read the first one generated after the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=210.14) [last compile. It may also be useful to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=212.25) [stop the compiler with Ctrl+C or Cmd+C and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=215.25) [restart it with npm start for a fresh](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=219.11) [compile. That will display any current](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=221.95) [compilation errors. When resolving an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=224.99) [error, or if you aren't getting expected](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=227.93) [results in the browser, recheck your code.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=230.01) [For any HTML, be sure the tags are all](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=232.845) [correctly closed and that all of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=236.2) [Angular directives are correctly spelled](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=238.56) [and cased. Angular directives are case](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=240.93) [sensitive. For the TypeScript code, be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=244.17) [sure the braces are all properly closed.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=247.46) [And just like JavaScript, TypeScript is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=250.29) [case sensitive, so ensure everything has](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=253.08) [the appropriate case. If there doesn't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=255.93) [appear to be anything wrong with the code,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=258.39) [check my blog post as described in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=260.8) [first course module. Here's the link. I'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=263.01) [add common sample application problems and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=266.42) [their solutions to this post. Note that I](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=269.06) [don't get notified if you post comments on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=272.22) [my blog, so consider posting comments](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=274.64) [elsewhere, as described next. If there's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=277.46) [nothing on my blog that solves your issue,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=280.29) [post a comment on the Discussion page for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=282.96) [the course. Here's the link. I normally](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=285.12) [get notified of every post to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=288.27) [Discussion page, plus other Pluralsight](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=290.26) [subscribers will see your post and can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=293.08500000000004) [respond. Following these steps should get](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=295.05) [you back on the path to success with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=297.95) [Angular. In this module, we detailed what](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=300.21) [a component was and how to build one by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=303.95) [creating a component class, defining the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=306.42) [metadata, and importing what we need. And](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=308.79) [we discovered how to bootstrap the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=311.97) [component we built to bring our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=313.41) [application to life. Lastly, we discussed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=315.1) [the Angular compiler and where to find](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=318.58) [syntax and compiler error messages in case](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=320.79) [something goes wrong. Here, again, is our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=323.88) [application architecture. In this module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=327.26) [we rebuilt the app component and have the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=330.54) [very basics of our application working.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=333.42) [Next up, let's take a closer look at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=336.54) [templates and how Angular can power them](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=338.74) [up with binding and directives as we start building the product list component.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m3&clip=9&mode=live&start=341.22)

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[Introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live)

[To build the user interface for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=2.34) [application in Angular, we create a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=3.96) [template with HTML. To really power up](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=6.16) [that user interface, we need Angular's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=9.96) [data binding and directives. Welcome back](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=12.41) [to Angular: Getting Started, from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=15.39) [Pluralsight. My name is Deborah Kurata,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=17.22) [and in these next two modules, we create](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=20.09) [the user interface using templates,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=22.55) [directives, and data binding. Web](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=25.04) [applications are all about the user](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=28.92) [interface, and Angular makes it easier to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=30.95) [build rich and powerful user interfaces.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=33.85) [Angular gives us data binding so we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=37.24) [easily display information and respond to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=39.62) [user actions. With Angular directives, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=42.01) [add logic to our HTML such as if](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=45.24) [statements and for loops. And with Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=48.07) [components, we build nested user interface](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=50.97) [fragments such as an image rotator or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=53.44) [rating stars. We've seen that an Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=56.49) [component is a view defined with a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=59.75) [template, its associated code defined with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=61.82) [a class, and additional information](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=64.96) [defined with metadata and set using a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=67.9) [component decorator. In these next two](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=70.33) [modules, we'll focus on techniques for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=73.13) [building the template. In this module, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=75.5) [evaluate the different ways we can build a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=79.88) [template for our component and demonstrate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=82.03) [how to create a linked template for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=84.86) [view. Then we'll build a component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=86.9) [associated with that template and use it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=89.49) [as a directive. We'll detail how to set up](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=91.96) [data binding using interpolation and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=95.1) [display the value of our component class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=97.56) [properties in the view. We need some basic](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=99.61) [logic in the template, so we'll leverage](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=102.76) [Angular's built‑ in directives. In the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=105.05) [next module, we'll look at additional data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=107.89) [binding techniques. Looking at our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=110.25) [application architecture, we currently](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=113.19) [have the index.html file and our root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=115.58) [AppComponent in place. So we have a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=118.47) [working sample application, but it doesn't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=121.11) [look like much. What we really want is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=123.64) [list of products. In this module, we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=126.06) [begin work on the product list component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=128.82) [to display that list of products. Let's get started.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=0&mode=live&start=130.88)

[Building a Template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live)

[In the prior module, we built an inline](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=2.39) [template for our app component. We used](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=4.73) [the template property to define the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=7.68) [template directly in the component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=9.55) [metadata. But this is not the only way we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=11.6) [can build a template for our components.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=14.63) [We can use the template property and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=18.09) [define an inline template using a simple](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=20) [quoted string with single or double](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=22.5) [quotes. Or we can define an inline](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=25.18) [template with a multi‑line string by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=28.29) [enclosing the HTML in ES 2015 back ticks.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=30.98) [The back ticks allow composing a string](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=35.88) [over several lines, making the HTML more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=38.2) [readable. We used this technique to build](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=41.23) [our template in the last module. There are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=43.89) [some advantages to defining an inline](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=46.5) [template using one of these two](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=48.56) [techniques. The template is directly](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=50.08) [defined within the component, keeping the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=52.57) [view and the code for that view in one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=54.77) [file. It is then easy to match up our data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=56.76) [bindings with the class properties, such](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=59.61) [as the page title, in this example.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=62) [However, there are disadvantages as well.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=64.215) [When defining the HTML in a string, most](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=67.12) [development tools don't provide](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=70.39) [IntelliSense, automatic formatting, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=71.99) [syntax checking. Especially as we define](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=74.55) [more HTML in the template, these issues](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=77.41) [become challenges. In many cases, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=80.43) [better option is to define a linked](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=83.6) [template with the HTML in its own file. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=85.88) [can then use the templateUrl property in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=89.75) [the component metadata to define the URL](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=92.22) [of our HTML file. Let's use this technique](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=94.99000000000001) [and build a linked template for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=98.88) [product list view. Here is our ultimate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=100.81) [goal for the product list view. The view](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=104.25) [has a nice heading, a filter by box at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=107.03) [top allows the user to enter a string. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=109.61) [user entered string is displayed here, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=112.24) [the list of products is filtered to only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=114.91) [those with a product name containing that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=116.88) [string. The products are listed in a neat](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=118.99) [table with a nicely formatted header. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=121.72) [Show Image button shows an image for each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=124.35) [product. The product name is a link that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=126.59) [displays the product detail view, which](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=129.29) [we'll build later in this course. To make](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=131.49) [this page look nice with very little](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=134.09) [effort, we use the Twitter bootstrap](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=136.41) [styling framework. If you want to find out](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=138.61) [more about bootstrap, check out this link.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=141.42) [And for the stars, we use the font awesome](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=144.25) [icon set and toolkit. To find out more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=147.28) [about font awesome, check out this link.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=150.41) [We'll install both of these in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=153.695) [upcoming demo. Now let's jump into a demo](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=155.69) [and start building the template for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=158.84) [product list view. First, let's install](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=160.97) [bootstrap and font awesome so we can use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=164.66) [them in our templates. Open the Integrated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=167.72) [Terminal or command window. I still have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=170.61) [the application running in this window, so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=173.44) [I'll click plus to open another command](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=176.11) [window, then type npm install bootstrap](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=178.76) [font‑awesome. This installs both packages.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=183.84) [You may see some warnings here. These](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=188.84) [warnings tell us that bootstrap requires](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=191.48) [jQuery and Popper, but we only plan to use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=193.82) [the styling parts of bootstrap, not the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=197.18) [interactive features, so we don't need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=199.64) [these dependencies. Installing the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=202.02) [packages does not provide access to their](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=204.5) [style sheets. For that, we import the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=207.05) [styles for these packages into our global](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=209.92) [application style sheet, which is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=212.82) [style.css file here. We'll import the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=215.58) [minimized version of the styles from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=219.19) [bootstrap/dist/css folder, and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=221.23) [minimized version of the styles from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=224.74) [font‑awesome/css folder. The style sheets](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=226.78) [are then available to any template in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=230.67) [application. Now we are ready to add an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=233.05) [external template file for the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=236.53) [list component. By convention, each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=238.81) [feature of the application has its own](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=241.68) [folder under the app folder. So let's add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=243.63) [a new folder here and name it products. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=246.74) [that folder, we'll create the template for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=251.14) [our product list component. By convention,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=253.36) [the name of the template is the same name](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=256.42) [as the component with an HTML extension.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=258.61) [We'll call our product list component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=262.115) [product‑list.component.html. Let's widen](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=264.7) [that up a little bit. Now we are ready to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=270.98) [create the HTML for our template. Let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=273.59) [start with the heading. We're using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=277.07) [Twitter bootstrap style classes here. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=279.49) [the heading we display Product List. If](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=282.33) [you don't want to type in all of this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=285.31) [code, you can copy it from the APM final](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=286.76) [folder, provided in my GitHub repository,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=289.58) [as detailed in the First Things First](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=291.76374999999996) [module, earlier in this course. Next is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=294.36) [the filter by. We define an input box for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=297.69) [entry of the filter string, and we add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=300.68) [text that displays the user entered](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=303.29) [filter. We again used Twitter bootstrap](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=305.39) [style classes to lay out the input box and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=308.08) [text into rows. Now let's build the table.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=310.66) [We use Twitter bootstrap's table style](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=314.64) [classes. We have a table header. The first](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=316.85) [column header is a button to show the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=320.29) [product image, and here is the table body.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=322.2) [Hmm, we definitely don't want to hard code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=325.885) [in the products here. So let's leave the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=328.645) [table body empty for now. So we have the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=330.81) [start of a template defined for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=333.68) [component. Now what? If you said we need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=335.48) [to build a component, you are exactly right.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=1&mode=live&start=338.68)

[Building the Component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live)

[Remember the steps for building a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=2.37) [component that we covered in the last](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=4.02) [module? We define a class, we add a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=6.65) [component decorator to define the metadata](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=9.06) [and specify the template, and we import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=11.43) [what we need. The only thing that's really](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=14.22) [different from the component we created in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=16.74) [the last module is the template property.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=18.6) [Here we are using templateUrl to define](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=21.84) [the location of our linked template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=24.71) [instead of defining an HTML string. Notice](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=27.105) [the syntax of the path here. If we follow](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=30.44) [the convention of defining the template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=33.54) [HTML file in the same folder as the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=35.75) [associated component, we can use a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=38.8) [relative path by specifying dot slash.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=41.22) [Let's jump right back to the demo and give](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=45.115) [this a try. We are back with the sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=47.4) [application exactly where we left it, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=51.9) [we are ready to build a new component. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=54.93) [start by creating a new file in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=57.99) [products folder. We'll name it using the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=60.56) [component naming convention, dot](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=63.24) [component, because it is an Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=65.88) [component, and dot ts for the extension.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=67.74) [Then we create the class, export class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=71.84) [ProductListComponent. We're exporting this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=75.94) [class so it is available to other parts of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=78.97) [the application. Next we decorate the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=81.21) [class with a component decorator. It is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=84.2) [the component decorator that makes this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=87.4) [class a component, and we know what that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=89.31) [underlying means, we need the import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=91.96) [statement. Let's pass an object into the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=94.77) [component decorator with the appropriate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=97.53) [properties. For the selector, we'll set pm](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=99.65) [products. We'll use the same prefix is in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=103.765) [the app component to distinguish the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=106.51) [selector as part of the product management](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=108.34) [application. Then we define the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=110.69) [templateUrl. Here we provide the path to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=113.62) [our HTML file. Since we define the HTML](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=116.75) [file in the same folder as the component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=120.44) [we can use the dot slash relative past](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=123.54) [syntax here. So now we have our template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=126.41) [defining our view, our class, which](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=129.695) [defines our associated code, and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=132.19) [component decorator that defines the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=134.88) [metadata. Our component is complete and we're ready to use it. But how?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=2&mode=live&start=137.19)

[Using a Component as a Directive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live)

[Here is our newly created](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=1.34) [product‑list.component. And here is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=2.93) [app.component we created earlier. Note](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=5.73) [that I've excluded some of the code here](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=8.66) [on this slide, such as the import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=10.34) [statements and class details for a better](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=12.61) [fit. We'll see the complete code when we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=15) [get back to the demo. When a component has](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=17.14) [a selector defined, as we have here, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=19.92) [can use the component as a directive. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=22.99) [means that we can insert this component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=26.05) [template into any other component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=28.35) [template by using the selector as an HTML](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=31.19) [tag like this. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=34.89) [product‑list.component's template is then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=37.49) [inserted into this location in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=40.06) [app.component's template. So this is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=42.77) [first step when using a component as a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=45.47) [directive. Use the name defined in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=48.06) [selector as an HTML tag in another](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=50.85) [component's template. When this template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=54.03) [is displayed, Angular looks for a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=56.64) [component that has a selector with this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=58.7) [name. We could have hundreds of components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=61) [in our application. How does our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=64.09) [application know where to look for this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=66.07) [selector? The application looks to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=68.15) [Angular module that owns this component to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=70.92) [find all of the directives that are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=74.31) [visible to this component. Every Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=76.17) [application must have at least one Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=79.51) [module, the root application module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=82.31) [commonly called AppModule. Currently our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=85.36) [AppModule declares our root application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=88.555) [component, AppComponent. A component must](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=91.43) [belong to one and only one Angular module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=94.74) [Because the AppModule declares the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=98.54) [AppComponent, the AppComponent belongs to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=100.7) [the AppModule. The AppModule bootstraps](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=103.86) [the application with this component, so it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=106.96000000000001) [is the first component that is loaded for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=110.02) [our application. Our AppModule also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=112.15) [imports the system browser module to pull](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=115.5) [in the features it needs to run this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=118.69) [application in a browser. So this is what](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=120.57) [our AppModule currently looks like. An](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=123.44) [Angular module defines the boundary or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=126.34) [context within which the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=128.69) [resolves its directives and dependencies.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=131.24) [So when a component contains a directive,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=134.34) [Angular looks to the component's module to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=137.19) [determine which directives are visible to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=139.96) [that component. What does that mean for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=142.34) [us? Well, for Angular to find the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=144.98) [pm‑products directive used in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=147.59) [app.component, the product‑list.component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=150.02) [must also be declared in this Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=153.15) [module. This is the second step when using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=156.05) [a component as a directive. We need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=159.41) [ensure that the directive is visible to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=162.17) [any component that uses it. There are two](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=164.74) [ways to expose a directive in an Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=167.71) [module. We can declare the component in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=170.26) [the Angular module as we show here, or if](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=173.3) [the component is already declared in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=176.93) [another Angular module, we can import that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=179) [module similar to how we import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=182.15) [BrowserModule here. Now let's jump back to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=184.5) [the demo and give this a try. We are back](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=187.42) [in our sample app. We defined a selector](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=190.98) [for our product‑list.component here so we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=193.92) [can use it as a directive in any other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=196.59) [component. Let's use it in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=198.81) [app.component. Open the app.component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=201.54) [file. So instead of displaying My First](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=204.34) [Component, we'll display our new product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=207.5) [list template here. Replace the div tags](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=210.75) [with pm‑products. Are we ready to see our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=213.7) [result in the browser? What you'll see in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=217.44) [the browser depends on when you last](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=220.29) [started the compiler with npm start. You](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=222.41) [may see the app.component page title but](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=225.69) [not our product‑list.component. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=228.68) [case, the browser displayed the last](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=231.36) [successful compiled files, so you don't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=233.42) [see our new component. Using the F12](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=236.25) [tools, no error is shown. Or you may see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=239.47) [the message, Cannot GET. Opening the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=242.93) [developer tools, you see the error is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=245.99) [Failed to load resource: the server](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=248.54) [responded with a status of 404 (Not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=251.05) [Found). You may see this error whenever](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=254.16) [the application can't compile and,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=257.2) [therefore, can't serve the files to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=259.53) [browser. Or you may get lucky and see the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=261.49) [actual error, pm‑products is not a known](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=265.17) [element. Whenever you see unexpected](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=268.37) [results or errors in the browser, check](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=271.43) [the VS Code terminal window for compile](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=274.64) [issues. Here we see the error pm‑products](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=277.28) [is not a known element. And with this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=281.16) [error, Angular gives us a solution. If](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=284.03) [pm‑products is an Angular component, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=287.39) [in our case it is, then verify that it is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=289.83) [part of this module. Ah, yes. We didn't do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=292.9) [step two and declare it in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=297.35) [application's Angular module. Let's go](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=300.29) [back to the code. We'll open the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=302.2) [app.module and add ProductListComponent to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=304.91) [the declarations array. Well, we're](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=308.18) [getting a squiggly line here. That means](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=310.72) [we have an error. Any guess as to what's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=312.72) [wrong? If you said we're missing the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=315.35) [import, you are correct. Everything we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=317.64) [declare must be imported. With VS Code,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=320.22) [this is easy. Notice the lightbulb icon on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=323.995) [the left. It is indicating that it has a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=326.8) [quick fix for this underlined issue. Click](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=329.47) [the lightbulb and select the desired fix,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=332.54) [and VS Code adds the appropriate import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=335.29) [line for us. Cool! Now that our syntax](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=338.09) [error is gone, let's try it again. There's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=341.47) [our page. It's not complete, and it's not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=344.69) [interactive yet, but we have the basics in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=348.04) [place. Note that after a compile error,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=350.67) [you may need to refresh the browser page](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=353.86) [or restart the compiler in order to see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=356.62) [the changes in the browser. To restart,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=359.67) [use the VS Code terminal window and type](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=362.99) [Ctrl+C or Cmd+C to stop the compiler and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=365.62) [npm start to restart the compiler. So we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=370.15) [successfully used our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=373.78) [product‑list.component as a directive. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=375.09) [added the selector as the directive in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=378.05) [containing component's template. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=380.31) [declared the component to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=383.01) [application's Angular module, and we added](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=384.44) [the appropriate import statement. Now we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=387.79) [are ready to power up our user interface](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=390.99) [with data binding and some built‑in Angular directives.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=3&mode=live&start=393.29)

[Binding with Interpolation](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live)

[In Angular, binding coordinates](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=2.44) [communication between the component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=4.78) [class and its template and often involves](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=6.75) [passing data. We can provide values from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=10.24) [the class to the template for display, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=13.56) [the template raises events to pass user](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=16.87) [actions or user‑entered values back to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=19.33) [class. The binding syntax is always](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=22.22) [defined in the template. Angular provides](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=25.15) [several types of binding, and we'll look](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=27.88) [at each of them. In this module we cover](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=30.18) [interpolation. The remaining data binding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=33) [techniques are covered in the next module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=35.61) [The double curly braces that signify](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=39.04) [interpolation are readily recognizable.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=41.12) [The pageTitle in this example is bound to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=44.64) [a property in the component's class.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=47.14) [Interpolation is a one‑way binding from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=50.31) [the class property to the template, so the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=53.62) [value here shows up here. Interpolation](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=56.69) [supports much more than simple properties.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=59.74) [We can perform operations such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=62.32) [concatenation or simple calculations. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=64.49) [can even call a class method, such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=68.03) [getTitle shown here. We use interpolation](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=70.22) [to insert the interpolated strings into](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=73.37) [the text between HTML elements, as shown](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=76.08) [here. Or we can use interpolation with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=79.37) [element property assignments, as in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=82.54) [example. Here we assign the innerText](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=85.3) [property of the h1 element to a bound](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=88.31) [value. Both of these examples display the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=91.14) [same result. The syntax between the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=94.4) [interpolation curly braces is called a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=98.1) [template expression. Angular evaluates](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=100.5) [that expression using the component as the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=103.84) [context. So Angular looks to the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=106.54) [to obtain property values or to call](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=109.54) [methods. Angular then converts the result](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=111.5) [of the template expression to a string and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=114.4) [assigns that string, to an element or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=117.28) [directive property. So any time we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=118.85) [display read‑only data, we define a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=121.77) [property for that data in our class and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=124.63) [use interpolation to display that data in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=127.19) [the template. And if we need to perform](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=129.6) [simple calculations or get a result from a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=132.07) [method, we can do that with interpretation](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=134.75) [as well. Let's give this a try. Looking at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=137.37) [the product list template from our sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=142.37) [application, we hardcoded in the page](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=144.31) [title here. In the heading. Binding the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=147.01) [heading to a property in the class instead](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=149.6) [of hardcoding it in the HTML makes it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=151.67) [easier to see and change when working on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=154.37) [the code, and we could later retrieve this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=156.62) [text from a file or database. Let's start](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=159.13) [by adding a property in the class for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=162.33) [page title. We'll open the component to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=164.7) [the right and close down the explorer.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=167.56) [Here in the class, we specify the property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=171.14) [name. We'll call it pageTitle, and because](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=173.68) [we are using TypeScript, we define the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=177.49) [type for this property. Lastly, we assign](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=179.55) [a default value, Product List. With the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=182.89) [pageTitle property in place, we can now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=186.61) [bind to the pageTitle property in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=188.97) [template. We replace the hardcoded product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=191.28) [list here with interpolation and specify](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=194.26) [the name of the property. Now when this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=197.97) [template is displayed, Angular assigns the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=200.65) [string value of the pageTitle property to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=203.38) [the innerText property of this div](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=206.34) [element, and Product List will be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=208.57) [displayed. Let's see the result in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=211.02) [browser. With our binding, the page title](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=213.89) [appears as before. So we can confirm that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=216.71) [it works, I've rearranged the windows so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=220.51) [that we can see both the code and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=222.92) [browser. Now let's make a change to our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=225.15) [pageTitle here, and we immediately see it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=227.9) [in the browser. So our interpolation](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=231.54) [works. So any time we want to display the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=234.39) [value of a component property, we simply](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=237.93) [use interpolation. Now we're ready to add some logic to our template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=4&mode=live&start=240.74)

[Adding Logic with Directives: ngIf](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live)

[We can think of a directive as a custom](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=2.24) [HTML element or attribute we used to power](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=4.57) [up and extend our HTML. We can build our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=7.68) [own custom directives or use Angular's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=10.97) [built‑in directives. Previously in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=14.11) [module, we've seen how to build a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=17.65) [component and use it as a custom](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=19.6) [directive. We use the pm‑products](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=22.24) [directive to display our product‑list](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=25.2) [template. In addition to building our own](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=27.49) [custom directives, we can use Angular's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=30.95) [built‑in directives. The built‑in Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=33.77) [directives we'll look at are structural](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=36.69) [directives. A structural directive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=39.02) [modifies the structure or layout of a view](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=41.73) [by adding, removing, or manipulating](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=44.79) [elements and their children. They help us](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=47.42) [to power up our HTML with If logic and For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=50.26) [loops. Notice the asterisk in front of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=53.22) [directive name. That marks the directive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=56.24) [as a structural directive. Let's look at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=59.04) [ngIf first. NgIf is a structural directive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=62.28) [that removes or recreates a portion of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=67.5) [DOM tree based on an expression. If the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=69.91499999999999) [expression assigned to the ngIf evaluates](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=73.33) [to a false value, the element and its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=75.98) [children are removed from the DOM. If the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=78.36) [expression evaluates to a true value, a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=81.11) [copy of the element and its children are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=83.745) [reinserted into the DOM. For example, say](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=85.8) [we only wanted to show the HTML table if](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=89.78) [there are some products in a list of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=92.7) [products. We use ngIf on the table element](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=94.51) [and set it to products and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=97.96) [products.length. If the products variable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=100.03) [has a value and the products list has](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=102.87) [length, the table appears in the DOM. If](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=105.19) [not, the table element and all of its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=108.22) [children are removed from the DOM. But](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=110.56) [didn't we just say that an Angular module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=114.55) [defines the boundary or context within](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=116.84) [which the component resolves its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=119.29) [directives and dependencies? How will our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=120.95) [application find this ngIf directive?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=123.4) [Looking back at the illustration of our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=127.18) [AppModule, we see that it imports](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=129.17) [BrowserModule. Luckily for us,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=132.01) [BrowserModule exposes the ngIf and ngFor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=134.93) [directives. So any component declared by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=139.76) [the AppModule can use the ngIf or ngFor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=142.99) [directives. With that settled, let's try](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=146.24) [out the ngIf directive. We are back in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=149.43) [sample application, looking at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=153.65) [ProductListComponent and its template. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=155.5) [only want to display this table of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=158.24) [products if there are some products to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=160.17) [display, so the first thing we need is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=162.6) [property to hold the list of products.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=165.42) [Where do we define that products property?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=168.34) [In the component's class, of course. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=171.4) [add a products property here. Hmm. But](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=174.3) [what is the type of this property? Well,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=178) [we want an array of product instances, but](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=181.38) [we don't currently have anything that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=184.91) [defines what a product is. We'll have a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=186.71) [better solution in a later module, but for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=189.73) [now we'll just define products as an array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=192.4) [of any. In TypeScript, we use any as the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=195.35) [data type any time we don't know or don't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=199.18) [care what the specific data type is. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=202.26) [need to populate our array, but where do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=205.46) [we get the data? In many cases, we would](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=207.94) [communicate with a back‑end server to get](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=211.05) [this data. We'll look at how to do that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=213.18) [later in this course. For now, we'll just](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=215.97) [hard code in a set of products. If you are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=218.81) [coding along, consider copying a few of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=222.52) [the products from the products.json file](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=225.21) [provided with the starter files under the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=227.99) [api products folder. With the products](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=230.405) [property in place, we're ready to use it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=234.87) [in the HTML. We want to put it on the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=237.2) [table element because that is the element](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=240.45) [we want to add or remove from the DOM.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=243.14) [Type \*ngIf= and then our expression](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=246.03) [enclosed in quotes. We only want to show](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=251.66) [the table if there is a list of products,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=254.4) [and that list of products contain some](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=257.54) [elements. Let's see what this looks like](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=260.53) [in the browser. We see the table header,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=263.79) [so we know our table is displayed. Let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=267.05) [try this: Let's comment out the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=270.43) [data, bring up the browser again, and we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=273.95) [see that the table disappeared. Now, if we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=276.6) [uncomment out the product data and look](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=279.87) [again at the browser, our table reappears.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=282.4) [With ngIf, the associated element and its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=286.14) [children are literally added or removed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=289.3) [from the DOM. But notice that we still](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=292.16) [aren't populating the table with our products. Let's do that next.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=5&mode=live&start=295.05)

[Adding Logic with Directives: ngFor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live)

[Another structural directive is ngFor.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=2.34) [NgFor repeats a portion of the DOM tree](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=6.22) [once for each item in an iterable list. So](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=8.78) [we define a block of HTML that defines how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=12.43) [we want to display a single item and tell](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=15.28) [Angular to use that block for displaying](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=18.26) [each item in the list. For example, say we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=20.8) [want to display each product in a row of a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=24.34) [table. We define one table row and its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=27) [child table data elements. That table row](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=30.42) [element and its children are then repeated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=33.97) [for each product in the list of products.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=36.63) [The let keyword here creates a template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=39.97) [input variable called product. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=42.18) [reference this variable anywhere on this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=45.05) [element, on any sibling element, or on any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=47.2) [child element. And notice the of instead](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=50.73) [of in here. We'll talk more about that in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=54.24) [a moment. For now, let's jump back to our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=57.23) [demo. We are once again looking at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=60.1) [ProductListComponent and its template.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=63.84) [Here in the table body, we want to repeat](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=66.61500000000001) [a table row for each product in the list](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=69.91) [of products. In the table body, we'll add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=72.66) [a tr element for the table row. And in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=76.19) [tr element, we'll specify the ngFor,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=79.66) [\*ngFor='let product of products'. Next,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=86.63) [we'll add the child elements. We'll insert](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=91.06) [a td or a table data element for each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=93.53) [property of the product that we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=96.31) [display in the table. We'll need to match](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=98.2) [them up with the table header elements.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=101.03) [The first column displays the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=103.66) [image. Let's skip the image for now. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=105.61) [add that in the next module, but we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=108.67) [still add the td element as a placeholder.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=111.05) [The next table header says Product. So in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=114.54) [this column, we want the product name.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=117.32) [We'll use interpolation to bind to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=120.42) [product's name by using the local variable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=122.52) [product and a dot to drill down to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=125.59) [product properties. We want productName](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=128.17) [here. How did we know that property name?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=131.19) [Looking here at the ProductListComponent,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=134.55) [we see the product property names here. So](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=136.29000000000002) [these are the names we use in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=140) [interpolation template expressions. Next,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=141.65) [I'll add td elements for some of the other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=145.66) [product properties. So for each product in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=147.96) [our list of products, we will get a tr](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=151.9) [element for a table row and td elements](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=154.85) [for table data. Want to see how this looks](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=158.41) [in the browser? Wow, we have our products.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=161.83) [Doesn't that look nice? Well, our price is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=166.02) [not very well‑formatted, and it doesn't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=169.5) [have a currency symbol. We'll fix that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=171.78) [with pipes in the next module. Looking](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=174.48) [back at the component, we defined an array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=178.17) [for our list of products. In the template,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=180.97) [we laid out the HTML to display one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=184.1) [product. The product is displayed in a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=186.87) [table row with product properties in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=189.13) [appropriate columns. Using an ngFor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=191.7) [structural directive, we repeat this table](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=194.8) [row and its columns for each product in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=197.48) [the list of products. So why is this ngFor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=199.96) [syntax product of products and not product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=203.99) [in products? The reasoning for this has to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=208.01) [do with ES2015 for loops. Yes, 2015 has](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=212.61) [both a for...of loop and a for...in loop.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=217.89) [The for...of loop is similar to a for each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=222.22) [style loop. It iterates over an iterable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=225.04) [object, such as an array. For example, say](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=227.95) [we have an array of persons nicknames. If](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=231.54) [we use for...of to iterate over this list,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=234.5) [we'll see each nickname logged to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=237.91) [console. The for...in loop iterates over](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=240.69) [the properties of an object. When working](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=243.52) [with an array, such as this example, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=246.33) [array indexes are enumerable properties](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=249.16) [with integer names and are otherwise](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=252.45) [identical to general object properties. So](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=255.12) [we see each array index logged to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=258.71) [console. To help remember the difference,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=261.41) [think of in as iterating the index. Since](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=264.28) [the ngFor directive iterates over iterable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=268.76) [objects, not their properties, Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=271.91) [selected to use the of keyword in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=275.01) [ngFor expression. Now let's finish up this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=277.865) [module with some checklists we can use as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=281.01) [we work with templates, interpolation, and directives.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=6&mode=live&start=283.6)

[Checklists and Summary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live)

[Checklists are a great way to recheck our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=2.28) [understanding and our work. Let's start](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=4.51) [with a template. Use an inline template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=7.54) [when building shorter templates, then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=10.17) [specify the template property in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=12.52) [Component decorator. Use double or single](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=14.55) [quotes to define the template string, or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=17.71) [use the ES2015 back ticks to lay out the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=20.5) [HTML on multiple lines. When using inline](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=23.345) [templates, there is often no design‑time](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=27.05) [syntax checking, so pay close attention to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=29.33) [the syntax. Use linked templates for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=32.38) [longer templates. Specify the template URL](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=35.61) [property in the Component decorator, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=38.915000000000006) [define the path to the external template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=41.28) [file. This one is a more visual checklist.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=43.59) [After building the template, we build its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=47.0975) [component and learn how to use that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=49.75) [component as a directive. Remember our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=51.84) [steps? First, we use the directive as an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=54.51) [element in the template for any other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=57.26) [component. We use the directive component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=59.38) [selector as the directive name. We then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=62.2) [declare the component so it is available](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=65.3) [to any template associated with this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=67.25) [Angular module. We add the component to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=69.18) [the declarations array passed into the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=71.86) [NgModule decorator of the Angular module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=74) [Angular's data binding was introduced in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=78.04) [this module with a look at interpolation.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=80.22) [Interpolation is one‑way binding from a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=83.17) [component class property to an element](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=85.93) [property. Interpolation is defined with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=88.14) [curly braces and a template expression.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=90.98) [That expression can be a simple property,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=93.38499999999999) [a concatenation, a calculation, or a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=96.24) [method call. Note that no quotes are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=98.75) [needed when using interpolation. And we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=101.41) [saw how to use two of Angular's structural](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=105.28) [directives, ngIf and ngFor. When using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=108.13) [these structural directives, be sure to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=112.89) [prefix them with an asterisk and assign](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=114.81) [them to a quoted string expression. Use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=117.5) [ngIf to add or remove an element and its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=120.43) [children from the DOM based on an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=123.07) [expression. If the assigned expression is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=124.88) [evaluated to be a true value, the element](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=127.84) [is added to the DOM. If false, the element](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=130.44) [is removed from the DOM. Use ngFor to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=133.28) [repeat an element and its children in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=136.5) [DOM for each element in an iterable list.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=138.73000000000002) [Define the local variable with let and use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=141.29500000000002) [of, not in when defining the ngFor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=145.67) [expression. In this module, we evaluated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=148.46) [the differences between an inline template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=153.06) [and a linked template, and we created a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=155.57) [linked template. We then built a component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=158.09) [for that template and learned how to use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=160.89) [that component as a directive. We took a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=162.63) [first look at Angular data binding through](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=165.45) [interpolation and powered up our template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=168.61) [by using built‑in Angular directives.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=170.21) [Here, once again, is our application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=174.12) [architecture. In this module, we started](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=175.91) [the product list component. Next up, let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=178.89) [discover more of Angular's data binding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=182.72) [features and add interactivity to the product list template.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m4&clip=7&mode=live&start=184.92)

[Data Binding & Pipes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live)

[There's more to data binding than just](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=2.44) [displaying component properties. Welcome](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=4.48) [back to Angular: Getting Started from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=7.05) [Pluralsight. My name is Deborah Kurata,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=9.46) [and in this module, we explore more data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=12.6) [binding features and transform bound data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=15.72) [with pipes. To provide a great interactive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=18.55) [user experience, we want to bind DOM](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=22.35) [elements to component properties, so the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=24.91) [component can change the look and feel as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=27.4) [needed. We can use bindings to change](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=29.64) [element colors or styles based on data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=32.05) [values, update font size based on user](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=34.4) [preferences or a sudden image source from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=37.45) [a database field. And we want notification](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=40.22) [of user actions and other events from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=43.4) [DOM, so the component can respond](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=45.69) [accordingly. For example, we respond to a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=48.15) [click on a button to hide or show images.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=51.42) [And sometimes we want the best of both](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=54.74) [worlds using two‑way binding to set an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=57.95) [element property and receive event](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=60.4) [notifications of user changes to that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=63) [property. In this module, we'll use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=65.73) [Angular's property binding to set HTML](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=68.88) [element properties in the DOM. We walk](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=71.51) [through how to handle user events, such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=74.29) [a button click, with event binding and how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=76.65) [to handle user input with two‑way binding.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=79.87) [Lastly, we'll discover how to transform](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=83.54) [bound data with pipes. And here, once](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=85.91) [again, is our application architecture. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=89.62) [have the first cut of our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=92.82) [ProductListComponent, but it doesn't have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=94.03) [any interactivity. In this module, we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=96.96) [use data binding features to add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=99.98) [interactivity to the ProductListComponent. Let's get started.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=0&mode=live&start=101.94)

[Property Binding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live)

[Property binding allows us to set a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=1.54) [property of an element to the value of a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=3.71) [template expression. Here we bind the src](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=6.55) [property of the img element to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=9.83) [imageUrl property of the product,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=12.21) [effectively defining the source of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=14.99) [image from information in our component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=16.9) [class. Our binding target is always](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=19.44) [enclosed in square brackets to the left of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=22.39) [the equals and identifies a property of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=24.76) [the element. The binding source is always](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=27.52) [enclosed in quotes to the right of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=30.97) [equals and specifies the template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=33.22) [expression. For comparison, here is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=35.74) [similar binding using interpolation. Note](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=39.49) [that in this case the element property is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=42.71) [not enclosed in square brackets, and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=44.83) [template expression is enclosed in curly](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=47.14) [braces with no quotes. If you need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=49.62) [include the template expression as part of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=52.51) [a larger expression, such as this example,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=54.97) [you may need to use interpolation. Like](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=58.38) [interpolation, property binding is one way](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=61.51) [from the source class property to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=64.8) [target element property. It effectively](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=67) [allows us to control our template's DOM](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=69.92) [from our component class. Now let's add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=72.685) [some property binding to our sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=75.85) [application. Here we are back in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=77.76) [editor looking at the ProductListComponent](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=81.86) [and its associated template. Let's use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=83.87) [property binding to bind the source of our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=86.52) [product image. We use an img element to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=88.73) [display our product image, and we'll use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=92.38) [property binding to bind the image's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=95.13) [source, or src, property. So we enclose](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=97.34) [the src in square brackets. On the right](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=100.88) [side of the equals, we define the template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=104.16) [expression in quotes. We want to bind to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=106.2) [the product's imageUrl property from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=109.29) [ProductListComponent class. Let's also use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=112.24) [property binding to bind the title](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=115.45) [property of the image to the product's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=117.22) [name. Let's check out the result in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=119.13) [browser. Whoa, they're big, but we do see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=121.45) [images. If we hover over an image, we see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=126.54) [the image title. But this image is rather](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=129.86) [large for display in our table. Let's use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=133.17) [property binding to set some style](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=135.77) [properties. Let's add properties for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=137.77) [image width an image margin to our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=140.91) [component class. The imageWidth is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=143.26) [number, so we specify its type with a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=146.6) [colon and then number. Let's set it to 50.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=149.12) [The imageMargin is also a number, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=153.34) [we'll set it to 2. Back in the template,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=155.77) [we use property binding to bind the image](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=158.63) [styles. We want to bind the style property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=161.05) [width in pixels. We'll bind that to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=164.01) [imageWidth property from the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=167.38) [class. Notice that we don't prefix this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=169.4) [property with product because image with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=172.26) [is a property of the component class, not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=175.11) [the product object. And we do the same](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=178.02) [with the style.margin in pixels and set](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=181.14) [that to the imageMargin class property. So](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=183.8) [now we've seen how to use property binding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=187.27) [to bind several properties of the image](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=189.75) [element to properties of the component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=191.87) [class. Before we look at the result, let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=194.41) [talk about TypeScript's type inference. To](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=198.25) [learn about TypeScript's strong typing,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=201.36) [we've been adding data types to our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=203.64) [properties. However, if we set a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=205.78) [property's default value, we often don't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=208.52) [need to specify its type. TypeScript will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=211.31) [infer the type from its value. For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=214.26) [example, since the pageTitle property is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=216.89) [assigned to a string, we don't need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=219.83) [specify its type. TypeScript will infer it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=221.96) [as a string. Same for the numeric values.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=225.08) [If you use a linting tool, it may flag any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=228.58) [properties with an unnecessary data type.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=231.47) [Feel free to remove these unnecessary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=234.68) [types. I'll leave them here for reference.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=237.13) [Now, looking back at the browser, our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=240.5) [image sizes look much better, but our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=242.99) [images are always displayed. The Show](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=245.93) [Image button doesn't work yet. To hook up](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=248.85) [the button, we need to respond to user events. Let's do that next.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=1&mode=live&start=251.5)

[Handling Events with Event Binding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live)

[So far, all of our data binding has been](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=2.34) [one way, from the component class property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=4.82) [to the element property. But there are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=8.01) [times we need to send information the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=10.42) [other way to respond to user events. For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=12.63) [example, to perform an operation when the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=15.72) [user clicks a button. A component listens](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=18.2) [for user actions using event binding, as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=20.89) [shown here. Notice how similar this syntax](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=24.06) [is to property binding. In this example,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=27.29) [the component listens for the click event](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=30.2) [on a button. The name of the bound event](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=32.38) [is enclosed in parentheses, identifying it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=35.18) [as the target event. To the right of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=38.34) [equals is the template statement. This is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=41.08) [often the name of a component class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=43.98) [method, followed by open and closing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=45.95) [parentheses and enclosed in quotes. If the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=48.04) [defined event occurs, the template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=51.54) [statement is executed, calling the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=53.48) [specified method in the component.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=55.82) [Wondering where you might find a list of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=58) [valid DOM events? Check out this link. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=60.93) [Mozilla Developer Network provides a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=65.03) [thorough list of standard events, along](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=66.72) [with some documentation. Now let's give](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=69.04) [event binding a try. In this demo, we want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=71.66) [to implement our Show Image button. First,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=76.47) [we define a class property that keeps](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=80.7) [track of whether the images are currently](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=82.68) [displayed. We'll call that property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=84.89) [showImage. Since this property is true or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=87.57) [false, we define its type as boolean. And](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=90.48) [let's set its default value to false so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=93.88) [the images are not displayed when the page](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=96.32) [is first loaded. Next, we build the method](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=98.375) [that the event binding will call. By](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=101.2) [convention, methods are normally created](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=103.77) [after all of the properties are defined,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=106) [so we'll put it down here. Let's name the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=108.35) [method toggleImage. Notice that TypeScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=111.39) [does not require any keywords, such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=114.55) [function. Following the method name with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=116.87) [open and closing parentheses identifies it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=119.38) [as a method. Our method won't have a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=121.81) [return type, so we specify the return type](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=124.34) [as void. The body of the method simply](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=127.22) [toggles the state of the showImage](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=129.94) [property. The bang, or exclamation point,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=132.09) [used here is a logical not operator. It](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=135.54) [returns false if its operand, showImage in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=139.24) [this case, is true and true if showImage](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=142.36) [is false, basically toggling the value](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=146.01) [from true to false or false to true. Back](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=148.88) [in the template, we are ready to set up](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=152.32) [the event binding. On the button element,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=154.28) [we define the click as the target event by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=157.14) [enclosing it in parentheses. We assign it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=160.42) [to our method enclosed in quotes. When the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=163.69) [user clicks the button, the binding calls](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=166.47) [our method. So the only thing left is to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=169.07) [actually hide or show the image. Recall](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=172.37) [how we add logic to add or remove HTML](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=175.67) [elements from the DOM? If you said the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=178.58) [ngIf directive, you are right. We'll add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=181.095) [ngIf to the image element. We only want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=184.71) [this image element if the showImage flag](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=187.77) [is true. So we type \*ngIf= 'showImage'.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=190.3) [The image element will then only be added](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=196.37) [to the DOM if showImage is true. Let's see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=198.65) [if this works. Are we ready to give it a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=201.81) [try? Click the button, and the image](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=205.03) [appears. Click the button again, and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=208.21) [image disappears. Oh, very cool. The only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=211.05) [odd thing is the button text. When the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=214.01) [image is displayed, the button text should](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=216.84) [change to Hide Image. So up here where we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=219.42) [have the button text, let's use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=223.65) [interpolation. When showImage is true, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=225.7) [want the button text to say Hide Image,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=229.05) [and when showImage is false, we want the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=231.42) [button text to say Show Image. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=233.78) [accomplish this using a JavaScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=236.88) [conditional operator. We specify the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=238.9) [condition, which is showImage and a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=241.7) [question mark. Then we specify the true](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=244.17) [expression. So when showImage is true, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=247.14) [want to display Hide Image. Then we add a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=250.6) [colon and the false expression. So when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=254.07) [showImage is false, we want it to say Show](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=257.23) [Image. Basically, we can read this syntax](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=260.19) [as if showImage is true, display Hide;](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=263.48) [otherwise, display Show. Let's check this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=267.37) [out in the browser. So our button text now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=270.43) [says Show Image. If we click it, it says](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=273.77) [Hide Image. Ah, that seems a little more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=277.06) [user friendly. Cool. Before we move on,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=280.62) [let's talk a moment about Angular's change](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=284.91) [detection. By default, Angular is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=287.39) [constantly watching for changes to any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=290.45) [bound properties and listening for events.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=293.04) [In our sample application, we have a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=296.42) [button that shows or hides images. In the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=298.75) [HTML for the button, we bound it's click](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=301.8) [event to a method in our component, and we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=304.49) [used interpolation to change the text of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=307.42) [the button based on the value of a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=309.61) [property in our component. In the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=311.57) [list, we used the ngIf structural](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=314.48) [directive to add or remove the image](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=316.83) [element from the DOM. The showImage](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=319.16) [property is initially false, so the button](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=321.88) [text displays Show Image, and the ngIf](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=324.75) [removed the image from the display. When](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=327.9) [the user clicks the button, Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=331.27) [executes the method bound to the click](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=333.3) [event. The code and the method toggles the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=335.41) [showImage property from false, its default](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=338.2) [value, to true. Angular's change detection](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=341.29) [detects that change and automatically](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=344.84) [reevaluates all the bindings. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=347.8) [interpolation changes the button text from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=350.99) [Show to Hide, and the ngIf ads the image](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=353.37) [element to the DOM, displaying the image.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=357.13) [This is the Angular way to modify DOM](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=360.71) [elements. Now that we have our images](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=363.90999999999997) [working, let's tackle the Filtered by box, and for that, we need two‑way binding.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=2&mode=live&start=366.71)

[Handling Input with Two-way Binding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live)

[When working with user entry HTML](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=1.44) [elements, such as an input element, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=3.68) [often want to display a component class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=6.56) [property in the template and update that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=8.72) [property when the user makes a change.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=11.55) [This process requires two‑way binding. To](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=14.28) [specify two‑way binding in Angular, we use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=18.57) [the ngModel directive. We enclose ngModel](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=20.99) [in square brackets to indicate property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=25.21) [binding from the class property to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=27.8) [input element, and parentheses to indicate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=30.74) [event binding to send a notification of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=34.75) [the user‑entered data back to the class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=37.43) [property. We assign this directive to a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=40.46) [template expression. To help us remember](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=42.6) [which order to put the two sets of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=45.62) [brackets, visualize a banana in a box.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=47.77) [Square brackets for the box on the outside](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=50.125) [and parentheses for the banana on the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=52.9) [inside. So now we have another Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=55.32) [directive that we can use. Every time we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=58.29) [want to use an Angular directive in a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=60.98) [template, we need to consider how to make](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=63.34) [that directive visible to the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=65.29) [associated with that template. Recall that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=67.46) [an Angular module defines the boundary or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=70.35) [context within which the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=72.85) [resolves its directives and dependencies.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=75.18) [The illustration of our AppModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=78.24) [currently looks like this. We want to use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=80.15) [the ngModel directive in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=83.09) [ProductListComponent, which is owned by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=85.15) [AppModule. So in the AppModule, we need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=87.98) [import the appropriate system module that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=91.9) [exposes the ngModel directive. Since the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=94.65) [ngModel directive is most often used when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=99.04) [building data entry forms, ngModel is part](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=102.3) [of FormsModule, so we import that here.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=105.8) [Now, the ngModel directive and any of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=110.005) [other Angular forms directives are visible](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=113.68) [to any component declared by AppModule,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=116.48) [including our ProductListComponent. Now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=119.9) [let's give this a try. We are back in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=123.26) [editor and looking at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=127.26) [ProductListComponent and its associated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=128.57) [template. Recall that we defined a Filter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=131.17) [by input box here and display the entered](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=133.965) [filter here. We'll later use the filter to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=136.96) [filter our list of products. Let's start](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=140.08) [by adding a component class property for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=142.93) [the listFilter. This property is a string,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=144.94) [and we'll set a default initial value for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=148.1) [filtering the list of products. We hard](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=150.56) [code the filter string here, but you can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=153.31) [imagine that we store the user's last](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=155.42) [entered filter and use that as the default](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=157.57) [instead. With that, we can set up the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=160.28) [two‑way binding. On the input element, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=163.34) [draw a banana in a box, then specify the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=166.93) [ngModel directive. We bind to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=169.99) [component class listFilter property. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=172.7) [want to display the list filter here, so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=175.87) [we use interpolation. Recall that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=178.3) [interpolation has no quotes. Are we done?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=180.99) [Not quite. Let's open the terminal window.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=184.94) [We see an error, Can't bind to ngModel](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=188.19) [since it isn't a known property of input.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=191.45) [This is telling us that Angular can't find](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=194.405) [the ngModel directive. Recall from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=197.15) [slides that the ngModel directive is part](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=200.7) [of the Angular module for forms called](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=203.88) [FormsModule. To expose this directive to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=206.19) [our ProductListComponent, we need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=209.59) [import the FormsModule in the module that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=212) [owns the ProductListComponent, which is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=215.04) [our AppModule. We start by importing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=217.61) [FormsModule from @angular/forms. We then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=220.67) [add FormsModule to the imports array for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=224.04) [the NgModule decorator. Why the imports](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=227.02) [array and not the declarations? Our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=230.44) [directives, components, and pipes are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=233.43) [declared here in the declarations array.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=235.43) [Directives, components, and pipes we use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=238.485) [from other sources, such as Angular itself](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=240.92) [or third parties, are defined in external](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=243.74) [Angular modules we add to the imports](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=246.53) [array here. Now that we've told Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=249.12) [where to find the ngModel, let's see the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=252.21) [result. When the page displays, we see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=255.08) [cart as the default value. It is displayed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=258.15) [here and here. If we modify the entry,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=261.33) [notice that the displayed filter text is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=265.14) [also updated. That's because we are using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=267.24) [two‑way binding. Notice that the list of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=270.2) [products is not yet filtered. We'll do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=272.92) [that in the next module. There is one more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=275.48) [thing we do want to address now, and that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=278.43) [is the data formatting. That price should](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=281.25) [really look like a price and show the appropriate currency symbol.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=3&mode=live&start=284.33)

[Transforming Data with Pipes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live)

[With Angular's data binding, displaying](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=2.64) [data is easy, just bind an element](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=4.88) [property to a class property and we're](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=7.46) [done. Well, not always. Sometimes the data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=9.22) [is not in a format appropriate for a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=12.87) [display. That's where pipes come in handy.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=14.83) [Pipes transform bound properties before](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=18.54) [they are displayed so we can alter the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=20.99) [property values to make them more user](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=23.32) [friendly or more locale appropriate.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=25.33) [Angular provides some built‑in pipes for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=29.04) [formatting values such as date, number,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=31.37) [decimal, percent, currency, uppercase,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=34.04) [lowercase, and so on. Angular also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=36.37) [provides a few pipes for working with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=39.17) [objects, such as the Json Pipe to display](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=41.21) [the content of an object as a Json string,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=44.5) [which is helpful when debugging, and a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=47.34) [slice pipe, which selects a specific](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=49.74) [subset of elements from a list. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=52.42) [also build our own custom pipes as we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=55.09) [see in the next module. Let's start with a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=57.9) [simple example. Say we want to display the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=61.51) [product code in lowercase. We can add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=64.7) [pipe character after the property in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=68.08) [template expression and then specify the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=70.24) [lowercase pipe. The product code is then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=72.98) [transformed into lowercase before it is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=75.92) [displayed. We can also use pipes and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=78.51) [property bindings, add the pipe after the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=81.13) [property in the template expression and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=83.92) [specify the desired pipe. In this example,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=86.26) [we specified the uppercase pipe so the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=89.79) [image title will appear in all caps. If](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=92.4) [needed, we can chain pipes. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=95.72) [example, the price is transformed into a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=98.94) [currency. By default, the currency pipe](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=100.72) [adds the all caps three‑letter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=103.71) [abbreviation of the local currency to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=105.72) [amount. If we want to display that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=108.17) [abbreviation in lowercase, we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=110.68) [transform it again by simply adding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=112.92) [another pipe. Some pipes support](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=115.04) [parameters. Parameters are defined by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=118.53) [specifying a colon and the parameter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=121.48) [value. For example, the currency pipe has](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=123.76) [three parameters, the desired currency](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=127.67) [code, a string defining how to show the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=130.45) [currency symbol, and digit info. The digit](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=133.27) [info consists of the minimum number of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=137.32) [integer digits, the minimum number of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=139.62) [fractional digits, and the maximum number](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=142.02) [of fractional digits. The value here of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=144.73) [1.2‑2 means at least 1 digit to the left](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=147.77) [of the decimal and at least 2 digits to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=152.29) [the right of the decimal and no more than](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=154.95) [2 digits to the right of the decimal](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=157.325) [effectively defining 2 decimal places.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=159.72) [With that, let's jump back to the demo. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=163.22) [specify the pipes in the template, so we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=167.45) [are looking at the product list component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=170.13) [template. Let's add a lowercase pipe for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=172.1) [the product code and a currency pipe for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=174.58) [the price. For the product code, we simply](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=177.1) [insert the pipe character after the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=179.78) [property in the template expression and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=181.4) [type lowercase. That's it. For the price,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=183.8) [we insert a pipe character and currency.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=187.58) [That's all that is required, but let's try](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=190.69) [out a few of the parameters. We'll specify](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=193.13) [USD symbol to display the dollar sign](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=196.01) [instead of the currency abbreviation, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=199.17) [1.2‑2 to specify that we want at least 1](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=203.4) [number to the left of the decimal place](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=205.74) [and 2 and only 2 numbers to the right of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=207.92) [the decimal place. Let's see how we did.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=210.32) [Ah, looking at the result, we now see the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=213.92) [product code in lowercase and the price](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=217.1) [displayed nicely as the currency. So we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=219.68) [can easily perform simple data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=223.61) [transformations using the built‑in pipes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=225.49) [in the template expressions for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=228.03) [bindings. Feel free to try out some of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=230.63) [other pipes from the slides. Let's finish](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=232.54) [up this module with some diagrams and a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=235.56) [checklist we can use as we work with bindings and pipes.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=4&mode=live&start=237.55)

[Checklists and Summary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live)

[Data binding makes it easy to display](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=2.24) [class properties from our component and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=4.24) [set DOM element properties to our class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=6.75) [property values to better control the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=8.96) [view. And the component can listen for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=11.12) [events from the DOM to respond as needed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=13.91) [for an interactive user experience. There](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=16.22) [are four basic types of binding in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=19.76) [Angular. Here is a diagram as a memory](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=21.84) [aid. Interpolation inserts interpolated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=24.58) [strings into the text between HTML](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=27.79) [elements or assigns element properties. Be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=30.19) [sure to wrap the template expression in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=33.77) [curly braces and no quotes. Property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=35.55) [binding sets an element's property to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=39.14) [value of a template expression. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=41.64) [binding target specifies a property of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=44.44) [element and must be enclosed in square](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=46.77) [brackets. The binding source specifies the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=49.19) [template expression and must be enclosed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=52.18) [in quotes. Event binding listens for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=54.69) [events and executes a template statement](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=57.84) [when the event occurs. The target event](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=60.28) [specifies an event name and must be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=63) [enclosed in parentheses. The template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=65.24) [statement often defines the name of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=68.1) [method to call when the event occurs and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=69.89) [must be enclosed in quotes. Two‑way](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=72.34) [binding displays a component class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=74.84) [property and updates the property when the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=76.74) [user makes a change. Use the banana in a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=79.5) [box syntax with the NgModel directive. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=82.57) [binding source specifies the template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=85.95) [expression and must be enclosed in quotes.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=87.82) [Here are some things to remember when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=91.64) [using NgModel. Define NgModel within the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=93.51) [banana in a box for two‑way binding. Be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=97.35) [sure to add FormsModule from the Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=100.49) [forms package to the imports array of an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=103.13) [appropriate Angular module, in this case,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=105.89) [AppModule. This ensures that the ngModel](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=109.25) [directive is available to any template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=112.56) [defined in a component associated with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=115.31) [that module. We'll talk more about Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=117.76) [modules later in this course. The data we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=120.49) [have in our component may not be in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=124.11) [format we want for display. We can use a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=126.11) [pipe in a template to transform that data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=129.43) [to a more user‑friendly format. To use a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=132) [pipe, specify the pipe character, the name](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=135) [of the pipe, and any pipe parameters,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=137.73) [separated with colons. Here is an example](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=140.43) [of the currency pipe with three](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=143.78) [parameters. This module covered data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=145.65) [binding and pipes. We looked at property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=148.76) [binding, event binding, and two‑way](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=151.5) [binding. Lastly, we discovered how to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=154.08) [transform bound data to a more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=156.59) [user‑friendly format using built‑in pipes.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=158.48) [And here once again is our application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=162.54) [architecture. In this module, we finished](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=165.21) [more of the Product List Component, but it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=168.25) [could be better. Next up, we'll see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=170.89) [several techniques for improving our component.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m5&clip=5&mode=live&start=173.43)

[More on Components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live)

[When building clean components, we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=2.44) [ensure everything is strongly typed, our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=4.93) [styles are encapsulated, we respond to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=7.65) [appropriate life cycle events, and we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=10.75) [transform data to user friendly values as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=13.26) [needed. Welcome back to Angular: Getting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=16.41) [Started from Pluralsight. My name is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=19.41) [Deborah Kurata, and in this module we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=22.22) [learn several ways to approve upon our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=25.03) [components. Components are one of the key](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=27.29) [building blocks of our application. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=30.81) [cleaner, stronger and more durable we make](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=33.56) [these blocks, the better our application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=35.99) [So how can we make our components better?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=39.17) [Strong typing helps minimize errors](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=42.97) [through better syntax checking and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=45.35) [improved tooling. But what if there is no](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=47.13) [predefined type for a property? To](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=50.2) [strongly type a property that has no](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=52.9175) [predefined type, we define the type](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=55.05) [ourselves using an interface. If a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=57.49) [component needs special styles, we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=60.86) [encapsulate those styles within the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=62.99) [component to ensure they don't leak out to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=64.75) [any other component in the application. A](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=67.44) [component has a lifecycle managed by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=70.47) [Angular. Angular provides a set of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=72.76) [lifecycle hooks we can use to tap into key](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=75.4) [points in that lifecycle, adding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=78.72) [flexibility and responsiveness to our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=81) [application. As we saw in the last module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=83.3) [pipes provide a convenient way to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=86.65) [transform bound data before displaying it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=88.7) [in the view. We may have other application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=91.30000000000001) [unique data transformation requirements.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=94.24) [Luckily, we can build our own custom](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=97.34) [pipes. Any time we build and test a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=99.8) [component once and nest it in several](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=102.68) [places in the application, we have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=105.26) [minimized development time and improve the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=107.59) [overall quality of the application. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=110.12) [this module, we explain interfaces and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=114.38) [demonstrate how to use them to strongly](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=117.27) [type our objects. We look at how to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=119.34) [encapsulate component styles. We introduce](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=121.95) [the component lifecycle and how to hook](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=124.91) [into its events, and we detail how to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=127.2) [build a custom pipe. We cover building](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=130.15) [nested components in the next module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=133.17) [Looking at our application architecture,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=135.995) [in this module we'll add features to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=139.02) [improve the product list component. Let's get started.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=0&mode=live&start=141.31)

[Defining Interfaces](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live)

[One of the benefits of using TypeScript is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=2.24) [its strong typing. Every property has a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=4.755) [type, every method has a return type, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=8.05) [every method parameter has a type. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=10.98) [strong typing helps minimize errors](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=13.84) [through better syntax, checking, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=15.9) [tooling. In some cases, however, we have a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=17.58) [property or method that does not have a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=20.88) [predefined type such as our products array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=23.11) [here. We defined our products array as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=27.019999999999996) [any, which negates the benefits of strong](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=29.34) [typing. To specify custom types, we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=31.96) [define an interface. An interface is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=35.6) [specification identifying a related set of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=39.44) [properties and methods. A class commits to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=42.22) [supporting the specification by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=45.13) [implementing the interface. That means the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=47.07) [class includes code for each property and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=49.86) [method identified in the interface. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=51.98) [then use the interface as a data type. ES5](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=54.97) [and ES2015 do not support interfaces, but](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=59.455) [TypeScript does, so interfaces are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=63.34) [transpiled out and are not found in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=65.95) [resulting JavaScript. This means that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=68.44) [interfaces are development time only.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=71.17) [Their purpose is to provide strong typing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=74.28) [and better tooling support as we build,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=76.61) [debug, and maintain our code. Here is an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=79.44) [example of a TypeScript interface. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=83.31) [define an interface using the interface](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=86.53) [keyword, followed by the interface name,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=88.97) [which is often the name of the business](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=91.72) [object that the interface describes. By](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=93.49) [many naming conventions, the interface is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=96.28) [prefixed with an I for interface, though](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=98.51) [some TypeScript developers leave off this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=101.61) [prefix. The export keyword here at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=103.86) [front exports this interface, thereby](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=106.89) [making it available for use anywhere in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=109.56) [the application. The body of the interface](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=111.82) [defines the set of properties and methods](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=114.9) [appropriate for this business object. For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=116.85) [each property, the interface includes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=119.49) [property name, a colon, and the property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=121.368) [data type. For each method, the interface](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=124.058) [includes the method name, the list of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=127.238) [parameters, along with their data types, a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=129.298) [colon, and the method return type. To use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=131.788) [the interface as a data type, we import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=135.748) [the interface, then use the interface name](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=138.428) [as the data type. Looks easy enough, let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=141.408) [try it out. We are back in the sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=144.948) [application, looking at the ProductList](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=148.798) [component. Here we see that we defined our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=150.958) [products array as any, so let's create an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=153.898) [interface that defines what a product is.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=157.108) [We'll put the interface into its own file](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=160.398) [in the products folder. We'll name that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=162.888) [file product.ts after the business object](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=165.718) [it defines. We first type the export](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=169.223) [keyword to ensure the other parts of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=172.498) [application can use this interface. That](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=174.848) [is, after all, why we are creating it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=177.658) [Next, we type in the interface keyword,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=180.438) [then the name of the interface. I like to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=183.468) [use the I prefix to distinguish the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=186.048) [interface from the business object, and we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=187.988) [are defining a product, so IProduct.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=190.548) [Inside the interface, we define the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=193.63299999999998) [properties and methods appropriate for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=196.168) [business object. For our sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=198.278) [application, we only need properties. For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=200.658) [each property, we define the property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=203.848) [name, a colon, and the type of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=205.778) [property. Notice that we are typing the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=208.228) [releaseDate as a string. If we later work](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=210.818) [with this value as a date object, we could](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=213.848) [change this type to a date. That's it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=216.488) [That's all we have to do to define an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=219.278) [interface. Now we can use this interface](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=221.368) [as our data type in the ProductList](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=224.598) [component. Before we do though, let's try](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=226.688) [something. Let's introduce a typographical](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=229.638) [error into our products array. No error is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=232.498) [detected. We won't even know we made a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=235.648) [mistake until we see the application in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=237.828) [the browser. And we notice that no image](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=240.178) [is displayed for one of the products. As](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=243.21800000000002) [you can imagine, these kinds of errors](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=246.336) [could cause hard‑to‑find bugs. Now let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=248.266) [replace the any with IProduct. We get a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=251.266) [syntax error. What did we miss? Yep, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=255.436) [need an import, and bang. Now that our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=259.346) [array of products is strongly typed, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=263.696) [are notified that we made an error in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=265.906) [product array property. We don't even have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=268.086) [to view it in the browser to see that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=270.786) [something is amiss. So this is a good](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=272.516) [demonstration of one of the benefits of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=275.046) [strong typing. Let's fix that error.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=277.126) [Notice that we get IntelliSense now for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=280.276) [these properties, another great benefit of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=282.236) [strong typing. Let's check this out in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=284.776) [browser. Now everything works as it did.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=287.266) [In our interface file, we could define a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=292.096) [class for the product business object here](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=296.106) [as well, something like this. In general,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=298.80100000000004) [we only create a business object class if](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=302.036) [that class provides some functionality](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=304.546) [that we want to use throughout our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=306.836) [application, such as this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=308.306) [calculateDiscount method. And if we think](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=310.536) [we might want to create a business object](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=313.546) [at some point in the future, then we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=315.546) [definitely want to add the I prefix to our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=317.546) [interface, but for our sample application,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=320.126) [we don't need any product methods, so we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=323.206) [don't really need a product class. We will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=325.786) [use this interface throughout the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=329.536) [application to strongly type our products.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=331.546) [Next, let's look at encapsulating components styles.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=1&mode=live&start=335.126)

[Encapsulating Component Styles](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live)

[When we build a template for a component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=2.34) [we sometimes need styles unique to that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=4.79) [template. For example, if we build a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=7.62) [sidebar navigation component, we may want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=10.03) [special LI or dev element styles. When we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=12.93) [nest a component that requires special](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=17.12) [styles within a container component, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=18.91) [need a way to bring in those unique](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=21.72) [styles. One option is to define those](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=24.03) [styles directly in the templates HTML, but](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=26.94) [that makes it harder to see, reuse, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=30.3) [maintain those styles. Another option is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=32.82) [to define the styles in an external style](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=35.86) [sheet. That makes them easier to maintain,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=38.4) [but that puts the burden on the container](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=41.06) [component to ensure the external style](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=43.34) [sheet is linked in the index.html. That](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=45.57) [makes our nested components somewhat more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=49.28) [difficult to reuse, but there is a better](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=51.26) [way. To help us out with this issue, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=54.6) [Component decorator has properties to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=58.36) [encapsulate styles as part of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=60.68) [component definition. These properties are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=62.74) [styles and styleUrls. We add unique styles](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=65.88) [directly to the component using the styles](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=70.24) [property. This property is an array, so we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=72.7) [can add multiple styles separated by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=75.87) [commas. A better solution is to create one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=78.18) [or more external style sheets and identify](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=81.42) [them with the styleUrls property. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=84.53) [property is an array, so we can add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=87.97) [multiple style sheets separated by commas.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=90.33) [By encapsulating the styles within the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=93.84) [component, any defined selectors or style](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=95.88) [classes are only applicable to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=99.12) [component's template and won't leak out](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=101.85) [into any other part of the application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=104.72) [Let's try this out. Before we change any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=107.74) [code, let's look again at our ProductList](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=112.01) [view in the browser. Notice the table](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=114.88) [headers, they could use a little color, so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=118.4) [let's build an external style sheet for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=120.623) [our ProductList component. We'll add a new](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=122.773) [file in the products folder, and since](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=126.273) [this file only contains the styles for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=128.793) [ProductList component, we'll call it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=131.503) [product‑list.component.css. In the style](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=134.313) [sheet, we add a table header style. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=139.553) [modify the thead element styles directly](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=142.913) [because the style sheet is encapsulated in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=146.133) [this component, and the styles defined](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=148.663) [here won't affect any other component in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=151.143) [the application. We could add any other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=153.603) [styles as needed to jazz up our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=156.203) [ProductList component. To use this new](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=158.273) [style sheet, we modify the ProductList](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=161.523) [component. In the Component decorator, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=163.723) [specify our unique style sheet. We add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=166.883) [styleUrls property and pass it an array.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=170.363) [In the first element to the array, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=173.653) [specify the path to our style sheet. Since](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=176.113) [we defined the CSS file in the same folder](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=179.363) [as the component, we can use the ./](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=182.193) [relative pass syntax. We could add more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=185.333) [style sheets here separated with commas.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=188.353) [Let's review the result in the browser,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=191.533) [and we see that the table header is now a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=194.433) [nice blue color. We can use the styles or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=196.673) [styleUrls property of the Component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=200.203) [decorator anytime we want to encapsulate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=203.393) [unique styles for our component. Next up, let's dive into lifecycle hooks.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=2&mode=live&start=205.483)

[Using Lifecycle Hooks](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live)

[A component has a lifecycle managed by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=2.54) [Angular. Angular creates the component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=5.41) [renders it, creates and renders its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=8.78) [children, processes changes when it's data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=11.02) [bound properties change, and then destroys](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=13.87) [it before removing its template from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=16.66) [DOM. Angular provides a set of lifecycle](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=18.7) [hooks we can use to tap into this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=22.09) [lifecycle and perform operations as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=24.7) [needed. Since this is a Getting Started](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=27.65) [course, we'll limit our focus to the three](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=30.46) [most commonly used lifecycle hooks. Use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=33.19) [the OnInit lifecycle hook to perform any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=36.57) [component initialization after Angular has](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=39.27) [initialized the data bound properties.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=42.36) [This is a good place to retrieve the data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=44.94) [for the template from a backend service,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=46.99) [as we'll see later in this course. Use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=49.36) [OnChanges lifecycle hook to perform any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=52.5) [action after Angular sets data bound input](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=55.01) [properties. We have not yet covered input](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=57.92) [properties, we'll see those in the next](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=60.93) [module. Use the OnDestroy lifecycle hook](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=63.55) [to perform any cleanup before Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=66.94) [destroys the component. To use a lifecycle](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=69.07) [hook, we implement the lifecycle hook](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=72.67) [interface. We talked about interfaces](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=75.34) [earlier in this module. Since Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=78.05) [itself is written in TypeScript, it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=80.51) [provides several interfaces we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=82.85) [implement, including one interface for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=84.79) [each lifecycle hook. For example, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=87.36) [interface for the OnInit lifecycle hook is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=90.18) [OnInit. Notice that it is not prefixed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=92.93) [with an I. We are using the OnInit](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=96.06) [interface from Angular. So any guesses as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=98.7) [to our next step? Yep, we need to import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=101.71) [the lifecycle hook interface. We can then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=104.97) [write the hook method. Each lifecycle hook](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=108.04) [interface defines one method whose name is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=110.96) [the interface name prefixed with ng for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=114) [Angular. For example, the OnInit interface](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=118.11) [hook method is named ngOnInit. Our first](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=121.4) [step here of implementing the interface is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=125.24) [actually optional. Recall from our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=128.1) [discussion of interfaces earlier in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=130.83) [module that neither ES5 nor ES2015 support](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=133.08) [interfaces. They are features of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=137.34) [TypeScript. That means that the interfaces](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=139.63) [are transpiled out of the resulting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=142.38) [JavaScript, so we don't really have to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=144.31) [implement the interface to use lifecycle](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=147.19) [hooks. We can simply write code for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=150.27) [hook method. However, it is good practice](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=152.33) [and provides better tooling when the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=155.52) [implement the interface. At this point in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=157.45) [our application, we don't need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=159.97) [implement any lifecycle hooks, but we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=162.01) [use them in later modules, so let's try](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=164.84) [them out now. We are looking at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=167.63) [ProductList Component. We'll add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=171.42) [OnInit lifecycle hook to this component.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=173.83) [First we implement the interface by adding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=177.3) [it to the class signature. Type implements](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=179.25) [and the name of the interface, OnInit. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=182.51) [interface name is showing an error, and we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=185.95) [know why, we don't have the import. Let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=188.27) [add that now. Since OnInit is also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=191.25) [imported from Angular Core, we simply add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=194.54) [it to our first import statement. Now we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=197.35) [have another syntax error here. Class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=200.2) [ProductListComponent incorrectly](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=203.67) [implements interface OnInit. As the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=205.95) [message states, now that we've implemented](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=208.83) [the interface, we must write code for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=211.23) [every property and method in that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=213.72) [interface. The OnInit interface only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=215.59) [defines one method, ngOnInit, so we need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=218.29) [to write the code for the ngOnInit method.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=222.11) [We'll add it down here by the other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=225.32) [methods. Since we don't really need to do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=227.13) [anything with this at this point, we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=229.64) [just use cconsole.log to log a message to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=232.11) [the console. We can view the application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=234.9) [in the browser, and use the F12 developer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=237.94) [tools to open the console and view the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=240.97) [logged message. We can see our message](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=243.31) [here. We'll use ngOnInit later in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=245.85) [course. Up next, we'll build a custom pipe.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=3&mode=live&start=250.97)

[Building Custom Pipes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live)

[As we saw in the last module, we used](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=1.44) [pipes for transforming bound properties](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=3.77) [before displaying them in a view. There](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=6.02) [are built‑in pipes that transform a single](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=8.64) [value or an iterable list of data. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=10.84) [covered these in the last module. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=14.04) [module, we want to build our own custom](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=17.09) [pipe. For our sample application, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=19.93) [product code is stored with a dash and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=23.36) [displayed that way here, but the users](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=25.91) [would prefer to see the product code with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=28.63) [a space instead. We could build a custom](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=30.62) [pipe to replace the dashes with spaces,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=33.68) [but let's build a more generalized custom](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=35.73) [pipe that transforms any specified](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=38.78) [character in a string to a space. The code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=41.39) [required to build a custom pipe may look](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=44.75) [somewhat familiar at this point. It uses](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=47.04) [patterns similar to other code we've](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=49.85) [created in this course. Here is the class.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=51.7) [We add a Pipe decorator to the class to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=55.11) [define it as a pipe. Similar to the other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=57.63) [decorators we've used, this is a function,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=60.41) [so we add parentheses. We pass an object](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=62.86) [to the function specifying the name of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=66.03) [pipe. This is the name for the pipe used](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=68.21) [in the template, as we'll see shortly. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=70.88) [implement a PipeTransform interface, which](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=73.97) [has one method, transform. We write code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=77.03) [in the transform method to transform a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=80.7) [value and return it. The first parameter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=83.23) [of the transform method is the value we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=86.13) [are transforming. In this example, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=88.31) [transform a string. Any additional](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=91.16) [parameters define arguments we can use to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=93.64) [perform the transformation. In our case,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=96.05) [we want to pass in the character that we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=99.12) [want to replace with spaces. The method](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=101.27) [return type is also defined as a string](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=104.18) [because we are returning the transformed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=106.89) [string. And of course, we have our import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=109.42) [to import what we need. Notice how similar](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=112.26) [this looks to the components we've created](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=115.23) [in this course. Angular provides a very](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=117.28) [consistent coding experience. To use a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=119.98) [custom pipe in a template, simply add a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=123.96) [pipe and the pipe name. Include any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=126.63) [arguments required by the transformation](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=129.77) [separated by colons. The value being](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=132.26) [converted, our productCode here, is passed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=135.64) [in as the first argument to the transform](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=138.78) [method. This is our pipe name. The colon](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=141.58) [identifies a pipe parameter, so our dash](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=144.67) [is passed in as the second argument to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=147.66) [transform method. The passed‑in value is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=150.2) [then transformed as defined by the logic](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=153.3) [within this method, and the transform](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=155.97) [string is returned and displayed here. But](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=158.47) [of course, that is not enough. We also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=161.71) [need to tell Angular where to find this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=164.57) [pipe. We add the pipe to an Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=166.93) [module. How do we know which Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=169.65) [module? Well, at this point, that's easy](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=172.16) [because we only have one, AppModule. But](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=174.59) [if we had multiple modules, we'd added to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=177.6) [the module that declares the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=179.85) [that needs the pipe. In our example, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=182.25) [ProductList‑Component's template needs the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=185.14) [pipe, so we add the declaration to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=187.16) [same Angular module that declares the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=189.71) [ProductList‑Component. We define the pipe](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=191.83) [in the declarations array of the NgModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=194.75) [decorator. Now let's build our custom](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=197.68) [pipe. Recall that our requirement is to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=200.19) [transform a string so that any dashes on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=203.41) [the string are instead displayed as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=206.25) [spaces. But we are going to build a more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=208.31) [generic pipe that can replace any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=210.84) [specified character with a space. Since](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=213.33) [our custom pipe is somewhat general, we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=216.93) [add it to the shared folder. We'll create](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=219.37) [a new file and call it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=222.09) [convert‑to‑spaces.pipe.ts, following our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=223.81) [naming conventions. First, let's write the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=229.23) [code for the class. Export so we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=232.35) [import this pipe where we need it, class,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=235.17) [and the class name. We'll call it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=238.33) [ConvertToSpacesPipe. We decorate the class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=241.1) [with the Pipe decorator and import Pipe](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=244.69) [from Angular/core. We set the name](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=247.29) [property of the object passed into the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=250) [Pipe decorator, defining the pipe's name.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=251.91) [That's the name we'll use when we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=254.56) [reference the pipe in the HTML. Next,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=256.84) [we'll implement the PipeTransform](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=260.28) [interface. This syntax error is because we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=262.24) [don't have the import statement, so let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=265.54) [add that next. We still have a syntax](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=268.08) [error because when we implement the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=270.94) [PipeTransform interface, we are required](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=272.94) [to implement every property and method](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=275.99) [defined in that interface. For the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=278.85) [PipeTransform interface, there is only one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=281.15) [method, transform. We'll define the string](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=284.1) [value to transform as the first parameter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=287.69) [and the character string to use in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=290.47) [transformation as the second parameter,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=292.69) [and we can add a return statement to get](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=295.83) [rid of this last syntax error. Now, what](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=298.08) [do we want to transform method to do? Our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=301.56) [goal is to replace any of the specified](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=304.18) [characters in a string with spaces. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=306.54) [use the JavaScript string replace method](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=309.54) [to replace the specified character with a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=312.4) [space. That's it. Now we are ready to use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=314.54) [our pipe. In the product‑list template,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=318) [we'll add our pipe to the productCode. But](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=320.98) [the productCode already has a pipe. That's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=323.91) [okay. We can add any number of pipes.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=326.58) [First, we specify the pipe name and then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=329.54) [any pipe parameters. In this case, we want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=332.41) [to replace a dash with the space, so we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=335.5) [pass in a dash here as the parameter. Are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=338.26) [we done? Let's check by opening the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=341.71) [Terminal window. We see an error. No pipe](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=344.67) [found with name convertToSpaces. What did](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=348.23) [we forget? Recall from the slides that we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=351.62) [need to tell Angular about our new pipe.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=354.89) [We do that by declaring the pipe in an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=357.55) [Angular module. Our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=360.08) [product‑list.component's template wants to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=362.29) [use the convertToSpaces pipe, so we open](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=364.7) [the Angular module that declares the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=367.71) [product‑list.component, which in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=369.69) [example is the app.module. We then add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=372.03) [ConvertToSpacesPipe to the declarations](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=375.47) [and add the needed import. Now any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=378.26) [component declared in app.module can use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=381.42) [the ConvertToSpacesPipe. Are we ready to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=384.18) [try again? Success. Our product code now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=387.84) [appears with spaces instead of dashes.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=391.53) [Build a custom pipe anytime you need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=393.63) [perform application‑unique data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=396.81) [transformations. Notice, however, that our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=399.01) [page interactivity is still not complete.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=402.31) [The product list is not yet filtering](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=405.58) [based on the user‑entered filter criteria. Let's look at that next.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=4&mode=live&start=407.74)

[Filtering a List](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live)

[We have an input box here for the user to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=1.34) [enter a filtered string. The list of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=3.8) [products should then be filtered on the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=6.21) [entered string. How do we do that? One way](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=8.26) [we can filter our list of products is to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=12.45) [use a pipe; however, Angular doesn't come](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=14.48) [with a built‑in pipe to provide filtering](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=17.73) [or sorting. As of the time of this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=20.05) [recording, the Angular documentation at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=23.15) [angular.io stated, "Angular doesn't offer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=25.91) [such pipes because they perform poorly and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=29.52) [prevent aggressive minification." If we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=32.81) [have a small amount of data that we are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=35.68) [filtering or sorting, we could build a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=37.59) [custom pipe anyway. But is there a better](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=40.16) [way? Again from the Angular documentation,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=43.14) [the Angular team and many experienced](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=47.24) [Angular developers strongly recommend](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=49.4) [moving filtering and sorting logic into](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=52.4) [the component itself. Okay, let's do that.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=54.86) [But how? Before we answer that question,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=59.24) [let's take a moment to talk about](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=63.73) [JavaScript getters and setters. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=65.6) [JavaScript, and hence in TypeScript, there](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=68.66) [are two ways to define a property in a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=71.69) [class. We can declare a simple variable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=73.96) [for a property, as we have done previously](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=77.02) [in this course, or we can define a getter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=79.6) [or a setter, or both. A getter defines a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=83.41) [read‑only property. A getter is useful if](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=87.92) [we want to provide a property whose value](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=91.7) [can be dynamically computed or when we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=94.37) [want to expose the value of an internal](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=97.71) [variable, such as a property from a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=100.26) [service. Though it looks like a function,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=102.76) [a getter cannot have parameters, must have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=105.7) [a return type, and is accessed as a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=109.13) [property. Notice that there are no](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=111.89) [parentheses here. A setter defines a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=114.43) [write‑only property. A setter is useful if](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=118.23) [we want to execute code every time a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=121.66) [property is modified. It too looks like a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=124.35) [function. It must have one and only one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=127.69) [parameter, the set value, and no return](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=130.91) [type. It is also accessed as a property.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=134.34) [Notice that there are no parentheses here.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=138.03) [We are assigning a value just like a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=141.54) [simple property, but a setter can't hold](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=143.72) [an actual value. For that, we often need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=147.3) [what's called a backing field. The backing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=150.54) [field is often private and retains the set](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=153.51) [value. I use an underscore to denote](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=156.745) [private variables. Defining a getter and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=159.505) [setter with the same name results in a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=162.81) [property that we can read or write to, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=165.18) [defining a backing field allows us to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=168.7) [retain the set value. Now let's see how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=170.94) [this helps us filter our list. Here is our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=174.52) [ProductListComponent. Let's think through](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=178.82) [what we need to do. First, we need a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=181.79) [filtered list of products that we can bind](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=184.4) [to. We can define a property for that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=186.86) [here. Why don't we just filter our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=189.28) [products array? Because once we filter the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=191.72) [products array, we lose our original data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=194.53) [and can't get it back without re‑getting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=197.74) [the data from its source. Next, we need a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=199.89) [way to know when the user changes the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=202.66) [filter criteria. We could use event](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=204.74) [binding and watch for key presses or value](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=207.56) [changes, but an easier way is to change](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=210.46) [our listFilter property into a getter and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=213.49) [setter, like this. The property getter and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=216.51) [setter work just like the simple property.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=219.77) [When the data binding needs the value, it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=222.41) [will call the getter and get the value.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=224.81) [Every time the user modifies the value,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=227.69) [the data binding calls the setter, passing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=230.25) [in the changed value. If we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=232.93) [perform some logic every time the value is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=235.9) [changed, we can add it here in the setter.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=238.54) [We want to set our filtered products array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=242.34) [to the filtered list of products, like](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=244.72) [this. Here, we are using the JavaScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=247.14) [conditional operator to handle the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=249.86) [possibility that the listFilter string is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=252.08) [empty, null, or undefined. If there is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=255.25) [listFilter value, this code filters on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=258.37) [that value. If the listFilter is not set,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=260.95) [the filtered products property is assigned](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=264.25) [to the entire set of products, and that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=266.62) [makes sense. If there is no filter, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=269.43) [should display all of the products. But we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=271.91) [skipped the messy part. What about this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=275.48) [performFilter method? I'll paste the code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=278.01) [and we can talk through it. This code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=281.1) [starts by converting the filter criteria](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=283.43) [to lowercase. Why? So we can compare](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=285.9) [apples to apples when we filter the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=289.7) [product list. We want a case insensitive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=291.54) [comparison. Then we return the filtered](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=294.65) [list of products. Let's look closer at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=297.55) [filter method call. We are using the array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=300.33) [filter method to create a new array with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=303.26) [elements that pass the test defined in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=306.24) [provided function. We used the ES2015](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=308.8) [arrow syntax to define that filter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=312.23) [function. For each product in the list,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=314.32) [the product name is converted to lowercase](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=316.88) [and indexOf is used to determine if the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=319.57) [filter text is found in the product name.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=322.02) [If so, the element is added to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=325.3) [filtered list. See the MDN entry for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=327.4) [filter at this link for more information](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=330.76) [on the array filter function. There is one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=333.49) [more bit of code we need here. We want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=336.9) [set default values for both the filtered](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=339.39) [products and the listFilter properties.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=341.6) [The best place to set default values for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=344.59) [more complex properties is in the class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=346.85) [constructor. The class constructor is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=349.71) [function that is executed when the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=352.61) [component is first initialized. We want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=354.43) [set the filtered products to the full list](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=357.41) [of products, and the default listFilter to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=359.61) [cart, like we had earlier. Our last step](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=362.38) [then is to change our template to bind to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=366.08) [our filteredProducts property instead of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=368.53) [the products property. Now let's give it a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=371.25) [try. Our default filter is cart, so now we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=373.97) [only see the Garden Cart. Change the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=378.19) [filter, and we see different entries. It's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=380.85) [working! Not too shabby, not too shabby at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=384.75) [all. Let's finish up this module with some](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=387.84) [checklists we can use as we work more with components.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=5&mode=live&start=390.53)

[Checklists and Summary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live)

[We've covered several discrete topics in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=2.34) [this module, so we have a checklist for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=4.36) [each one. First interfaces. We use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=6.73) [interfaces to specify custom types such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=10.22) [product in our sample application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=13.46) [Interfaces are a great way to promote](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=15.802499999999998) [strong typing in our applications. When](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=18.1) [creating an interface, use the interface](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=21.03) [keyword, in the body of the interface](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=23.13) [define the appropriate properties and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=25.75) [methods, along with their types. And don't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=27.44) [forget to export the interface so it can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=29.97) [be used anywhere in our application. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=31.96) [implement an interface, including built‑in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=35.03) [Angular interfaces, to ensure that our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=37.64) [class defines every property and method](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=40.03) [identified in that interface. Add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=42.45) [implements keyword and the interface name](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=45.64) [to the class signature, then be sure to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=47.43) [write code for every property and method](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=49.98) [in the interface. Otherwise, typescript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=52.03) [displays a syntax error. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=54.59) [encapsulate the styles for our component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=57.47) [in the component itself. That way, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=60.12) [styles required for the component are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=62.63) [associated with the component alone and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=64.53) [don't leak into any other parts of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=66.94) [application. Use the styles property of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=68.94) [the component decorator to specify the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=71.88) [template styles as an array of strings.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=74.18) [Use the styleUrls property of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=76.58500000000001) [component decorator to identify an array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=79.05) [of external stylesheet paths. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=81.81) [specified styles are then encapsulated in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=84.55) [the component. Lifecycle hooks allow us to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=87.17) [tap into a component's lifecycle to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=90.45) [perform operations. The steps for using a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=92.73) [lifecycle hook are import the lifecycle](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=95.75) [hook interface, implement the lifecycle](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=98.7) [hook interface in the component class.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=101.44) [This step is not required, but highly](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=104.18) [recommended. Then write the code for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=106.17) [hook method defined in the lifecycle hook](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=108.97) [interface. To build a custom pipe, import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=111.17) [Pipe and PipeTransform. Create a class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=115.62) [that implements the PipeTransform](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=118.97) [interface. This interface has one method,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=120.75) [Transform. Be sure to export the class of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=124.00999999999999) [the pipe can be imported from other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=126.9) [components. Write code in the Transform](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=128.73) [method to perform the needed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=131.63) [transformation, and decorate the class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=132.99) [with the Pipe decorator. We can use a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=135.85) [custom pipe in any template anywhere we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=138.91) [can specify a pipe. In an Angular module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=141.33) [import the pipe. In the metadata, declare](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=144.365) [the pipe in the declarations array, then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=147.51) [any template associated with a component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=150.315) [declared in that Angular module can use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=152.85) [that pipe. In a template, immediately](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=155.04) [after the property to transform, type a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=157.61) [pipe character, specify the pipe name, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=160.065) [enter the pipe arguments, if any,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=163.13) [separated by colons. This module provided](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=165.265) [a set of techniques for improving our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=168.82) [components. We walk through how to use an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=170.79) [interface to strongly type our custom](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=173.43) [objects. We saw how to encapsulate styles](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=175.47) [within a component. We were introduced to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=178.66) [the component lifecycle and how to tap](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=181.14) [into that lifecycle with lifecycle hooks.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=183.38) [And we discovered how to build a custom](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=186.05) [pipe that we can use in any component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=188.26) [template. So in this module we've](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=190.91) [completed the product list component. Yay.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=194.11) [Next up, we'll see how to build nested components and build the star component.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m6&clip=6&mode=live&start=197.10375)

[Building Nested Components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live)

[Our user interface design may include](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=2.24) [features that are complex enough to be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=4.37) [separate components or that are reusable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=6.34) [across our views. Welcome back to Angular:](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=9.09) [Getting Started from Pluralsight. My name](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=12.120000000000001) [is Deborah Kurata, and in this module, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=14.98) [see how to build components designed to be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=18.12) [nested within other components, and we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=20.46) [discover how to establish communication](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=23.44) [between the nested component and its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=25.86) [container component. Just like nesting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=28.22) [dolls, we can nest our components. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=31.39) [nest a component within another component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=34.55) [and nest that component within yet another](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=37.34) [component, and so on. And because each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=39.5) [component is fully encapsulated, we expose](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=42.74) [specific inputs and outputs for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=46.11) [communication between a nested component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=48.36) [and its container, allowing them to pass](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=50.66) [data back and forth. There are two ways to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=53.27) [use a component and display the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=56.72) [component's template. We can use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=58.25) [component as a directive. We saw how to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=60.98) [use a component as a directive when we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=63.38) [displayed the app component template in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=65.49) [the index.html file. The pm‑root directive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=67.83) [is defined as the app component selector.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=71.38) [The template is then displayed within the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=74.34) [directive tags. We use the same technique](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=76.38) [with nested components. Alternatively, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=79.66) [can use a component as a routing target,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=82.91) [so it appears to the user that they've](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=85.63) [traveled to another view. The template is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=87.61) [then displayed in a full‑page style view.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=90.35) [We'll use this technique later in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=93.25) [course to route to our product list view.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=95.49) [Our product list view is currently used as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=98.25) [a directive, but that's only because we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=100.88) [have not yet covered routing. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=103.26) [course module, we'll focus on building a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=105.85) [nested component. So what makes a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=108.48) [component nestable? Technically speaking,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=111.52) [any of our components could be nested if](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=114.65) [they have a selector to find in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=116.91) [component decorator. But does it really](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=118.57) [make sense to nest a large view such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=121.15) [our product list? For our purposes, we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=123.71) [define a component as nestable if it's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=126.4) [template only manages a fragment of a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=129.08) [larger view, if it has a selector so it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=131.6) [can be used as a directive, and,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=134.9) [optionally, if it communicates with its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=137.24) [container. In this module, we'll build a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=139.57) [nested component. Then we'll review how to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=143.5) [use that nested component as a directive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=146.54) [in a container component. We'll examine](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=149.15) [how to pass data to the nested component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=151.69) [using a property with the input decorator](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=154.29) [and how to pass data out of the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=157.34) [component by raising an event to find with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=159.58) [the output decorator. In our sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=162.25) [application, to improve the user](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=165.7) [experience, we want to replace the rating](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=167.83) [number displayed in the product list](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=170.26) [component with stars. In this module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=172.79000000000002) [we'll build the star component and nest it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=176.13) [within the product list component. Let's get started.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=0&mode=live&start=178.97)

[Building a Nested Component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live)

[Here is a visual representation of a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=2.44) [component that is nestable. Here is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=4.8) [another component. It wants to use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=7.88) [nestable component in its template. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=10.45) [then refer to the outer component as the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=13.62) [container or a parent component, and we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=16.16) [refer to the inner component as the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=19.23) [or child component. When building an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=22.29) [interactive application, the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=25.62) [component often needs to communicate with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=28.5) [its container. The nested component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=30.97) [receives information from its container](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=33.32) [using input properties, and the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=35.58) [component outputs information back to its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=38.38) [container by raising events. In our sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=40.83) [application, we want to change the display](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=45.19) [of the five‑star rating from this to this.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=47.99) [Displaying the rating number using a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=52.47125) [visual representation such as stars makes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=54.44) [it quicker and easier for the user to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=57.555) [interpret the meaning of the number. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=59.56) [is the nested component we'll build in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=62.04) [this module. For the star component to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=63.9) [display the correct number of stars, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=66.67) [container must provide the rating number](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=69.02) [to our star component as an input. And if](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=71.35) [the user clicks on the stars, we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=74.48) [raise an event to notify the container.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=76.83) [Let's jump right in and build our star](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=80.04) [component. When we last saw our sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=82.27) [application, we had completed the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=86.88) [list component. Now, of course, we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=89.44999999999999) [change it. Instead of displaying a number](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=92.34) [for the rating here, we want to display](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=94.95) [stars. Instead of adding a code to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=97.57) [product list component to display the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=100.62) [stars, we want to build it as a separate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=102.65) [component. This keeps the template and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=105.53) [logic for that feature encapsulated and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=108.32) [makes it reusable. So let's begin by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=111.27) [creating a star component. The star](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=114.18) [component can be used by any feature of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=117.31) [the outfit application so it really](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=119.45) [doesn't belong in our products folder.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=121.29) [We'll instead put it in a shared folder](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=123.64750000000001) [where we'll put all our shared components.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=126.125) [If you are using the starter files. I've](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=128.37) [already created this folder and included](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=131.07) [the template and style sheet for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=133.87) [component here. Let's take a quick look at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=135.95) [the style sheet. Notice that we have a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=138.85) [style here that helps with cropping our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=141.04) [stars. Now we are ready to build the star](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=143.23) [component. We begin by creating a new](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=146.87) [file. We'll name its star.component.ts. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=149.56) [then create this component just like we'd](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=155.15) [create any other component, starting with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=157.49) [the class. Export class starComponent.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=160.36) [What's next? Yes. We decorate the class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=165.62) [with the component decorator. Recall that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=169.01) [it is this component decorator that makes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=171.77) [this class a component. As always, it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=174.42) [shows us a syntax error here, because](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=177.69) [we're missing, yes, our import. Time to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=180.22) [set the component decorator properties.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=184.02) [For the selector, we'll set pm‑star. For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=186.3) [the template URL, we provide the path to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=190.47) [the HTML file provided with the starter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=193.16) [files. We'll add the style URL's property,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=195.67) [and in the array we'll set the first](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=198.93) [element to the path of the style sheet](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=201.03) [that was also provided. Since both files](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=203.23) [are in the same folder as the component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=206.61) [we can use relative pathing. Now let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=208.73) [take a peek at the star component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=212.21) [template. Here it displays five stars. It](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=214.06) [then crops the stars based on a defined](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=219.07) [width. This technique can then display](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=221.56) [partial stars such as 4‑1/2 of the 5 stars](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=224.23) [by setting the with such that only 4‑1/2](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=228.29) [of the stars appear. Recall what this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=231.23) [syntax is called? This is property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=234.03) [binding. We're using it here to set the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=236.83) [style width, and here to bind the title](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=239.49) [property to display the numeric rating](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=242.35) [value. For these bindings to work, we need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=244.58) [two properties in the components class;](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=247.87) [the rating and the star width. Let's add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=250.245) [these two properties. We want a rating](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=254.07) [property, which is a number and defines](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=256.63) [the rating value. Since we don't yet have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=259.42) [a way to get this value, let's hard code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=262.15) [it to four for now so we'll see some](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=264.305) [stars, and we need the star width. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=266.33) [value is calculated based on the rating.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=270.01) [So where do we put that calculation? Well,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=273.44) [we'd want the star width recalculated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=276.9) [anytime the container changed the rating](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=279.03) [number. So let's tap into the OnChanges](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=281.28) [lifecycle hook as we discussed in the last](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=284.51) [module. We'll implement the OnChanges](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=287) [interface, and we'll write code for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=289.84) [ngOnChanges method identified in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=292.54) [onChanges interface. In this method, we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=295.53) [convert the rating number to a star width](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=298.52) [based on the width of our stars. Our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=301.58) [component is now complete and we're ready](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=304.53) [to nest it in another component. How do we do that?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=1&mode=live&start=307.03)

[Using a Nested Component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live)

[Now we are ready to nest our new component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=2.24) [within another component. We do that by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=4.84) [using our nested component as a directive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=8.03) [and following the same steps we covered](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=11.21) [earlier in this course. Here is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=13.46) [shortened form of the code for a container](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=15.75) [component and its template. And here is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=17.98) [the nested component we just created.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=20.83) [Instead of displaying the starRating](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=23.78) [number, we want to display the stars. So](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=25.79) [the container component uses the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=29.2) [component by specifying its directive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=31.35) [here. This identifies where in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=34.29) [container to place the nested components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=37.45) [template. As we've seen in prior demos,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=39.64) [when we use the component as a directive,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=42.480000000000004) [we need to tell Angular how to find that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=44.98) [directive. We do that by declaring the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=47.16) [nested component in an Angular module. How](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=49.82) [do we know which Angular module? Well, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=53.07) [still only have one Angular module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=56.19) [AppModule. In our example, the ProductList](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=58.48) [components template wants to use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=61.75) [StarComponent, so we add the declaration](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=64.72) [to the same Angular module that declares](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=66.62) [the ProductList component. We define the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=68.96) [nested component in the declarations array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=71.86) [of the NgModule decorator and, as always,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=74.31) [define what we need by adding an import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=78.07) [statement. Let's jump right back to our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=80.48) [demo. Our star.component is now shown here](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=83.2) [on the right. We want to use our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=87.51) [StarComponent in the ProductList template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=89.77) [that is here on the left. In the table](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=92.65) [data element, we want to replace the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=95.12) [display of the starRating number with our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=97.38) [StarComponent. To do that, we simply](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=99.94) [replace the binding with our directive.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=103.03) [Now our ProductList template will display](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=106.88) [our stars here. Next, we need to tell](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=108.73) [Angular where to find this directive.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=112.1) [Since we only have one Angular module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=114.94) [we'll add the declaration for the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=117.71) [component there. Add the StarComponent to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=119.7) [the declarations array passed into the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=122.425) [NgModule decorator. These are the same](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=124.555) [steps we followed earlier in this course](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=127.725) [to use a component as a directive. Nothing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=129.915) [new here so far. Let's see what we did. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=133.095) [have stars, yes, hmm, but we see five of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=137.095) [them. Let's clear out the filter. Yes, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=141.725) [see five every time. Hover over the stars,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=146.065) [and we see our hard coded starRating is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=150.545) [four. It seems that our starWidth is not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=153.085) [being set. Let's look at the code again.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=157.075) [We set the starWidth property in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=160.095) [ngOnChanges method when the OnChanges life](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=162.265) [cycle event occurs, but the OnChanges life](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=165.43) [cycle event never occurs because OnChanges](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=168.51375) [only watches for changes to input](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=171.825) [properties. We don't have any input](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=174.255) [properties, so we have two problems here.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=176.795) [Our OnChanges event does not fire, and we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=180.195) [don't currently have a way to get the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=183.195) [correct rating number from the container.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=184.875) [Let's see how input properties can solve both of these issues.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=2&mode=live&start=187.695)

[Passing Data to a Nested Component Using @Input](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live)

[If a nested component wants to receive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=2.34) [Input from its container, it must expose a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=4.5) [property to that container. The nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=7.44) [component exposes a property it can use to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=10.34) [receive Input from its container, using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=12.92) [the app we named Input decorator. We use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=15.45) [the Input decorator to decorate any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=19.485) [property in the nested components class.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=21.75) [This works with any property type,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=24.97) [including an object. In this example, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=27.09) [want the rating number passed into the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=30.29) [nested component. So we mark that property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=32.4) [with the Input decorator. The container](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=35.54) [component then passes data to the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=38.82) [component by setting this property with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=41.64) [property binding. When using property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=44.3) [binding we enclose the binding target in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=46.87) [square brackets. We set the binding source](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=49.42) [to the data that the container wants to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=52.53) [pass to the nested component. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=54.57) [example, the product‑list template passes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=57.48) [the product's starRating number, the only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=60.38) [time we can specify a nested components'](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=63.73) [property as a property binding target on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=66.6) [the left side of an equals, is when that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=69.98) [property is decorated with the Input](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=72.64) [decorator. So in this example, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=75.06) [product‑list template can bind to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=78.36) [rating, but not the starWidth. Let's give](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=80.36) [this a try. The StarComponent wants to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=83.96) [expose the rating property to its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=88.37) [container, so the container can provide](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=90.41) [the rating number. We'll add the Input](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=92.91499999999999) [decorator than to the rating property. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=95.46) [Input decorator is a function, so we add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=98.95) [parentheses. We don't need to pass](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=101.74) [anything to this function, so that's it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=104.28) [And let's remove this default value, now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=106.55) [that we can get the value from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=109.36) [container we don't need that here. In our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=110.64) [example, we decorate only one property of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=113.4) [the nested component with the Input](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=116.18) [decorator, but we are not limited to one.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=117.93) [We can expose multiple Input properties as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=120.81) [needed. In the containers' template we use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=123.53) [property binding and define the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=127.17) [components Input property as the target of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=129.42) [the binding. Then we set the binding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=132.37) [source to the value we want to pass into](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=135.1) [the nested component. In this example we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=137.53) [pass the product's starRating. That's it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=140.77) [The product starRating property is now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=144.2) [bound to the rating Input property of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=146.29) [nested component. Any time the container](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=148.51) [data changes, the OnChanges life‑cycle](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=151.46) [event is generated, and the starWidth is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=154.25) [recalculated. The appropriate number of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=156.87) [stars are then displayed. Let's check it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=159.36) [out in the browser. That looks better, but](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=162.06) [what if we want to send data back from our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=165.6) [nested component to our container? Let's look at that next.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=3&mode=live&start=167.92)

[Passing Data from a Component Using @Output](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live)

[We just saw how the container passes data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=2.04) [to the nested component by binding to a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=4.55) [nested component property that is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=7.2) [decorated with the Input decorator. If the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=9.33) [nested component wants to send information](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=12.57) [back to its container, it can raise an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=15.14) [event. The nested component exposes an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=17.87) [event it can use to pass output to its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=20.82) [container using the aptly named Output](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=23.37) [decorator. We can use the Output decorator](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=27.45) [to decorate any property of the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=30.67) [component's class. However, the property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=32.8) [type must be an event. The only way a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=35.84) [nested component can pass data back to its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=39.55) [container is with an event. The data to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=41.9) [pass becomes the event payload. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=45.17) [Angular, an event is defined with an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=48.05) [EventEmitter object. So here we create a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=50.18) [new instance of an EventEmitter. Notice](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=53.68) [the syntax here. TypeScript supports](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=56.77) [generics. If you are not familiar with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=59.85) [generics, this syntax allows us to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=62.61) [identify a specific type that the object](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=65.26) [instance will work with. When creating an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=68.25) [EventEmitter, the generic argument](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=70.77) [identifies the type of the event payload.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=73.24) [If we want to pass a string value to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=76.89) [container in the event payload, we define](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=79.12) [string here. If we want to pass an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=81.84) [integer, we define number here. If we want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=84.42) [to pass multiple values, we can specify an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=87.56) [object here. In this example, we define a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=90.5) [notify event with a string payload. When](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=94.28) [the user clicks on the stars, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=98.1) [StarComponent receives that click event.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=100.34) [We use event binding in the StarComponent](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=103.48) [template to call the StarComponent's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=106.27) [onClick method. In the onClick method, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=109.03) [use the notify event property and call its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=112.43) [emit method to raise the notify event to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=115.61) [the container. If we want to pass data in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=118.54) [the event payload, we pass that data into](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=121.52) [the emit method. In this example, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=124.47) [onClick method raises the notify event and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=127.435) [sets the event payload to a string](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=130.41) [message. The container component receives](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=132.58) [that event with the specified payload. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=136.46) [the container component's template, we use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=139.58) [event binding to bind to this notify event](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=142.25) [and call a method. We access the event](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=145.6) [payload using $event. The only time we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=148.41) [specify a nested component's property as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=152.77) [an event‑binding target on the left side](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=155.84) [of an equals is when that property is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=158.29) [decorated with the Output decorator.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=160.88) [Lastly, the container component provides](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=164.92) [the method to execute when the notify](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=167.95) [event occurs. Since the event payload is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=170.1) [string, this function takes in a string.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=173.21) [Here we can perform any desired action.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=176.42) [Hmm, lots of moving parts here. Let's jump](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=179.72) [into the code and try it out. We are back](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=183.53) [in the sample application looking at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=187.7) [StarComponent. What is our goal? When the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=189.76) [user clicks on one of the rating stars, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=193.39) [want to display that rating in the header.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=196.1) [This feature may not be incredibly useful,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=198.995) [but it will demonstrate how to pass events](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=201.65) [from our nested child component to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=204.1) [parent container component. So our first](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=206.62) [task is to respond to the user's click](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=209.86) [event on the star rating. We do that using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=212.26) [event binding in the StarComponent's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=215.47) [template. We'll bind the div element's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=217.8) [click event to an onClick method in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=220.08) [StarComponent class. Next, let's implement](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=222.88) [this onClick method in the component. Hmm,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=226.1) [somehow in this method, we need to send](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=230.49) [out a notification of this click to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=232.03) [container. For now, let's just log out](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=234.32) [that the rating was clicked. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=237.13) [example, we use the ES2015 backticks to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=239.14) [define a template string. This allows us](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=243.123) [to embed the rating directly into this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=246.253) [string. Let's try it out in the browser.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=248.533) [Open the developer tools and click on the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=251.853) [rating stars. We see it log to the console](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=254.573) [here. Going back to the code, we need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=258.413) [send out a notification to the container](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=261.733) [when the user clicks on the star rating of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=264.183) [the nested component. Recall from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=266.613) [slides how the nested component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=268.983) [communicates with its container. It uses](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=270.783) [an event with the Output decorator. Let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=273.683) [define an event property in the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=277.153) [component. We'll call it ratingClicked.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=279.473) [Since this must be an event, we define the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=282.953) [type of this property to be EventEmitter.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=285.753) [We'll use the provided quick fix toe add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=289.203) [EventEmitter to the import statement. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=291.693) [want to pass a string to the container as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=294.783) [part of this event, so we specify string](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=296.983) [as the generic argument. We then set the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=300.023) [ratingClicked property to a new instance](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=303.423) [of EventEmitter. This sets up our event.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=305.873) [Next, we decorate our event property with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=310.403) [the Output decorator so that the container](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=313.153) [can respond to this event. The Output](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=315.963) [decorator is a function, so we add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=318.623) [parentheses. In this example, we are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=321.003) [decorating only one property of the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=324.213) [component with the Output decorator, but](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=326.953) [we are not limited to one. We can expose](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=329.543) [multiple output properties as needed as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=332.523) [long as they're events. Here in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=335.423) [onClick method, we want to raise this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=337.733) [event to the container and pass along our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=340.403) [message. We use the event property and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=343.193) [call its emit method, passing in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=346.603) [desired string. The emit method raises the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=348.963) [event. Now that we are raising this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=352.323) [ratingClicked event to our container, how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=355.193) [does the container listen for and respond](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=357.853) [to this event? It uses event binding. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=360.333) [this example, our container is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=364.658) [ProductListComponent. In the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=367.138) [ProductListComponent template, we bind to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=369.188) [the event raised from the StarComponent](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=371.868) [using event binding. For event binding, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=374.268) [use parentheses and specify the name of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=377.468) [the event to listen for. We want to listen](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=380.258) [for the ratingClicked event raised by the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=383.418) [StarComponent. Now what do we want to do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=385.948) [when the event is raised? We'll need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=389.248) [define a method in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=391.888) [ProductListComponent class to process the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=393.128) [event. Let's call that method](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=396.018) [onRatingClicked. Recall that we are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=399.308) [passing a string when raising this event,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=401.748) [so let's pass that string into our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=404.678) [onRatingClicked method. We do that using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=406.948) [$event. $event passes along any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=410.058) [information associated with the generated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=413.688) [event. Next, we need to write the code for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=416.368) [this method in the ProductListComponent](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=419.548) [class. Our template is expecting that we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=422.118) [have a method called onRatingClicked, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=425.218) [it's passing a string message with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=427.938) [event. Our method returns no value, so we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=429.868) [define the return type as void. Now that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=433.218) [we have the message from the event, what](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=436.408) [do we want to do with it? Our goal was to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=438.898) [display it on the page title, so we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=441.758) [modify the page title to display product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=444.188) [list and the message from the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=446.888) [StarComponent. Okay yeah, that is not a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=449.388) [very real‑world example, but I wanted to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=452.708) [keep this as straightforward as possible.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=455.168) [We'd have a better example if the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=457.718) [component contained an input box and we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=459.938) [could pass the user's input in the event](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=462.408) [payload. But you get the general idea](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=464.518) [here. Let's see how this works in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=466.868) [browser. Click on the star rating, and we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=469.018) [see the page title change to display the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=472.268) [message received from the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=474.438) [component. Success! We just saw how the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=476.108) [container passes data to the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=480.778) [component by binding to a nested component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=482.828) [property that is decorated with the Input](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=485.568) [decorator and how the nested component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=488.216) [uses an event property decorated with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=491.386) [Output decorator to raise events. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=494.086) [think of the properties decorated with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=497.726) [Input or Output decorators as the public](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=499.716) [API of the nestable component. Everything](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=503.216) [else in the component is encapsulated and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=506.296) [only accessible to the component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=509.166) [template and class. Let's finish up this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=511.216) [module with some checklists we can use as we build nestable components.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=4&mode=live&start=514.016)

[Checklists and Summary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live)

[We build a nested component using the same](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=2.04) [techniques we use to build any other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=4.59) [Angular component. We won't review that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=6.82) [again here. Let's instead lay out a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=9.28) [checklist for inputs and outputs. Decorate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=11.77) [a nested component property with the input](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=15.17) [decorator anytime it needs input data from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=17.43) [its container. Any type of component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=20.65) [property can be decorated with the input](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=23.32) [decorator. Don't forget the @ prefix, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=25.57) [since the input decorator is a function,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=29.19) [follow it with open and closing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=31.48) [parentheses. Decorate a nested component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=33.1) [property with the output decorator anytime](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=36.1) [it needs to raise events and optionally](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=39.09) [pass information back to its container.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=41.54) [Only properties of type EventEmitter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=44.27) [should be marked with the output](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=47.19) [decorator. Use the EventEmitter's generic](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=48.97) [argument to specify the type of the event](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=52.27) [payload, and use the new keyword to create](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=55.1) [an instance of the EventEmitter. Don't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=58.53) [forget the @ prefix, and since the output](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=61.42) [decorator is a function, suffix it with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=64.1) [open and closing parentheses. In a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=66.86) [container component's template, use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=70.25) [nested component as a directive. For the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=72.63) [name of the directive, see the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=75.58) [component's selector property. Use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=77.63) [property binding to pass data to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=80.69) [nested component. Any property of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=82.91) [nested component that is decorated with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=85.46) [the input decorator can be used as a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=87.52) [binding target. Use event binding to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=89.98) [respond to events from the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=92.77) [component. Any event that is decorated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=94.71) [with the output decorator can be used as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=97.58) [the binding target, and use $event to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=99.87) [access the event payload passed from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=103.4) [nested component. To learn more about](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=106) [nested or child components, check out the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=109.65) [Angular Component Communication course](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=112.63) [here in the Pluralsight library. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=114.97) [module was all about nested components. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=119.09) [began by building a component that could](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=122.2) [be nested within other components. We then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=124.39) [walked through how to use the nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=127.3) [component within a container. We saw how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=128.84) [to pass data into the nested component by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=131.41) [binding to a property marked with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=133.98) [input decorator, and we discovered how to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=135.77) [pass data out of the nested component by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=138.54) [raising an event marked with the output](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=141.16) [decorator. In this module, we built the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=143.32) [star component and nested it within the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=146.89) [ProductListComponent. We can reuse this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=149.91) [component in any other component of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=152.71) [application such as the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=155.84) [ProductDetailComponent. Next up, let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=156.75) [check out how to build an Angular service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=160.36) [so we won't need hard‑coded product data in our component.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m7&clip=5&mode=live&start=162.74)

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[Introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live)

[Components are great and all, but what do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=2.14) [we do with data or logic that is not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=4.48) [associated with a specific view or that we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=6.72) [want to share across components? We build](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=9.54) [services. Welcome back to Angular: Getting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=13.01) [Started, from Pluralsight. Deborah Kurata](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=16.37) [here at your service, and in this module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=19.25) [we create a service and use dependency](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=22.49) [injection to inject that service into any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=24.93) [component that needs it. Applications](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=27.57) [often require services such as a product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=30.86) [data service or a logging service. Our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=33.63) [components depend on these services to do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=36.88) [the heavy lifting. Wouldn't it be nice if](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=39.28) [Angular could serve us up those services](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=41.97) [on a platter? Well, yes, it can. But what](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=44.04) [are services exactly? A service is a class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=47.83) [with a focused purpose. We often create a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=52.37) [service to implement functionality that is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=55.16) [independent from any particular component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=57.5) [to share data or logic across components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=60.48) [or encapsulate external interactions such](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=63.21) [as data access. By shifting these](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=66.34) [responsibilities from the component to a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=69.09) [service, the code is easier to test,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=71.25) [debug, and reuse. In this module, we start](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=73.78) [with an overview of how services and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=77.95) [dependency injection work in Angular. Then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=79.82) [we'll build a service, we'll register that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=83.14) [service, and we'll examine how to use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=85.4) [service in a component. We currently have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=87.72) [several pieces of our application in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=91.09) [place, but we hardcoded our data directly](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=93) [in the Product List Component. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=96.78) [module, we'll shift the responsibility for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=99.69) [providing the product data to a product data service. Let's get started.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=0&mode=live&start=102.27)

[How Does It Work?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live)

[Before we jump into building a service,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=2.54) [let's take a look at how services and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=4.96) [dependency injection work in Angular. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=7.17) [this diagram our service is here, and our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=10.17) [component that needs the service is here.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=12.89) [There are two ways our component can work](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=15.88) [with this service. The component can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=18.19) [create an instance of the service class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=20.64) [and use it. That simple, and it works. But](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=22.84) [the instance is local to the component, so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=26.51) [we can't share data or other resources,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=29.52) [and it will be more difficult to mock the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=32.62) [service for testing. Alternatively, we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=34.45) [register the service with Angular. Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=38.68) [then creates a single instance of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=41.77) [service class, called a singleton, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=43.84) [holds onto it. Specifically, Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=46.92) [provides a built‑in injector. We register](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=49.92) [our services with the Angular injector,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=53.32) [which maintains a container of created](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=55.49) [service instances. The injector creates](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=58.08) [and manages the single instance, or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=61.17) [singleton, of each registered service as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=63.42) [required. In this example, the Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=66.38) [injector is managing instances of three](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=69.23) [different services: log, math, and my](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=71.86) [service, which is abbreviated svc. If our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=75.56) [component needs a service, the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=79.43) [class defines the service as a dependency.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=81.94) [The Angular injector then provides, or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=85.47) [injects, the service class instance when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=88.09) [the component class is instantiated. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=91.09) [process is called dependency injection.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=94.46) [Since Angular manages the single instance,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=98.24) [any data or logic in that instance is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=101.06) [shared by all of the classes that use it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=103.59) [This technique is the recommended way to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=106.87) [use services because it provides better](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=109.09) [management of service instances, it allows](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=111.62) [sharing of data and other resources, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=114.53) [it's easier to mock the services for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=117.25) [testing purposes. Now let's look at a more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=119.19) [formal definition of dependency injection.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=122) [Dependency injection is a coding pattern](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=125.74) [in which a class receives the instances of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=128.72) [objects it needs, called its dependencies,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=131.37) [from an external source rather than](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=134.5) [creating them itself. In Angular, this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=137.3) [external source is the Angular injector.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=140.36) [Now that we've got a general idea of how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=143.84) [services and dependency injection work in Angular, let's build a service.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=1&mode=live&start=145.94)

[Building a Service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live)

[Are we ready to build a service? Here are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=2.14) [the steps. Create the service class to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=5.02) [find the metadata with the decorator, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=8.24) [import what we need. Look familiar? These](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=11.05) [are the same basic steps we follow to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=14.3) [build our components and our custom pipe.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=16.32) [Let's look at the code for a simple](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=19.79) [service. Here is the class, we export it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=21.52) [so the service can be used from any other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=25.4) [parts of the application. This class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=27.57) [currently has one method, getProducts.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=30.21) [This method returns an array of products.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=33.15) [Next, we add a decorator for the service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=36.25) [metadata. When building services, we often](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=38.6) [use the Injectable decorator. Lastly, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=41.67) [import what we need, in this case](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=45.22) [Injectable. Now let's build our service.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=47.85) [I've opened the folder for the sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=52.34) [application in the editor once again.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=54.06) [Since our service will only provide](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=56.76) [product data, we'll add it to the products](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=58.73) [folder. We'll create a new file and call](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=61.29) [it productservice.ts to follow our naming](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=64.02) [conventions. We're then ready to create](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=68.53) [the service class. I bet you can do it in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=71.29) [your sleep by now. Export class and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=73.86) [class name. Since the service provides](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=77.31) [products, we'll call it ProductService.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=79.8) [Next, we decorate the class with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=83.34) [Injectable decorator, and we'll add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=85.35) [import statement for that decorator. Now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=88.09) [that we have the structure in place, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=91.01) [can add properties or methods to the class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=92.6) [as needed. Unless marked private or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=94.53) [protected, the properties and methods](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=96.85) [defined in the class are accessible to any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=99.24) [class that uses this service. For our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=101.6) [ProductService, we want a getProducts](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=104.21) [method that returns the list of products.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=106.35) [We strongly type this return value using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=109.14) [our IProduct interface, so we need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=111.62) [import this interface. In the next module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=114.21) [we'll see how to retrieve the products](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=117.97) [using HTTP. For now, we'll hard code them](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=119.88) [in here. If you're coding along, feel free](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=123.57) [to copy some products from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=127.16) [products.json file in the api products](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=129.04) [folder. Notice that we have no properties](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=132.65) [defined in this class, so we are not using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=135.66) [this particular service to share data. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=138.3) [are using it to encapsulate the data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=141.09) [access features. By using the service to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=142.97) [provide the list of products, we take the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=145.96) [responsibility for managing the data away](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=148.1) [from the individual component, that makes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=151) [it easier to modify or reuse this logic.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=153.59) [So we're done with our service for now.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=157.04) [How do we use it? Well, a service is just](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=159.14) [really an ordinary class until we register](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=162.64) [it with an Angular injector. Let's do that next.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=2&mode=live&start=165.79)

[Registering the Service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live)

[As we illustrated in this diagram, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=2.13) [register the service with the Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=4.93) [injector, and the injector provides the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=7.05) [service instance to any component that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=9.68) [injects it using the constructor. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=12.01) [injector represented here is the root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=15.2) [application injector, but wait, there's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=17.67) [more. In addition to the root application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=21.16) [injector, Angular has an injector for each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=24.9) [component, mirroring the component tree. A](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=28.27) [service registered with the root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=31.95) [application injector is available to any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=33.63) [component or other service in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=36.84) [application. A service registered with a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=38.86) [specific component is only available to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=42.01) [that component and its child or nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=45.53) [components. For example, if a service is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=48.64) [registered with the ProductList components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=52.33) [injector, the service is only available](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=54.54) [for injection in the ProductList component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=57.36) [and its child, the StarComponent. So when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=60.12) [should you register your service with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=64.53) [root injector versus a component injector?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=66.39) [Registering a service with the root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=70.62) [injector ensures that the service is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=72.42) [available throughout the application. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=74.88) [most scenarios, you'll register the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=78.08) [service with the root injector. If you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=80.02) [register a service with a component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=82.86) [injector, the service is only available to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=84.9) [that component and it's child or nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=87.95) [components. This isolates a service that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=91.08) [is used by only one component and its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=94.25) [children, and it provides multiple](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=96.96) [instances of the service for multiple](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=99.58) [instances of the component. For example,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=101.89) [we have multiple instances of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=105.37) [StarComponent on the ProductList page, one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=107.53) [for each row. If we had a service that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=110.74) [tracks some settings for each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=113.55) [StarComponent instance, we would want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=116.03) [multiple instances of the service, one for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=117.71) [each instance of the component, but this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=120.95) [is not a common scenario. With that, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=123.78) [next question is how, how do we register a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=126.96) [service? That depends on which injector we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=130.3) [use. We register the service with the root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=133.84) [application injector in the service. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=137.68) [pass an object into the Injectable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=141.6) [decorator and set the providedIn property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=143.8) [to root. We can then access the service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=146.7) [from any component or other service in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=149.89) [application. We want to use our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=152.68) [ProductService in several components, so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=155.4) [we'll register it with the root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=158.38) [application injector. Let's do that now.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=160.08) [Here in the service, we add the providedIn](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=164.77) [property to the Injectable decorator, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=167.83) [set it to root. An instance of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=170.98) [ProductService is then available for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=174.02) [injection anywhere in the application, but](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=175.95) [what if we only wanted to access the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=179.8) [service from one component instead? For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=181.72) [most scenarios, we'll register our service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=185.57999999999998) [in the service using the providedIn](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=188.45) [property. The service is then available to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=190.84) [the entire application. To register our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=193.66) [service for a specific component, such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=196.91) [the ProductList component, we register the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=199.95) [service in that component like this. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=202.51) [service is then available to the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=206.12) [and its child components. Note that the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=208.49) [providedIn feature is new in Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=212) [version 6. In older code, you'll see the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=214.73) [service registered in a module like this.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=218.11) [This syntax is still valid; however, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=221.85) [recommended practice is to use the new](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=225.46) [providedIn feature in the service instead.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=227.96) [This provides better tree shaking. Tree](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=231.11) [shaking is a process whereby the Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=234.71) [compiler shakes out unused code for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=237.08) [smaller deployed bundles. We'll talk more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=239.99) [about tree shaking later in this course.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=242.99) [Now that we've registered the service,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=246.08) [let's see how to inject the service so we can use it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=3&mode=live&start=248.12)

[Injecting the Service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live)

[Here again is our diagram. In the last](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=2.14) [clip, we saw how to register the service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=4.91) [with the Angular injector. Now we just](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=6.97) [need to define it as a dependency so the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=9.69) [injector will provide the instance in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=12.32) [classes that need it. So how do we do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=14.32) [dependency injection in Angular? Well, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=18.93) [better question is, how do we do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=21.34) [dependency injection in TypeScript? The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=23.55) [answer is in the constructor. Every class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=26.39) [has a constructor that is executed when an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=29.99) [instance of the class is created. If there](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=32.31) [is no explicit constructor defined for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=34.94) [class, an implicit constructor is used,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=37.01) [but if we want to inject dependencies such](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=39.94) [as an instance of a service, we need an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=42.83) [explicit constructor. In TypeScript, a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=45.32) [constructor is defined with a constructor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=48.47) [function. What type of code normally goes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=50.9) [into the constructor function? As little](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=53.57) [as possible. Since the constructor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=55.95) [function is executed when the component is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=58.28) [created, it is primarily used for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=60.52) [initialization and not for code that has](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=62.84) [side effects or takes time to execute. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=65.54) [identify our dependencies by specifying](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=69.45) [them as parameters to the constructor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=71.96) [function like this. Here we define a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=74.19) [private variable to hold the injected](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=77.23) [service instance. We create another](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=79.3) [variable as the constructor parameter.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=81.75) [When this class is constructed, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=84.25) [Angular injector sets this parameter to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=86.46) [the injected instance of the requested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=88.96) [service. We then assign the injected](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=90.96) [service instance to our local variable. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=93.4) [can then use this variable anywhere in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=96.27) [class to access service properties or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=98.48) [methods. This is such a common pattern](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=101.2) [that TypeScript defined a shorthand syntax](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=104.32) [for all of this code. We simply add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=106.85) [accessor keyword, such as private here, to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=110.28) [the constructor parameter. Then this is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=113.67) [shortcut for declaring this variable,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=116.36) [defining a parameter, and setting the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=118.83) [variable to the parameter. Neat! You'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=121.06) [see this technique used throughout the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=124.04) [Angular documentation and other code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=125.83) [examples. Ready to give it a try? We want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=128.27) [to use our service to get products in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=132.86) [product list component. So we'll define](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=135.06) [our product service as a dependency in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=137.81) [product list component. We don't have to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=140.28) [add the providers array here, because the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=142.82) [product service is already registered. All](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=145.39) [we need is a constructor, and we already](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=147.82) [have one here. We'll use the shorthand](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=150.62) [syntax to define the dependency; private](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=153.4) [productService. Then because we are using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=156.4) [TypeScript, we type colon and the type,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=159.34) [which is ProductService. Note that the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=162) [excessor doesn't have to be private. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=164.5) [shorthand syntax works with public and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=166.94) [protected as well. So now we have a syntax](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=169.34) [error here. I bet you know why. Yes, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=172.79) [need to import ProductService so we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=176.26) [use it as the data type here. Now, when an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=178.72) [instance of the product list component is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=182.06) [created, the Angular injector injects in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=184.04) [the instance of the product service. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=186.95) [are at the point now where we can actually](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=189.945) [use the product service. First, let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=192.07) [delete the hard‑coded products from here.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=194.94) [We'll instead get them from the service.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=197.13) [Now the question is, where should we put](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=200.37) [the code to call the service? One thought](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=203.04) [might be to put it in the constructor, but](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=205.75) [ultimately our product service will go out](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=208.3) [to a back‑end server to get the data. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=210.39) [don't want all of that executed in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=212.89) [constructor. Other thoughts? Remember our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=214.74) [discussion about lifecycle hooks? Earlier](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=218.2) [in this course, we said that OnInit](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=220.98) [lifecycle hook provides a place to perform](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=222.465) [any component initialization, and it's a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=225.56) [great place to retrieve the data for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=228.39) [template. Let's use the OnInit lifecycle](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=230.31) [hook. We want to set the products property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=233.3) [to the products returned from our service.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=236.14) [To call the service, we use our private](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=238.40499999999997) [variable containing the injected server](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=241.06) [instance. We then type a dot and the name](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=243.47) [of the method we want to call. Notice how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=246.58) [IntelliSense helps us with all of this.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=248.81) [There is a small problem with our code at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=251.74) [this point. Since the constructor is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=253.65) [executed before the ngOnInit, the list of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=256.12) [products will be empty here. We want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=260) [set our filtered list of products to this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=262.71) [list of products, so we need to move this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=265.29) [line of code to the ngOnInit as well.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=267.91) [Let's make one more little change. Let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=271.18) [remove the default list filter value so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=273.66) [we'll see all of the products in the list.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=276.31) [We should be all set to see our result in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=279.44) [the browser. And here are our products.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=281.7) [Yay! Notice that we have more products](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=284.1875) [displayed now, because I hard‑coded more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=287.29) [products into the service. Let's finish up](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=289.47) [this module with some checklists we can use as we build our services.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=4&mode=live&start=292.51)

[Checklists and Summary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live)

[We build a service using the same](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=2.44) [techniques as when we build components and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=4.24) [custom pipes. We start by creating the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=6.5) [Service class. We specify a clear class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=9.32) [name appropriate for the services it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=12.57) [provides. Use PascalCasing where each word](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=14.59) [of the name is capitalized, append service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=17.94) [to the name, and don't forget the export](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=20.75) [keyword. We then decorate the Service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=23.25) [class with the Injectable decorator. Don't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=26.05) [forget the @ prefix, and since the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=29.55) [decorator is a function, follow it with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=31.66) [open and closing parentheses, and be sure](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=33.93) [to define the appropriate imports. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=36.96) [first step to registering a service is to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=39.88) [select the appropriate level in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=42.63) [injector hierarchy that the service should](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=44.88) [be registered. Use the root application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=47.34) [injector if the service is shared](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=50.62) [throughout the application. If only one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=53.13) [component and its children needs the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=56.12) [service, register it with that component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=58.82) [injector. Pick one or the other, not both.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=61.64) [Register a service with the root injector](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=66.01) [using the Injectable decorator of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=68.30000000000001) [service. Set the providedIn property to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=71.03) [root. Register a service for a specific](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=74.48) [component and its children using its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=78.54) [Component decorator. Use the providers](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=80.55) [property to register the service. In any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=83.7) [class that needs the service, specify the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=87.95) [service as a dependency. Use a constructor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=90.42) [parameter to define the dependency. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=93.61) [Angular injector will inject an instance](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=96.48) [of the service when the component is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=98.79) [instantiated. This module was all about](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=100.66) [services. We began with an overview of how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=104.47) [services and dependency injection work in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=107.52) [Angular. Then we walked through how to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=109.99) [build a simple service. We defined how and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=112.19) [where to register the service with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=115.21) [Angular, and we examined how to define the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=116.68) [service as a dependency so the service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=119.58) [instance is injected into any class that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=122.17) [needs it. In this module, we built the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=125.18) [product data service, so our product list](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=128.43) [component no longer has hard‑coded](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=131) [products. Next up, we'll see how to modify the service to retrieve data using HTTP.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m8&clip=5&mode=live&start=133.42)

[Retrieving Data Using HTTP](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live)

[The data for our application is on a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=1.4) [server somewhere in the cloud, at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=3.49) [office, under our desk. How do we get that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=6.24) [data into our view? Welcome back to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=9) [Angular: Getting Started, from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=11.88) [Pluralsight. My name is Deborah Kurata,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=13.69) [and in this module we'll learn how to use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=16.51) [HTTP with observables to retrieve data.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=19.01) [Most Angular applications obtain data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=24.64) [using HTTP. The application issues an HTTP](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=27.3) [GET request to a web service. That web](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=31.29) [service retrieves the data, often using a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=34.81) [database, and returns it to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=37.31) [application in an HTTP response. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=39.55) [application then processes that data. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=43.09) [this module, we begin with an introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=47.46) [to Observables and the Reactive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=50.14) [Extensions. We then examine how to send an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=51.83) [HTTP request and map the result to an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=55.03) [array. We add some exception handling and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=57.78) [we look at how to subscribe to observables](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=61.09) [to get the data for our view. We finished](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=63.31) [the first cut of a product data service in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=66.74) [the last module, but it still has hard](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=69.07) [coded data. Now, we'll replace that hard](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=72.17) [coded data with HTTP calls. Let's get started.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=0&mode=live&start=75.07)

[Observables and Reactive Extensions](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live)

[Data sequences can take many forms, such](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=2.44) [as a response from a back end web service,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=5.37) [a set of system notifications, or a stream](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=8.1) [of events such as user input. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=10.98) [diagram, our stream contains three](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=13.97) [elements. The first marble comes in, then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=16.55) [the second, and sometime later the third.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=19.38) [Reactive extensions represent a data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=22.525) [sequence as an observable sequence,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=24.82) [commonly just called an observable.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=27.45) [Observables help us manage asynchronous](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=30.84) [data, such as data coming from a back end](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=32.59) [service. Observables treat events as a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=35.37) [collection. We can think of an observable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=38.36) [as an array whose items arrive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=41.37) [asynchronously over time. A method in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=44.53) [code can subscribe to an observable to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=46.87) [receive asynchronous notifications as new](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=49.56) [data arrives. The method can then react as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=52.41) [data is pushed to it. The method is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=55.97) [notified when there is no more data or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=58.28) [when an error occurs. Observables are used](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=60.56) [within Angular itself, including Angular's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=63.76) [event system and it's HTTP client service,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=66.37) [which is why we are covering them here.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=69.92) [Observables allow us to manipulate sets of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=71.705) [events with operators. Operators are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=75.31) [methods on observables that compose new](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=78.24) [observables. Each operator transforms the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=80.88) [source observable in some way. Operators](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=84) [do not wait for all of the values and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=86.97) [process them at once. Rather, operators on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=89.15) [observables process each value as it is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=92.21) [emitted. Some examples of operators](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=94.92) [include map, filter, take, and merge. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=97.73) [map operator allows us to transform the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=101.27) [incoming data. The argument to the map](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=104.08) [operator is an arrow function that says to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=106.75) [take each data item and transform it to 10](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=110) [times its value. So when we receive 1, it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=113.25) [is mapped to 10. When we received 2, it is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=117.05) [mapped to 20, and so on. This depiction is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=120.4) [called a marble diagram, and it's helpful](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=124.04) [for visualizing observable sequences. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=126.73) [is a screenshot from rxmarbles at this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=130.26) [URL. We compose observable operators with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=133.68) [the observable pipe method, hence the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=138.12) [reason that observable operators are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=140.61) [sometimes referred to as pipeable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=142.86) [operators. Let's look at an example. Here](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=145.22) [we see how to use the pipe method to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=149.03) [compose multiple observable operators.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=151.38) [Rxjs has two primary packages we use to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=154.54) [import functionality. Observable and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=158.16) [observable creation methods, such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=161.71) [range, can be found in the rxjs package.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=164.06) [We import the operators from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=167.87) [rxjs/operators. We use the range creation](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=170.01) [method to create an observable stream of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=174.67) [numbers from 0 to 9. Not a common](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=176.89) [scenario, I know, but our goal here is to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=179.93) [show how to compose operators with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=182.68) [pipe. By convention, we add a dollar](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=185.05) [suffix to the variables that hold an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=187.76) [observable. This makes it easier to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=190.5375) [quickly distinguish the observables in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=192.4) [code, and we declare its type as an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=194.73) [observable stream of numbers, using the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=197.47) [generic argument. We use the pipe method](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=200.15) [to pipe this observable stream through](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=203.38) [several operators, map and filter. We only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=205.33) [include two operators here, but we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=209.35) [define any number of operators separated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=211.79) [by commas. This map operator takes each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=214.88) [number emitted into the observable stream,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=218.02) [0 through 9, and multiplies it by 3, which](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=220.66) [results in an observable with 0, 3, 6, 9](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=224.33) [and so on. As each number is emitted by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=228.226875) [the map operator, this filter operator](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=231) [filters the result to only the even](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=234.08) [numbers in the sequence. That is those](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=236.56) [that when divided by 2 have a remainder of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=239.68) [0. Here we subscribe to the resulting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=242.36) [observable to start receiving emitted](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=245.37) [values. The observable source does not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=247.96) [emit any values until it has a subscriber.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=250.86) [So subscribing is key. What do you think](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=254.41) [will be logged to the console? Let's see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=257.38) [how we got that result. The source emits](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=260.72) [0, the 0 is multiplied by 3, resulting in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=263.1475) [0. The 0 is divided by 2 with a remainder](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=267.12) [of 0, so it is included in the final](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=270.74) [result. The source then emits 1. The 1 is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=274.13) [multiplied by 3, resulting in 3. The 3 is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=276.95) [divided by 2 with a remainder of 1, so it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=281.15) [is not included in the final result, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=284.33) [so on. Notice that each item in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=287.15) [sequence is processed through the pipeable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=289.84) [operators as it is emitted. You may have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=292.36) [worked with asynchronous data in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=296.65) [JavaScript previously, using promises.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=298.3) [Observables are different from promises in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=301.32000000000005) [several ways. A promise returns a single](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=303.78) [future value. An observable emits multiple](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=306.63) [asynchronous values over time. A promise](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=310.08) [is not lazy. By the time you have a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=313.18) [promise, it's on its way to being](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=315.52) [resolved. An observable is lazy by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=317.41) [default. Observables will not emit values](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=320.62) [until they are subscribed to. A promise is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=323.67) [not cancellable, it is resolved or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=326.83) [rejected, and only once. An observable can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=329.51) [be cancelled by unsubscribing, plus an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=333.22) [observable supports map, filter, reduce,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=336.55) [and similar operators. In this module, we'll do HTTP using observables.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=1&mode=live&start=339.1275)

[Sending an HTTP Request](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live)

[We often encapsulate the data access for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=2.24) [our application into a data service that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=4.59) [can be used by any component or other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=7.04) [service that needs it. In the last module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=9.19) [we did just that, but our product data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=12.09) [service still contains a hardcoded list of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=14.47) [products. We, instead, want to send an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=17.19) [HTTP request to get the products from a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=20.38) [backend web server. Angular provides an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=23.5) [HTTP service that allows us to communicate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=25.92) [with a backend web server using the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=28.67) [familiar HTTP request and response](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=30.74) [protocol. For example, we call a get](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=34.15) [method of the HTTP service, which in turn](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=36.5) [sends a Get request to the web server. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=39.69) [web server response is returned from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=42.74) [HTTP service to our product data service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=45.02) [as an observable. What does this look like](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=48.34) [in code? This is the ProductService we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=50.92) [built in the last module modified to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=54.27) [retrieve the products using Angular's HTTP](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=56.69) [service. Let's walk through this code.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=59.394999999999996) [First, we specify a URL to the products on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=62.69) [the web server. This defines where we send](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=65) [our HTTP requests. Note that this URL is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=68.1) [shown for illustration purposes only and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=71.73) [is not a real URL. Next, we add a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=74.31) [constructor. Recall from the last course](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=77.28) [module that we use a constructor to inject](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=79.68) [dependencies. In this case, we need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=82.44) [Angular's HTTP service so we inject it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=85.04) [here. Recognize the syntax? It creates a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=88.55) [private HTTP variable and assigns the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=92.05) [injected service instance to that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=95.12) [variable. And since we are strongly typing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=97.06) [this variable to HttpClient, we import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=100.15) [HttpClient from the angular/common/http](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=103.69) [package here. Recall also from the last](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=107.61) [course module that before we can inject a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=110.54) [service in as a dependency, we need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=113.01) [register that services provider with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=115.52) [Angular's injector. The Http Service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=117.96) [Provider Registration is done for us in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=121.2) [the HttpClientModule included in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=123.88) [angular/common/http package. To include](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=127.24) [the features of this external package in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=130.8) [our application, we add it to the imports](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=132.91) [array of our application's Angular module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=135.65) [app.module. Recall that the declarations](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=138.255) [array is for declaring components,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=141.26) [directives, and pipes that belong to this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=143.17) [module. The imports array is for pulling](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=145.34) [in external modules. Now our Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=148.71) [module illustration looks like this. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=152.505) [declare our components, we declare the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=156) [directives and pipes that those components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=158.6) [require, and we import the external](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=160.69) [modules that we need. Going back to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=163.53) [ProductService and getProducts, we use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=167.03) [injected HTTP service instance and call](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=170) [the get method passing in the desired URL.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=173.06) [The HTTP service then sends a Get request](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=176.5) [using the specified URL. Often, the data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=179.27) [returned from the backend server is in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=183.06) [Json format. Lucky for us, the HttpClient](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=184.97) [get method makes it easy to receive that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=188.83) [Json data. We specify the expected type of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=191.73) [response by setting the get method's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=195.61) [generic parameter. Since we are expecting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=198.25) [an array of product objects, we set the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=201.32) [generic parameter to IProduct array. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=203.95) [get method then automatically maps the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=207.45) [response object returned from the backend](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=210.25) [server to that defined type so we don't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=212.98) [have to. Does this generic syntax look](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=216.73) [familiar? We used it earlier in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=219.9) [course to define the event payload when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=222.2) [passing event information from a nested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=224.3) [component to its container, we aren't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=226.5) [quite finished. What does our method now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=229.25) [return? Since we are using strong typing,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=232.22) [we should have a function return value](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=235.37) [here. We define the get method generic](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=237.575) [parameter as IProduct array, so will that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=240.03) [be what we get back? Not quite. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=243.71) [getProducts method returns an Observable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=246.56) [of IProduct array. That's because the HTTP](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=249.27) [calls are asynchronous operations, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=252.5275) [it's important to note that HTTP calls are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=255.86) [single asynchronous operations, meaning](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=258.76) [that the observable sequence returned from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=261.87) [the get method contains only one element.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=264.14) [This element is the HTTP response object](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=268.06) [mapped to the type specified in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=271.72) [generic parameter. Notice that the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=273.82) [observable also takes advantage of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=276.37) [generics to define the type of data it is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=278.37) [observing in the observable sequence. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=281.05) [our case, it's the array of products. Now, let's add HTTP to our ProductService.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=2&mode=live&start=283.79)

[Demo: Sending an Http Request](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live)

[In this demo, we'll send an HTTP request](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=1.54) [to get the products for our Product List](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=4.93) [page. We are looking at our application's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=7.375) [Angular module we called app.module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=10.4) [Recall from the slides that Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=13.54) [registers its HTTP service provider in an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=16.19) [Angular module called HttpClientModule. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=18.93) [our application's Angular module, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=23.15) [import that HttpClientModule. We then pull](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=25.61) [that module into our application by adding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=29.73) [HttpClientModule to the imports array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=32.82) [here. Now we can inject the Angular HTTP](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=35.7) [service into any class that needs it. Here](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=39.2) [is the product data service we created in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=42.47) [the last module with all of the hard coded](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=44.62) [data. We want to modify our product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=47.57) [service to get the product data using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=50.22) [HTTP. Let's start at the top with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=52.32) [import statements. We want Angular to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=55.38) [provide us an instance of the HttpClient](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=58.27) [service, so we identify it as a dependency](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=61.66) [in the constructor. We don't have a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=64.37) [constructor yet, so let's add that first.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=66.56) [Then we specify the parameter. Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=69.98) [will then inject the HttpClient service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=72.79) [instance into this variable. Now we need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=75.51) [to identify the location of our web](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=79.1) [server. Hmm, this doesn't look like a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=81.26) [valid URL to a web server. To keep things](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=84.34) [simple, the demonstration reads the data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=87.94) [from a local JSON file that was provided](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=89.77) [with the starter files. That way we don't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=92.4) [need to set up an actual web server.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=94.96) [However, we do need to define the location](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=97.24) [of this JSON file so that the Angular CLI](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=100.02) [can find it when it serves up the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=103.15) [application. I've already done this in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=105.34) [provided starter files. Here in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=108.4) [angular.json file, we can see the path](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=111.04) [here in the assets array. To change this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=114.18) [code to work against a web server, simply](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=119.09) [change this URL to point to an appropriate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=121.47) [web server. And, of course, you need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=123.83) [write the server‑side code to return the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=126.08) [list of products. Ah, it's finally time to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=128.12) [delete our hard coded data, so let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=131.84) [delete the hard coded products from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=134.57) [getProducts method. Gone. We'll call the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=136.37) [HTTP GET method here instead, passing in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=139.82) [the defined URL. Since we expect the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=143.24) [response to be a JSON structure containing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=146.75) [an array of products, we set the GET](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=149.44) [method generic parameter to IProduct](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=151.965) [array. When we get a response back, this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=155.11) [method will then automatically map the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=158.47) [returned response to an array of products.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=161.08) [We'll need to change the return type as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=165.28) [well. Now this method returns an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=167.51) [observable of IProduct array. We can't try](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=170.03) [this out at this point because we are not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=173.81) [yet subscribing to the observable returned](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=175.79) [from the service. Plus, looking at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=177.95) [console, we have a syntax error where we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=180.57) [are calling this method since we changed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=183.47) [the return type. Let's add some exception](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=186.25) [handling first, then modify the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=188.95) [ProductListComponent to subscribe to the observable list of products.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=3&mode=live&start=191.1)

[Exception Handling](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live)

[As you can imagine, there are many things](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=1.38) [that can go wrong when communicating with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=3.86) [a back‑end service. Everything from an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=5.98) [invalid request to a lost connection. So](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=8.6) [let's add some exception handling. There](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=11.94) [are two key observable operators that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=15.02) [we'll need. Tap taps into the observable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=17.58) [stream and allows us to look at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=20.72) [emitted values in the stream without](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=23.04) [transforming the stream. So tap is great](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=25.83) [to use for debugging or logging.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=28.91) [CatchError catches any error. We import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=32.58) [them both from rxjs/operators. As we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=34.94) [discussed earlier in this course, to use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=39.04) [these operators, we access the pipe method](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=41.66) [of the observable. We then pass in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=44.76) [operators, separated by commas. Here, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=47.72) [tap operator logs the retrieved data to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=51.6) [the console. That way we can verify it's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=54.38) [been retrieved correctly. And the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=57.59) [catchError operator takes in a error](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=59.94) [handling method. The error handling method](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=62.52) [gets one parameter, the ErrorResponse](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=65.36) [object. In the error handling method, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=68.4) [can handle the error as appropriate. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=71.69) [can send the error information to a remote](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=74.59) [logging infrastructure or throw an error](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=77.28) [to the calling code. Now let's add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=80.21) [exception handling to our product.service.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=82.88) [We are back in the editor with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=87.21) [product.service just as we left it. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=89.2) [code is not really complete without the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=92.41) [exception handling, so we'll add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=94.65) [appropriate imports for both the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=97.11) [catchError and tap operators. We then call](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=99.01) [the pipe method and pass in both of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=103.04) [operators, just like we saw on the slide.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=105.75) [I'll paste in the handleError method, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=109.43) [we need the import for HttpErrorResponse](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=112.35) [and throwError. In this method, we handle](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=115.66) [logging our errors anyway we want. For our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=119.78) [sample application, we'll just log to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=122.96) [console and throw an error to the calling](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=125.44) [code. So our getProducts method is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=128.07) [complete. We can add other methods here to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=131.03) [POST or PUT data as well, but we still](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=134.11) [have that syntax error here, and we can't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=137.3) [see the result of our hard work because we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=140.55) [are not yet subscribing to the observable. Let's do that next.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=4&mode=live&start=143.32)

[Subscribing to an Observable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live)

[Observables are lazy. Just like a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=2.64) [newspaper or a newsletter, an observable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=5.33) [doesn't emit values until we subscribe. So](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=7.89) [when we are ready to start receiving](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=11.19) [values in our component, we call](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=12.77) [subscribe. The subscribe method takes an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=15.05) [optional argument, which is an Observer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=17.8) [object. As its name suggests, the Observer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=20.95) [object observes the stream and responds to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=24.72) [three types of notifications, next, error,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=27.61) [and complete. We use the Observer object](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=31) [to define handler functions that execute](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=33.73) [on these notifications. The first handler](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=36.18) [function is often called a next function](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=38.91) [because it processes the next emitted](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=41.32) [value. Since observables can handle](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=43.74) [multiple values over time, the next](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=46.04) [function is called for each value the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=48.44) [observable emits. The second is an error](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=50.28) [handler function. And yep, you guessed it,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=53.05) [it executes if there is an error. In some](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=56.345) [cases, we want to know when the observable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=59.65) [completes, so observables provide a third](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=61.32) [handler that is executed on completion.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=64.41250000000001) [The subscribe function returns a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=67.1) [subscription. We use that subscription to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=68.79) [call unsubscribe and cancel the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=71.46) [subscription, if needed. Now that our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=73.58) [product data service is returning an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=76.05) [observable, any class that needs product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=77.87) [data, such as our product‑list.component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=80.45) [can call our service and subscribe to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=83.08) [returned observable. This line of code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=85.76) [calls the product data service getProducts](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=88.42) [method, and because we subscribed, it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=90.56) [kicks off the HTTP GET request. It then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=93.24) [asynchronously receives data and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=96.65) [notifications from the observable. We pass](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=98.61) [an observer object to the subscribe. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=101.77) [syntax defines a key and value pair where](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=104.62) [the key is the function name and the value](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=107.32) [is the function, specified here using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=110.04) [arrow function syntax. The first observer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=112.78) [function specifies the action to take](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=115.71) [whenever the observable emits an item. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=117.82) [method parameter is that emitted item.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=120.35) [Since HTTP calls are single async](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=123.19) [operations, only one item is emitted,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=126.28) [which is the HTTP response object that was](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=129.76) [mapped to our product array in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=133.17) [service. So the parameter is our array of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=134.85) [products. This code then sets the local](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=138.23) [products property to the returned array of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=141.01) [products. The second function is executed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=143.98) [if the observable fails. In this example,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=146.94) [it sets a local errorMessage variable to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=150.16) [the returned error. A third function, not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=152.76) [used here, specifies the action to take](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=155.94) [when the observable ends with a completed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=158.51) [notification. The third function is rarely](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=160.69) [used when working with HTTP requests since](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=163.56) [they automatically complete after emitting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=166.75) [the single response. Alternatively, we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=168.98) [define the observer methods like this,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=172.19) [taking advantage of a shortcut that was](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=174.71) [introduced in ES2015 for defining methods](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=176.69) [on object literals. Instead of defining a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=180.36) [separate key and value function, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=183.3) [shorthand syntax only requires the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=185.79) [function and uses that function's name as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=188.02) [the key. Note that you cannot use an arrow](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=191.13) [function when using this syntax because it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=193.92) [needs the function name for the key. But](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=196.62) [because we can't use an arrow function](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=199.58) [here, we can't use this alternate syntax](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=201.75) [if we need to reference class‑level](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=205.22) [properties. When using an arrow function,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=207.88) [the this keyword is scoped to the class,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=211.27) [so the code here is referencing our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=214.23) [class‑level products property, which is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=217.52) [what we want. When using a normal](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=220.24) [function, the this keyword is scoped to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=223.39) [that function, so the code here defines a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=226.51) [second products variable that is local to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=229.74) [the next function and does not modify our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=233.19) [class‑level products property. That means](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=236.65) [the code here won't execute as expected.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=240.12) [Only use this alternate syntax if you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=244.04) [don't need to reference class‑level](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=246.48) [properties. Now let's subscribe to our observable.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=5&mode=live&start=248.61)

[Demo: Subscribing to an Observable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live)

[In this demo, we modify our component to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=1.84) [subscribe to the observable provided by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=4.95) [the product service. Here in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=7.36) [ProductListComponent, we see a syntax](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=10.18) [error. Now that we've changed the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=12.61) [service to return an observable, we cannot](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=15.08) [assign the result to our product property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=17.76) [directly. Rather, we subscribe to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=19.84) [returned observable. When the observable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=22.79) [emits the data, we set our product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=25.69) [property to the returned array of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=27.88) [products. But things don't always go as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=29.58) [expected. To handle any errors, let's add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=32.79) [an errorMessage property. If our request](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=36.15) [for products fails, our errorMessage](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=39.03) [property is set to the error. Are we ready](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=41.4) [to try it out? Oh, we have no data. Why is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=44.96) [that? Let's look again at our code. Recall](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=49.27) [that we said that HTTP is an asynchronous](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=52.55) [operation. What does that mean exactly for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=56.07) [this code? Let's take it by the numbers.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=59.35) [Angular first initializes the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=63.22) [and executes the ngOnInit method. We call](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=65.24) [the getProducts method of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=69.06) [productService. The productService returns](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=70.56) [an observable of IProduct array. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=73.75) [subscribe to that observable and the HTTP](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=76.73) [GET request is submitted. This is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=79.44999999999999) [asynchronous operation. This code is then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=82.73) [complete, and we execute the next line,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=86.02) [which is setting our filteredProducts. But](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=89.03) [at this point, our products property is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=92.05) [not yet set, so the filteredProducts is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=94.9) [empty and we see no data. At some future](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=98.04) [point in time, the service receives the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=102.26) [HTTP response from our request. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=105.09) [response data is mapped to an array of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=108.61) [products. The response is piped through](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=110.88) [any operators, and the observable emits](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=113.74) [that mapped data to any subscribers. Our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=116.86) [subscriber receives the emitted data and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=120.29) [assigns our product property to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=123.08) [emitted array of products. But since we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=125.32) [are binding to the filteredProducts](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=127.93) [property, we are not notified that we now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=129.87) [have the retrieved list of products. There](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=132.71) [are several ways we can handle this. One](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=136.11) [option is that we can move this line into](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=139.01) [the subscribe function. That way we won't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=141.73) [assign the filtered products until the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=144.79) [retrieved set of products are emitted from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=147.2) [the service. Right now it is a single line](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=149.57) [function. To pass in a multiple line](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=152.61) [function, we need to add curly braces,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=156.17) [like this. And let's not forget the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=158.205) [semicolon. Now that it's a multi‑line](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=161.35) [function, we need to end each statement](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=164.05) [with a semicolon. Then we can move this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=166.55) [line into the function. Now this line is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=169.56) [executed after the products property is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=173.01624999999999) [set to our list of products. Let's check](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=174.91) [it out. There are all of our products.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=177.6) [Success! We have more here now because](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=181.93) [we're retrieving the products from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=184.07) [provided product.json file. If we open the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=185.89) [F12 Developer Tools, we see that data in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=190.07999999999998) [the console, here. The recommended way to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=192.87) [use HTTP is to encapsulate it in a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=195.85) [service, like our product service, then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=198.85) [expose an observable for use by any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=202.12) [component that needs product data. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=204.76) [component simply subscribes to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=208.21) [observable, and at some later point in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=210.45) [time gets the data or a notification.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=213.12) [Let's finish up this module with some](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=216.92) [checklists we can use as we work with HTTP.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=6&mode=live&start=218.76)

[Checklists and Summary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live)

[Before we can use Angular's HttpClient](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=2.34) [service, some setup is required. We need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=4.99) [to ensure that the service provider is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=8.14) [registered with the Angular injector. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=10.37) [registration is done for us in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=13.36) [HttpClientModule, so all we need to do is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=15.55) [pull the HttpClientModule into our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=19.77) [application. We do this by adding](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=22.67) [HttpClientModule to the imports array of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=25.58) [one of our application's Angular modules.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=29.15) [Build a data access service to wrap HTTP](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=33.44) [requests. In that data service, specify](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=36.43) [the needed imports to find a dependency](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=39.88) [for the Angular HttpClient service using a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=42.46) [constructor parameter. Create a method for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=45.81) [each HTTP request. In the method, call the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=48.59) [desired HTTP method such as GET and pass](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=52.42) [in the URL to the desired server. Use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=56.46) [generics to specify the response return](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=59.8) [type. This will transform the raw HTTP](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=62.72) [response to the specified type, and do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=66.2) [error handling as desired. In any class](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=69.95) [that needs data from a data service, call](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=73.69) [the subscribe method to subscribe to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=76.5) [observable. Provide a function to execute](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=79.75) [when the observable emits an item. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=81.82) [often assigns a property to the returned](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=84.68) [JSON object. And if that property is bound](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=86.81) [to a template, the retrieved data appears](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=89.88) [in the view, and add an error function to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=92.72) [handle any returned errors. Here are some](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=95.32) [related courses in the Pluralsight](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=98.72) [library. To perform, create, read, update,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=100.63) [and delete, or CRUD operations, using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=103.34) [HTTP, see the Angular Reactive Forms](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=105.99) [course. It demonstrates how to display,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=109.07) [edit, and save data in Angular. For more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=111.55) [information on RxJS and observables, see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=114.61) [the RxJS and Angular Reactive Development](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=117.57) [course. It provides a detailed look at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=120.26) [observables, including how to combine data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=122.66) [from multiple sources, build action](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=125.16) [streams to react to user actions, and work](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=127.46) [with streams without subscribing. See the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=130.26) [Angular HTTP Communication course for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=133.4) [intermediate HTTP techniques such as error](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=135.94) [handling, building interceptors, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=139.26) [testing HTTP requests. This module was all](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=142.03) [about HTTP and observables. We began with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=146.71) [an overview of observables and reactive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=150.17) [extensions. We examined how to build a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=152.34) [data access service that sends requests](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=154.77) [for data over HTTP. We walked through how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=157.6) [to set up some basic exception handling](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=161.05) [and we saw how to subscribe to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=163.67) [returned observable and ultimately display](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=165.5) [the resulting data in the view. We've now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=168.21) [removed the hard‑coded data from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=171.61) [product data service, yeah, and instead](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=173.64) [retrieve the data using HTTP. In our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=176.67) [sample application, we are using HTTP to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=180.12) [retrieve the data from a local JSON file,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=183.04) [but the techniques are the same for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=185.85500000000002) [retrieving data from a back‑end service.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=187.9) [Next up, we'll see how to display multiple pages with navigation and routing.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m9&clip=7&mode=live&start=190.82)

[Navigation and Routing Basics](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live)

[A single view does not an application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=2.47) [make. Welcome back to Angular: Getting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=4.82) [Started from Pluralsight. My name is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=7.43) [Deborah Kurata, and in these next two](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=10.09) [modules, we define routes to navigate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=12.6) [between multiple views in our application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=15.15) [Users like to have all of the information](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=18.59) [they need at their fingertips, so our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=21.13) [applications often provide multiple sets](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=23.68) [of data in multiple layouts across](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=26.18) [multiple views. Routing provides a way for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=29.07) [the user to navigate between those many](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=32.22) [views of the application. Whether there](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=34.38) [are five, ten, or hundreds. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=36.74) [module, we start with an overview of how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=40.71) [routing works in Angular. We examine how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=43.66) [to configure routes and tie routes to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=46.61) [actions, and we define where to place the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=49.01) [routed components view. Currently, our APP](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=52.04) [component embeds our product list](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=55.7) [component as a nested component. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=58.03) [instead want to define a set of routes so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=60.99) [the user can navigate to the welcome view,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=63.89) [product list view, or product detail view.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=66.41) [We've already built the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=69.82) [ProductListComponent, and I've provided](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=70.82) [the WelcomeComponent with the starter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=73.39) [files in the GitHub repository for this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=75.15) [course. As part of the demos in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=77.51) [module, we'll build the shell for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=80.1) [product detail component. When we're](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=82.26) [finished with this module, we'll have a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=84.84) [simple application that routes to multiple views.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=0&mode=live&start=86.57)

[Generating Code and Handling Undefined](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live)

[Before we jump into routing, we need more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=1.44) [components so we have something to route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=5.35) [to. I provided the WelcomeComponent as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=6.87) [part of the starter files. Let's build the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=10.06) [ProductDetailComponent. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=12.89) [ProductDetailComponent should ultimately](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=15.84) [look like this, but we want to focus on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=18.05) [routing, not building another component.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=20.71) [So let's just create a shell for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=23.44) [ProductDetailComponent so we can route to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=25.35) [it. We could use the Explorer and create](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=28.02) [new component class and template files](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=32.71) [manually, or we could use the Angular CLI](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=35.57) [to automatically create those files. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=38.965) [are going to spend more time on the CLI](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=42.96) [later in this course, but if you want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=45.015) [try it out now, start by opening a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=47.74) [terminal window. I'll use the integrated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=50.28) [terminal built into VS Code. If you don't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=53.07) [already have the CLI installed globally,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=56.68) [install it now using npm install ‑g, for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=59.53) [global, @angular/cli. Note that we will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=64.29) [then have the Angular CLI installed twice.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=68.7) [We installed it local to our project when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=72.74) [we installed the packages from our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=75.17) [package.json file at the beginning of this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=76.93) [course. This local install ensures that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=80.58) [our project is served and compiled using a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=83.44) [consistent version of the CLI. We access](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=86.64) [this local version with our npm scripts,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=90.46) [such as npm start. This command installs](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=93.28) [the Angular CLI globally and adds ng to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=97.14) [our system path. That allows us to type ng](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=100.94) [commands directly from any folder. I](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=104.605) [already have the Angular CLI installed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=107.75) [globally, so I won't install it again.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=110.08) [Next, we type ng for the Angular CLI, g,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=113.24) [for generate, c, for component, and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=118.21) [name of our component. Since we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=121.92) [create this component under the products](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=124.44) [folder, we add the path to the desired](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=126.75) [component name, products/product‑detail,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=129.52) [following our naming convention. That's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=134.60500000000002) [all that is required. By default, however,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=137.23) [Angular will create a new folder for this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=140.9) [component. For the sample application, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=143.4) [want the contents of our product folder to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=146.48) [be flat. We'll use the ‑‑flat option to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=148.66) [achieve this. We'll learn much more about](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=153.39) [the Angular CLI later in this course. For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=155.97) [now, press Enter and the Angular CLI](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=159.64) [creates the component files for us, and it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=163.19) [updated are Angular module. Yay! We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=166.66) [see here in the Explorer that it created](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=171.01) [the style sheet in a CSS file, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=173.39) [template in an HTML file, and the class in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=176.52) [a TypeScript file. It even created the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=180.2) [start of a unit test for us. Let's check](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=183.2) [out the generated template. Not much here.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=186.95) [We'll replace the generated HTML with some](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=190.54) [placeholder text and use interpolation to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=193.17) [bind to a page title. Here, we include the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=196.27) [product's name in that title. If we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=199.39) [retrieve the product to display using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=202.28) [HTTP, which we most likely will, we could](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=204.67) [have a problem with this code. Any idea](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=208.54) [what could go wrong here? Recall from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=211.78) [last module that HTTP is asynchronous.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=214.57) [This means that our page could attempt to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=218.8) [display the product's name before the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=220.94) [product is retrieved. At that point, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=223.56) [product property is undefined, so we would](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=226.7) [get a runtime error telling us it can't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=230.12) [read the property product name of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=232.81) [undefined. How do we ensure this error](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=235.21) [doesn't happen to us? There are several](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=238.07) [common ways to prevent undefined property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=241.18) [errors. We could use the safe navigation](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=243.91) [operator defined with a question mark. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=247.07) [safe navigation operator guards against](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=250.56) [null and undefined values when navigating](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=253.21) [an object's properties. If the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=256.23) [object is null or undefined, the safe](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=259.03) [navigation operator simply returns null](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=262.07) [and does not attempt to access the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=264.86) [productName property. Hence, we don't see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=267.19) [an undefined property error. The safe](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=270.09) [navigation operator is great, but it is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=273.05) [not always the best option. For example,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=275.8) [it does not work when used with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=279.06) [ngModel two‑way binding. It can also be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=281.15) [quite tedious when we display many](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=284.44) [properties, like in our detail template.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=286.54) [So there is another option. We can use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=289.8) [ngIf and check for the existence of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=292.67) [product object. We add the ngIf to an HTML](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=295.64) [element that encloses all references to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=299.79) [the product object. Then we don't need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=302.6) [use the safe navigation operator. Next,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=305.61) [let's look at the TypeScript file. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=309.44) [generated component class has all of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=311.67) [basic syntax in place. All it needs is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=314.24) [page title and product properties that we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=317.68) [are referencing in the template. Notice](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=320.23) [that the CLI generated the selector](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=323.17) [property here. The selector property is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=325.48) [only required if the component will be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=328.36) [nested within another component. We won't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=330.54) [need to nest this component, we'll instead](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=334) [display the component's view as part of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=336.64) [the routing. So let's delete the selector.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=338.95) [Now let's check out the Angular module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=342.64) [Notice that the CLI added the appropriate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=345.59) [import and declared our new component.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=348.27) [Very nice! Every time we add a component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=351.64) [to the application, we need to declare the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=355.82) [component in an Angular module. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=358.5) [currently have only one Angular module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=361.5) [AppModule, so the ProductDetailComponent](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=364.48) [and the WelcomeComponent must be added to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=367.87) [the declarations array for the AppModule.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=370.98) [If we use the Angular CLI, as we did in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=374.44) [this example, it automatically adds the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=377.49) [appropriate declarations. Cool! If we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=380.26) [don't use the CLI, like for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=383.51) [WelcomeComponent, we need to add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=385.6) [component to the declarations array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=388) [ourselves. Let's do that now. We add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=390.1) [WelcomeComponent to the declarations away,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=394.37) [then add the associated import statement.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=397.435) [Now that we have the basic components in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=400.91) [place, we are ready to add routing to our application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=1&mode=live&start=403)

[How Routing Works](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live)

[An Angular application is a single‑page](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=1.44) [application. That means all of our views](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=4.58) [are displayed within one page, normally](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=7.46) [defined in the index.html file. So each of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=10.66) [the 5, 10, or hundreds of views take turns](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=14.5) [appearing on that one page. How do we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=18.35) [manage which few to display when? That's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=21.34) [the purpose of routing. We configure a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=24.72) [route for each component that wants to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=27.61) [display its view on the page. As part of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=29.59) [our application design, we provide a menu,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=32.65) [a toolbar, buttons, images, or data links](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=35.49) [that allow the user to select the view to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=38.33) [display. We tie a route to each option or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=40.32) [action. When the user selects the option](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=43.51) [or performs the action, the associated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=46.57) [route is activated. Activating a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=49.13) [component's route displays that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=51.81) [component's view. So, for example, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=54.15) [user selects a menu option to display the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=57.33) [product list. The product list route is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=59.79) [activated and it displays its view. Hmm,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=63.15) [let's look at that process again with an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=66.75) [illustration. Here is the menu that we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=68.71) [add to our sample application. We tie a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=71.495) [route to teach menu option using a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=74.87) [built‑in router directive called](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=76.59) [routerLink. When the user clicks on the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=78.54) [Product List option, for example, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=80.98) [Angular router navigates to the product's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=83.35) [route. The browser's location URL changes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=85.75) [to match this path segment, and we see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=88.96) [/products appear in the address bar. By](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=91.24) [default, Angular uses HTML5 style URLs,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=95) [which don't require the hash symbol to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=98.34) [indicate local navigation. By using the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=100.48) [HTML5 style URLs, you need to configure](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=103.31) [your web server to perform URL rewriting.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=106.83) [How this is done depends on your web](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=109.94) [server. See the documentation for your web](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=111.97) [server on how to configure URL rewriting.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=115.07) [Angular also supports hash style routing,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=118.34) [which does not require URL rewriting.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=121.3) [We'll look at how to use hash style](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=124.27) [routing later in this module. When the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=126.21) [browser's URL changes, the Angular router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=129.1) [looks for a route definition, matching the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=132.1) [path segment, products, in this example.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=134.24) [The route definition includes the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=137.195) [component to load when this route is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=138.94) [activated. In this case, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=140.72) [ProductListComponent. The Angular router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=143.1) [then loads the component's template. Where](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=146.39) [does it display this template? Where we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=149.37) [specified, with the built‑in routing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=151.65) [directive called router‑outlet, and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=153.6) [Product List appears. So that's how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=156.32) [routing works. We'll examine these steps](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=159.3) [in further detail and try them out in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=162.1) [demos as we journey through this course module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=2&mode=live&start=164.25)

[Configuring Routes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live)

[Routing is component based, so we identify](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=2.34) [the set of components that we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=5.52) [provide as routing targets and to find a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=7.3) [route for each one. Let's see how this is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=10.14) [done. An Angular application has one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=13.1) [router that is managed by Angular's router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=16.82) [service, and we know that before we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=19.68) [use a service, we need to register the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=22.52) [service provider in an Angular module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=24.94) [Similar to the HTTP module, Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=28.1) [provides a RouterModule in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=31.17) [angular/router package that registers the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=33.39) [router service provider. To include the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=36.12) [features of this external module in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=38.96) [application, we need to add it to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=41.57) [Imports array of our application's Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=44.08) [module. In addition to registering the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=46.89) [service provider, the RouterModule also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=49.75) [declares the router directives. In the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=52.65) [last clip, we mentioned two router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=55.99) [directives, RouterLink and RouterOutlet.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=58.09) [By importing the RouterModule our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=61.06) [component templates can use these or any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=64.23) [other router directives. RouterModule also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=66.96) [exposes the routes we configure. Before we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=70.47) [can navigate to a route, we need to ensure](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=73.26) [that the routes are available to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=75.84) [application. We do this by passing the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=77.64) [routes to RouterModule like this. We call](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=80.59) [the RouterModule's forRoot method and pass](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=84.63) [our array of routes to that method. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=87.81) [establishes the routes for the root of our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=91.03) [application. If we want to use hash‑style](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=93.39) [routes instead of HTML5‑style routes, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=96.62) [change this code to set useHash as shown](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=100.15) [here. With that, we are ready to configure](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=103.22) [some routes. The router must be configured](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=106.08) [with a list of route definitions. Each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=109.75) [definition specifies a route object. Each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=112.69) [route requires a path. The path property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=116.17) [defines the URL pass segment for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=119.37) [route. When this route is activated, this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=121.53) [URL pass segment is appended to the URL of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=124.48) [our application. The user can type in or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=127.36) [bookmark the resulting URL to return](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=130.64) [directly to the associated component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=133.49) [view. In most cases, we also specify a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=135.79) [component, which is the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=138.94) [associated with the route. It is this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=141.08) [component's template that is displayed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=144.02) [when the route is activated. These are all](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=146.14) [examples of route definitions. The first](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=148.87) [route simply maps a specific URL pass](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=151.82) [segment to a specific component. So this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=154.18) [URL displays the template from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=157.55) [ProductListComponent. The :id in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=161.25) [second route represents a route parameter.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=163.18) [The product detail page displays the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=166.27) [detail for one product, so it needs to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=168.26) [know which product to display. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=171.11) [ProductDetailComponent reads the ID from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=173.77) [this pass segment and displays the defined](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=176.36) [product. We can define any number of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=178.99) [parameters here separated with slashes.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=181.81) [What does this route do? Yep, this URL](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=185.04) [displays the template from the welcome](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=188.24) [component. This one defines the default](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=189.96) [route. The redirect here translates the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=192.91) [empty route to the desired default pass](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=195.62) [segment, in this example, the welcome](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=197.88) [route. A redirect route requires a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=200.31) [pathMatch property to tell the router how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=202.86) [to match the URL pass segment to the path](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=205.71) [of a route. We only want this default](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=208.1) [route when the entire client‑side portion](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=210.53) [of the path is empty, so we set the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=212.9) [pathMatch to full. The asterisks in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=215.23) [last route denote a wildcard path. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=218.5) [router matches this route if the requested](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=221.71) [URL doesn't match any prior paths to find](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=224.12) [in the configuration. This is useful for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=227.37) [displaying a 404 not found page or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=230.13) [redirecting to another route. A few things](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=233.11) [to note here. There are no leading slashes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=236.14) [in our pass segments, and the order of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=239.22) [routes in this array matters. The router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=242.41) [uses a first match wins strategy when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=245.41) [matching the routes. This means that more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=247.93) [specific routes should always be before](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=250.69) [less specific routes such as the wildcard route. Ready to try this out?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=3&mode=live&start=253.32)

[Demo: Configuring Routes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live)

[In this demo, we configure the basic](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=2.63) [routes for our application. We are back in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=5.58) [the sample application with the index.html](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=9.97) [file open. The first step to set up](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=13.04) [routing is to define a base element in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=15.91) [head tag of the index.html file. Notice](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=18.76) [that the Angular CLI already did that for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=22.4) [us here. This element tells the router how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=25.1) [to compose the navigation URLs. Since the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=28.19) [app folder is the application route, we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=31.47) [set the href for the base tag to /. Now we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=33.98) [are ready to configure the route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=37.88) [definitions. For that, we go to our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=39.29) [Angular module. Add the appropriate import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=41.78) [statement, then add RouterModule to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=44.75) [imports array. This registers the router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=48.03) [service provider, declares the router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=50.16) [directives, and exposes the configured](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=52.45) [routes. How does the RouterModule know](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=54.99) [about are configured routes? We passed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=57.63) [them into the RouterModule by calling the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=60.16) [forRoot method. We then configure the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=62.29) [routes here by passing them in using an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=64.82) [array. Let's start with the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=67.32) [routes. For each route, we specify the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=70.08) [path and a reference to the component. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=72.88) [template defined in the specified](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=75.8) [component will display when the router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=77.46) [navigates to this path. Next, we add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=79.46) [route to display our welcome page. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=82.45) [set the path to welcome and specify the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=85.28) [welcome component. When the application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=87.85) [loads, we want to default to the template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=90.43) [from the welcome component. So we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=92.79) [specify a default route that redirects to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=95.01) [our welcome component. And let's define a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=97.96) [wildcard path in case the requested URL](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=100.7) [doesn't match any prior paths defined in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=103.54) [the configuration. This is often used for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=105.93) [displaying a 404 Not Found page. But in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=109.12) [our simple example, we'll use it to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=112.31) [redirect back to the welcome page. There's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=114.31) [a lot of stuff here now in our root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=117.94) [application module. In a later course](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=119.83) [module, we'll look at how to refactor this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=122.9) [module into multiple Angular modules for a separation of concerns.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=4&mode=live&start=125.33)

[Tying Routes to Actions](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live)

[With routing, the user can navigate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=2.44) [through the application in several ways.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=4.4) [The user can click a menu option, link,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=6.94) [image, or button that activates or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=9.11) [navigates to a route. The user can type](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=11.22) [the associated URL segment in the address](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=14.09) [bar after the application URL, or use a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=16.64) [bookmark to that URL, or the user can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=19.91) [click the browsers' forward or back](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=22.78) [buttons. The route configuration handles](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=24.61) [the URLs so the last techniques will just](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=27.45) [work. We need to handle the first](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=30.69) [technique by tying routes to the user](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=33.02) [actions. We need to decide how we will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=36.02) [show the routing options to the user. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=39.2) [could display a navigation pane with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=42.18) [links, we can provide a toolbar or images,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=44.06) [or we can build a navigation menu like](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=47.21) [this one. In a more full‑featured](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=49.76) [application, the menu could have many more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=52.74) [options and sub options, but this will do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=54.27) [for our purposes. We define that menu as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=57.1) [part of this component's template. We then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=60.2) [need to tie a route to each menu option.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=62.98) [We do that using the routerLink directive.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=66.23) [The routerLink is an attribute directive,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=69.72) [so we add it to an element such as the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=72.59) [anchor tag here, and we enclose it in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=75.3) [square brackets. We bind it to a template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=78.27) [expression that returns a link parameters](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=81.14) [array. The first element of this array is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=84.15) [the string path of a route. Additional](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=86.93) [elements can be added to this array to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=89.55) [specify optional route parameters. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=91.79) [router uses this array toe. Locate the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=94.77) [associated route and build up the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=97.14) [appropriate Earl based on any provided](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=99.47) [parameters. When the user selects the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=102.33) [option, the Associated Road is activated.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=105.37) [Activating a component route displays that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=108.88) [component's view. Now let's add a menu and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=111.69) [use the router link directive so the user](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=115.2) [can navigate to the views and our sample](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=117.72) [application. First, we need to decide how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=119.87) [to show the routing options to the user.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=124.56) [For our sample application, we'll build a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=126.91) [menu. We want to add that menu at the root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=129.46) [of our application, so we'll add it to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=132.38) [AppComponent. In the AppComponent template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=134.875) [currently, we're nesting the product list](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=137.86) [component. Now that we are implementing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=140.25) [routing, we'll route to the product list](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=143.415) [component instead. That means that it no](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=145.67) [longer needs a selector. In the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=148.51) [list component, let's remove that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=151.38) [selector. Going back to the AppComponent,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=153.53) [we'll replace the nesting with a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=156.405) [navigation menu. This menu uses the nav](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=158.61) [element and the navbar classes from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=162.15) [Twitter Bootstrap styling framework. Let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=164.69) [see how this looks in the browser. Here is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=167.34) [our new menu, but clicking on the menu](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=170.64) [options don't do anything yet, and our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=173) [product list no longer appears. We need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=175.36) [tie routes to these menu options. We'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=178.37) [use the router link directive to tie a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=182.41) [route to each of these menu options. For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=185.07) [the home menu option, we'll add the router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=188.17) [link to the anchor element, but we could](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=190.72) [use any clickable element. We want to tie](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=193.33) [the welcome route to the home menu option](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=196.21) [so we specify Welcome here. Pay close](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=199.06) [attention to this syntax. We assign the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=202.32) [router link directive to an array defined](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=205.15) [within quotes. The first element of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=207.69) [array is a string, so it is also enclosed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=210.38) [in quotes. We'll use similar syntax to tie](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=213.54) [the products route to the product list](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=216.68) [menu option. Now we just need to tell](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=219.02) [Angular where to place our views and display the routed components template.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=5&mode=live&start=221.69)

[Placing the Views](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live)

[When a route is activated, the associated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=2.14) [components view is displayed, but](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=4.69) [displayed where? How do we specify where](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=7.42) [we want the routed component to display](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=10.31) [its view? We use the router outlet](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=12.61) [directive. We place that directive in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=15.57) [host components template. The routed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=18.26) [components view then appears in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=21.02) [location. Let's add the router outlet to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=23.59) [our sample application. We are back](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=26.32) [looking at the app component, because it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=30.42) [is the host for our router. We add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=32.6) [router outlet in the template where we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=35.35) [want to display the routed components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=37.56) [view. We'll put it here. Whenever a route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=39.62) [is activated, the associated components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=43.3) [view displays here. Let's see how that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=45.89) [looks in the browser. Oh my! Where did](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=48.68) [that page come from? That's the welcome](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=52.43) [page provided in the starter files. When](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=54.76) [the application launches, the default](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=57.75) [route is activated and the welcome view](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=60.02) [displays. If we click on the product list](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=62.14) [menu, the router link directive now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=65.08) [activates the product list route, and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=67.67) [product list view appears. Sweet! Our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=70.12) [application component can now route to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=73.55) [multiple views. Notice the URL. The URL](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=75.63) [segment we defined for the route is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=79.62) [displayed here. If we type in something](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=81.35) [like Welcome, the welcome component's view](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=84.57) [is displayed. Now that we have our routing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=87.36) [in place, let's review how these routing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=90.81) [features work together. When the user](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=93.16499999999999) [navigates to a feature tied to a route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=95.3) [with a router link directive, the router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=97.62) [link uses the link parameters array to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=100.19) [compose the URL segment. The browsers](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=102.49) [location URL is changed to the application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=105.83) [URL, plus the composed URL segment. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=108.36) [router searches through the list of valid](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=112.4) [route definitions and picks the first](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=114.38) [match. The router locates or creates an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=117.13) [instance of the component associated with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=119.89) [that route. The components view is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=122.35) [injected in the location defined by the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=124.683) [router outlet directive, and the page is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=127.003) [displayed. We now have basic routing in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=130.233) [our sample application. Yay!. As we've](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=133.163) [seen in this course module, routing is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=136.743) [rather intricate, requiring code in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=139.383) [multiple files and strings, such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=142.003) [parameter names and route paths that must](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=144.603) [match across those files. So let's finish](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=147.033) [up this module with some checklists that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=149.933) [can help ensure all of the bits of routing are in the right places.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=6&mode=live&start=152.383)

[Checklists and Summary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live)

[To route or to nest, that is the question.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=2.17) [When creating components, we need to think](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=5.495) [about how they will be displayed. For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=7.97) [components designed to be nested within](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=10.35) [other components, we need to define a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=12.6) [selector as part of the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=14.95) [decorator. The selector provides the name](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=16.98) [of the directive, and then we nest the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=20.2) [component within another component, using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=22.7) [the directive to define where the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=25.27) [component template appears. The component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=26.84) [does not then need a route. For components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=29.72) [designed to be displayed as a view within](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=32.84) [our single application page, the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=35.13) [needs no selector, but we do need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=37.95) [configure routes. We then tie those routes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=40.92) [to actions. An action activates a route to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=43.825) [display the view. If we want to do routing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=46.85) [in our application, we need to configure](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=50.18) [the route definitions, tie routes to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=53.28) [actions, and place the view. Let's do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=55.92) [checklists for each of these tasks. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=58.94) [first step for doing routing in an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=61.97) [application is to configure the routes.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=63.69) [Begin by defining the base element in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=66.435) [index.html file. Add RouterModule to an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=69.27) [Angular module's imports array, then at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=73.21) [each route to the array passed to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=76.43) [RouterModule's forRoot method, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=78.39) [remember that order matters. The router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=81.03) [will pick the first route that matches.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=83.76) [Each route definition requires a path,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=86.18) [which defines the URL path segment for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=89.36) [route. Be sure the path has no leading](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=92.09) [slash. Use an empty path for a default](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=94.75) [route and two asterisks for a wildcard](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=97.98) [route, which is matched if no prior path](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=101.21) [matches. Most route definitions also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=104.05) [include a component. The component is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=107.11) [reference to the component itself. It is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=109.92) [not a string name and is not enclosed in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=112.72) [quotes. Once we have the routes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=115.32) [configured, we need to tie those routes to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=118.13) [actions. First, we identify which actions](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=120.8) [to tie to which routes. Then we add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=124.1) [RouterLink directive as an attribute to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=127.13) [any clickable element in a component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=129.9) [template. We can use them in menu options,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=132.41) [toolbars, buttons, links, images, and so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=135.13) [on. Be sure to enclose the RouterLink in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=137.58) [square brackets. Bind the router linked to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=140.56) [a link parameters array. The first element](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=143.47) [of the link parameters array is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=146.8) [route's path. All other elements in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=148.68) [array are values for the route parameters.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=151.47) [Use the RouterOutlet to identify where to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=155.14) [display the routed component's view. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=157.81) [is most often specified in the host](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=160.63) [component template. When a route is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=162.85) [activated, the route component's view is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=164.88) [displayed at the location of the router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=167.42) [outlet. This module was all about](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=169.62) [navigation and routing. We began with a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=172.68) [look at how routing works. We then walked](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=175.26) [through how to configure routes, tie](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=178.06) [routes to actions, and define where the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=180.75) [routed component's view should appear. Our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=183.02) [App Component had embedded our Product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=186.34) [List Component as a nested component. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=188.8) [this module we were finally able to remove](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=191.61) [that nesting. We set up routing so we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=194.12) [now navigate to our Welcome and Product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=196.99) [List Components. We've covered the basics](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=199.3) [of routing in this module, but there is so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=202.48) [much more. In the next module we'll look](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=205.3) [at some additional routing techniques and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=208.22) [add navigation to the product detail component.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m10&clip=7&mode=live&start=210.52)

[Navigation and Routing Additional Techniques](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live)

[Now that we know the basics of routing,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=1.24) [we're ready for more. Welcome back to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=3.13) [Angular: Getting Started from Pluralsight.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=5.64) [My name is Deborah Kurata, and in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=8.67) [module, we look at several additional](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=11.27) [routing techniques. With what we learned](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=13.58) [in the prior module, a user can now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=16.57) [navigate to any defined route in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=18.9) [application. But that only covered the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=21.07) [very basic routing scenarios. What if we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=23.53) [need to pass parameters to a route or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=26.54) [activate a route with code instead of with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=28.96) [a clickable element? Or what if we need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=30.97) [protect a route and only allow access to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=33.63) [it in special cases or by certain users or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=36.45) [ask a user to save changes before leaving](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=39.78) [a route? In this second module on routing,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=42.19) [we examine how to pass parameters to a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=45.69) [route, how to activate a route with code,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=48.07) [and how to protect our routes with guards.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=50.56) [When we're finished with this module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=53.94) [we'll know how to handle additional](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=55.8) [routing scenarios, including routing to a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=57.51) [component that requires parameters, such](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=60.11) [as our product detail component. Let's get started.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=0&mode=live&start=62.89)

[Passing Parameters to a Route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live)

[We sometimes need to pass parameters to a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=2.24) [route. For example, to navigate to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=4.91) [product detail view. we need to define](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=7.98) [which products details to display. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=10.67) [first step to passing parameters to a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=14.16) [route is to configure the route with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=16.04) [parameters. We've already done this step](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=17.84) [to route to our product detail component.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=20.52) [Here we define a slash, a colon, and a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=23.14) [placeholder for the parameter. If multiple](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=25.6) [parameters are needed, we'd repeat this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=28.33) [with another slash, colon, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=30.8) [placeholder. With the route definition in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=32.98) [place, we can decide where we want the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=35.91) [user to activate this route. Will we add a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=38.01) [menu option or a data link? It is there we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=40.64) [set the router link and pass in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=43.8) [required parameter. In the product list](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=45.92) [component template, we display a table of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=48.4) [products. Each table row contains the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=50.82) [product name so we add a router link to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=53.64) [this anchor tag and assign it to the link](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=56.77) [parameters array. The first element of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=59.7) [array is the string path of the route. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=62.35) [second element of the array is the value](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=65.23) [for the route parameter. When the router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=67.61) [composes the URL, it uses this array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=70.14) [element to construct the defined](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=73.05) [parameter. To display the appropriate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=74.78) [product, the product detail component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=77.91) [reads this parameter from the URL. It then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=80.23) [uses the parameter to retrieve the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=83.02) [appropriate product and display it in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=84.77) [view. To get the parameter from the URL,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=87.07) [we use the activated route service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=90.08) [provided by the router. We want an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=92.8) [instance of the service so we define it as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=95.02) [a dependency in our constructor. We've](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=97.58) [seen this syntax before. This line of code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=100.45) [defines a private variable called route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=103.63) [and assigns it to the instance of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=106.14) [activated route provided by the Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=107.92) [service injector. Then we use the instance](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=110.11) [of the activated route service to get the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=112.8) [desired parameter. There are two different](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=114.82) [ways to get the parameter. We could use a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=117.55) [snapshot or we could use an observable.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=120.02) [Use the snapshot approach if you only need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=122.81) [to get the initial value of the parameter.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=125.575) [The code is then a one‑liner, as shown](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=128.325) [here. In our example, the user is always](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=130.365) [returned to the list page before](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=133.555) [navigating to another product so the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=135.405) [snapshot approach would be sufficient. If](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=137.645) [you expect the parameter to change without](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=140.285) [leaving the page, use an observable. For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=142.815) [example, if we had a Next button on the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=146.215) [product detail page to display the next](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=148.825) [product, the URL will change to the next](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=151.035) [product's id. So you'd want to use an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=153.765) [observable instead. We use the activated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=156.325) [routes snapshot method here and access the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=159.285) [appropriate parameter from its parameter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=161.935) [array. The string specified here must](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=164.275) [match the name of the parameter from the path. Let's give this a try.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=1&mode=live&start=167.325)

[Demo: Passing Parameters to a Route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live)

[In this demo, we pass a parameter as part](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=2.52) [of the ProductDetailRoute and read that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=5.73) [parameter in the ProductDetailComponent.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=8.54) [We already have the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=12.54) [ProductDetailComponent's route configured](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=13.55) [with a parameter. Looking at that route,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=15.81) [here in the path, we provide any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=18.58) [parameters prefixed with a colon and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=20.3) [separated by slashes. For the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=22.41) [ProductDetailComponent, we pass a product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=24.58) [id so the view knows which product's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=27.16) [detail to display. Next, we need to decide](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=29.37) [where to tie this route to a user action.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=32.67) [We can't add the product detail to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=35.34) [menu because we don't have an easy way for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=37.45) [the user to specify the ID of the desired](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=39.84) [product. Let's instead modify the list of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=42.65) [products in the product list view such](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=45.16) [that each product name is a link, then the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=47.58) [user can click on the product to display](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=50.25) [its details. In the product‑list template,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=52.55) [we'll add an anchor tag so the productName](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=56.28) [becomes a link. We add the routerLink](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=58.97) [directive to the anchor tag and set up the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=61.52) [link parameter's array. In the array, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=64.22) [define the path of the route to activate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=66.97) [in the first element and pass the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=69.26) [parameter value in the second element. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=71.46) [this example, we want to pass the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=74.45) [product's ID. When we view the result in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=76.25) [the browser, we see that the product names](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=79.99) [are now links. And if we click a link, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=82.56) [see the ID in the URL, and we navigate to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=85.88) [the ProductDetailComponent. But that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=88.93) [component does not yet get the parameter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=91.37) [from the URL. Let's do that next. We add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=93.63) [code in the ProductDetailComponent to get](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=97.87) [the parameter passed in on the URL. We use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=100.26) [the activated route service provided by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=103.47) [the router to help us. First, we import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=105.61) [the service. We don't have to register](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=108.34) [this service. Because it is registered as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=110.74) [part of the router module, we add it to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=113.01) [the imports array in the last course](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=115.23) [module. We then set ActivatedRoute as a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=117.5) [dependency by defining it as a parameter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=120.693) [to the constructor function. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=123.473) [ActivatedRoute instance is then injected](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=125.563) [into this component class. Now let's get](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=127.883) [the ID from the route and store it in a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=131.093) [local variable. We'll use the snapshot](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=133.193) [approach here because we don't expect the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=135.693) [URL to change. Where do we put the code to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=137.593) [read the parameter? We don't want it in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=140.383) [the constructor. We'll instead use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=142.663) [OnInIt lifecycle hook. We start by reading](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=145.243) [the parameter into a variable. We use let](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=148.253) [here, which is new in ES2015 and defines a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=151.293) [block scoped variable. We then use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=154.503) [this.route.snapshot to get the parameter.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=157.153) [We pass in the name of the parameter we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=160.473) [want to read. The parameter name we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=162.393) [defined in the route configuration is id,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=164.873) [so that's the parameter name we specify](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=167.458) [here. And because the parameter is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=169.863) [provided as a string, we'll add a + here](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=172.243) [at the beginning. The + is a JavaScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=175.233) [shortcut to convert the parameter string](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=177.833) [to a numeric ID. At this point, we could](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=180.153) [add code here to retrieve the desired](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=183.113) [product using this ID. But since we are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=185.273) [focused in this module on routing and not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=188.123) [on HTTP, we'll hard code the product here.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=191.103) [To make it easy to see the ID we got from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=195.273) [the URL, let's display it as part of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=197.593) [pageTitle. Here, we use the ES2015](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=200.053) [backticks to define a template string and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=203.793) [display the ID. Let's see the result in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=206.373) [the browser. Click the menu option to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=209.873) [display the Product List, then click a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=212.403) [product. The URL changes to include the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=215.253) [parameter and the product detail page is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=218.243) [displayed. If everything worked, the title](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=220.843) [displays the same parameter as shown in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=223.943) [the URL. Yeah! To get back to the Product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=226.363) [List, we could use the menu option here,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=230.053) [but it would be nicer to have a back](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=232.433) [button. Let's add a back button and see how to activate a route with code.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=2&mode=live&start=234.273)

[Activating a Route with Code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live)

[We want to add a Back button to our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=2.14) [product detail page that navigates back to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=3.92) [the product list page. We could activate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=6.47) [this route using the routerLink directive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=9.14) [in the component template, just like we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=11.28) [did with the menu options. But it's also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=13.43) [possible to route with code, so let's try](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=15.84) [that out instead. When would you want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=18.59) [navigate with code instead of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=21.06) [routerLink directive and a template? One](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=23.07) [example is a save button where you need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=25.31) [execute some code to save the data and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=27.68) [then route. To route with code we use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=30.29) [Router service. We import the Router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=34.05) [service from angular/router. We define a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=36.49) [dependency on the router service using a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=39.29) [constructor parameter. The router instance](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=41.42) [is then injected into this component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=44.01) [class. Every time we inject a service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=46.26) [dependency into a class, we should ask](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=48.88) [ourselves, hmm, did we register this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=51.38) [service with the Angular injector? In the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=54.68) [case of Router, it is registered in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=57.41) [RouterModule, which we added to our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=59.63) [application's Angular module imports](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=62.66) [array. We use this router instance to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=64.17) [activate a route. Here we define a method](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=66.86) [that we can call from the template based](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=69.94) [on a user action. The code uses the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=71.98) [navigate method of the Router service and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=75) [passes in the same link parameter array we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=77.57) [use when binding the router link. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=80.64) [example, we route to the products route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=83.34) [and don't pass any arguments. Let's give](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=85.76) [this a try. Here we are looking at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=88.81) [ProductDetailComponent. We want the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=92.67) [ProductDetailComponent to navigate back to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=95.1) [the ProductListComponent. We define the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=97.62) [router as a dependency by adding another](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=100) [constructor parameter. When this component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=102.67) [class is constructed we'll get an instance](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=105.44) [of both the ActivatedRoute service and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=108) [Router service. Now we can build a method](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=110.42) [that navigates with code. Since the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=114.01) [purpose of this method is to navigate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=116.88) [back, we'll call it onBack. It doesn't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=118.95) [return anything, so we'll set its return](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=122.488) [type to void. In this method, we use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=124.898) [this.router instance and call the navigate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=128.338) [method. We pass it a link parameters](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=131.468) [array. In this example, we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=134.198) [navigate back to the ProductListComponent,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=136.448) [and we don't need any parameters. We just](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=139.098) [define the route path, which is products.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=141.868) [In the product detail template, we'll add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=144.728) [a button. We again use the Twitter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=148.308) [Bootstrap style classes to give the button](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=150.578) [some style. We use event binding to bind](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=152.728) [the click event of the button to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=155.538) [onBack method we defined in the class. Now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=157.118) [let's check it out in the browser. Click](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=160.338) [on the menu option to display the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=163.088) [list then click on a product. The product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=165.458) [detail page is displayed. We click our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=168.538) [Back button and we are back on the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=171.148) [list page. Let's try another one. We see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=173.948) [the detail page. Now we're back on the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=177.448) [product list page. Our code‑based](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=179.888) [navigation is working. So routing with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=182.218) [code involves importing the router and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=185.208) [using its navigate method to activate the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=188.038) [route. Now that we have several routes in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=190.448) [place, let's look at how to protect them with guards.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=3&mode=live&start=193.608)

[Protecting Routes with Guards](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live)

[There may be times that we want to limit](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=2.14) [access to a route. We want routes only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=4.03) [accessible to specific users such as an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=6.97) [administrator, for example, or we want the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=9.52) [user to confirm a navigation operation](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=12.3) [such as asking whether to save before](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=15.23) [navigating away from an edit page. For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=17.21) [that, we use guards. The Angular router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=20.21) [provides several guards, including](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=23.56) [CanActivate to guard navigation to a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=26.05) [route, CanDeactivate to guard navigation](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=29.0025) [away from the current route, Resolve to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=32.25) [prefetch data before activating a route,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=35.22) [and CanLoad to prevent asynchronous](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=37.95) [routing. In this clip, we work through how](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=40.88) [to implement the CanActivate guard. You](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=44.224999999999994) [can use the same techniques we're covering](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=46.86) [here to implement any other type of route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=48.78) [guard. We'll build a guard that prevents](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=51.61) [navigation to the ProductDetail route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=54.89) [unless a specific condition is true.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=57.120000000000005) [Building a guard clause follows the common](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=59.82) [pattern used throughout Angular, create a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=62.1) [class, add a decorator, and import what we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=64.64) [need. Here we define a guard class. Since](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=66.97) [we are implementing this guard as a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=70.76) [service, we use the Injectable decorator.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=72.36) [This class implements CanActivate. To](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=75.8) [create one of the other kinds of guards,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=78.65) [change this to implement one of the other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=80.595) [guard types. We then implement the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=82.74) [CanActivate method. For simple cases, this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=85.24) [method can return a boolean value, true to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=88.65) [activate the route and false to cancel the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=91.59) [route activation. For more complex cases,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=94.26) [we could return an observable or a promise](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=97.61) [from this method. Using a guard is simple.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=100.14) [We built the guard to protect the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=104.07) [ProductDetail route, so we add the guard](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=105.71) [to the ProductDetail route. We add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=108.44) [CanActivate and set it to an array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=111.27) [containing the guards to execute before](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=113.7) [this route is activated. In our case, there is only one. Let's give this a try.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=4&mode=live&start=115.97)

[Demo: Protecting Routes with Guards](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live)

[In this demo, we protect our ProductDetail](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=2.54) [route with a guard. We want to build a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=5.77) [guard that prevents navigation to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=8.72) [ProductDetailComponent if the provided URL](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=12.83) [parameter is not valid. Recall that the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=15.16) [route definition for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=18.89) [ProductDetailComponent includes an id, but](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=20.18) [there is nothing here that defines this id](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=23.54) [to be numeric or greater than 0, so our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=26.18) [guard should prevent navigation to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=29.96) [ProductDetail route if the id is 0 or not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=32.23) [a number. Our first step is to build our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=36.67) [guard. We could build it manually, but why](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=39.65) [not use the Angular CLI? We open the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=44.08) [integrated terminal and type ng, for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=47.27) [Angular CLI, g, for generate, g, for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=51.15) [guard, and the name of our guard. Since](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=55.81) [this guard is for the ProductDetail route,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=59.13) [we add it to the products folder. So,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=61.64) [products/product‑detail. That's all that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=64.69) [is required. Press Enter, and the Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=69.22) [CLI prompts us to select the type of guard](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=72.64) [we want to generate. We can select one or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=75.58) [more guards. For our example, we only want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=78.59) [the CanActivate guard, so press space to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=81.8) [select it. Press Enter, and we see that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=84.6) [the CLI created the guard and the start of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=87.81) [a unit test for that guard. Let's open the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=90.95) [resulting guard. The CLI added all of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=94.67) [basic boilerplate here for us. Yay! Let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=97.98) [talk through it. Since a guard is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=101.9) [service, it needs to be registered with an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=104.47) [Angular injector. The CLI registers this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=107.21) [guard with the root application injector](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=110.84) [using the providedIn property. It](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=113.55) [implements the CanActivate interface and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=116.59) [builds the start of the CanActivate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=119.58) [method. We can change this as needed if we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=121.86) [want to implement a different type of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=125.13) [guard. The CanActivate method has two](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=126.97) [parameters, the ActivatedRouteSnapshot to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=131.53) [provide current route information, and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=134.05) [RouterStateSnapshot to provide router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=136.83) [state information. The method can return](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=139.68) [an observable, a promise, or a simple](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=143.25) [Boolean value. All that's left is to write](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=146.25) [the logic for the guard. What do we want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=149.65) [this method to do? We need to check the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=152.98) [route URL and ensure that the id passed in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=155.97) [is valid. If it is not valid, we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=159.62) [navigate back to the Product List page.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=163) [Navigation requires the router, so the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=166.14) [first thing we need is a constructor. Then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=168.84) [we inject in the router, letting VS Code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=172.19) [import the appropriate package. Next, in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=175.45) [the CanActivate, we need to read the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=179.06) [parameter from the route. Luckily for us,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=181.53) [CanActivate has a parameter that gives us](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=185.07) [the ActivatedRouteSnapshot. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=187.95) [ActivatedRouteSnapshot contains the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=190.54) [information about a route at any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=192.63) [particular moment in time. Now I'll paste](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=194.64) [the code for the method body and we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=197.49) [talk through it. The ProductDetail route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=199.42) [URL is comprised of two segments, product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=202.435) [and the requested id. We only care about](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=206.21) [the id, so we pull the path from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=209.33) [second element, which is index of 1. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=211.74) [plus here at the beginning converts the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=215.41) [URL path string to a number. If the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=217.45) [resulting value is not a number, or less](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=220.4) [than 1, we display an alert, direct the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=223.43) [user to the Product List page, and return](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=226.35) [false to abort the current operation.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=228.96) [Notice that this code is the same code we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=231.98) [used to activate our route with code that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=234.29) [we saw in the last clip. And here we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=236.88) [return true to continue activating the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=239.56) [route. Now, we don't normally want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=242.34) [display an alert from our application. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=245.07) [a real application, we'd route to an error](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=248.35) [page that would notify the user of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=250.96) [problem and optionally provide a button](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=252.92) [for navigating back to the Product List](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=255.29) [page. But this is good enough for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=257.36) [purposes. Next, we need to hook up this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=259.72) [guard to the appropriate route. We add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=263) [CanActivate property to the route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=265.7) [definition for the ProductDetailComponent](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=267.64) [and set it to an array. In the array, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=270.21) [specify each guard we want to execute when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=273.2) [activating the ProductDetail route. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=275.86) [this case, we have only one. That should](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=278.56) [do it. Let's give it a try. If we view the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=281.43) [Product List page and select a product,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=284.63) [our URL is valid and we navigate to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=287.87) [page. If we instead type in a URL that is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=290.37) [not a number, we see our message. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=294.05) [ProductDetail route navigation is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=297.32) [cancelled and we are redirected to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=299.22) [Product List page. It works! Use route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=301.55) [guards any time you want to prevent access](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=305.16) [to a route, confirm navigation away from a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=307.77) [route, or preload data for a route. So](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=310.66) [let's finish up this module with some checklists.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=5&mode=live&start=314.68)

[Checklists and Summary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live)

[We can pass any number of parameters to a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=2.24) [route, separated by slashes. Add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=4.85) [parameter to the route configuration path](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=7.91) [by specifying a slash, a colon, and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=10.46) [parameter name. Pass the parameter value](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=13.42) [by adding it to an element of the link](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=16.41) [parameters array bound to the routerLink](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=18.72) [directive. Read the parameter value in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=21.26) [navigated component using the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=24.11) [ActivatedRoute service. Notice here that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=26.22) [the parameter name, id in this example, is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=29.07) [exactly the same as in the route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=32.14) [definition. To activate a route with code,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=34.04) [use the router service. Be sure to import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=37.96) [the service and define it as a dependency](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=40.62) [on the constructor. Create a method that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=42.83) [calls the navigate method of the router](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=45.48) [service instance and pass in the link](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=47.4) [parameters array. Add a user interface](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=50.03) [element and use event binding to call the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=53.13) [created method. We can use guards to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=55.75) [prevent access to a route, confirm](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=58.94) [navigation away from a route, or to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=61.35) [preload data for a route. To create a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=63.81) [router guard, we build a guard service,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=67.06) [implement the guard type, in our case](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=70.2) [CanActivate, and create the associated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=72.52) [method. We then register the guard service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=75.37) [provider. Lastly, we add the guard to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=78.19) [desired route. In this module, we covered](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=81.25) [some additional routing techniques,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=84.87) [including passing parameters to a route,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=87.02) [activating a route with code, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=89.78) [protecting routes with guards. But we've](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=91.89) [only just touched on the basics. If you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=94.48) [are interested in learning more about](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=97.72) [routing, check out my Angular Routing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=99.53) [course, here on Pluralsight. You'll learn](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=102.11) [how to pass required, optional, and query](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=104.96) [parameters on a route, how to fetch data](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=107.67) [with route resolvers, how to define child](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=110.47) [and secondary, or named, router outlets,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=113.44) [and more on router guards. Plus, you'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=116.64) [see how to improve your application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=119.86) [performance with lazy loading. We now have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=122.63) [routing to our ProductDetailComponent.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=125.98) [Yay! However, the Product DetailComponent](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=129.54) [and its associated template are not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=131.86) [finished. We only wired up the bare](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=133.98) [minimum to demonstrate routing. As a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=136.48) [homework assignment, try building the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=139.16) [remainder of the product detail template](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=141.38) [and code. To check your answer, you can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=143.63) [find the completed application on my](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=146.275) [GitHub, as described in the First Things](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=148.31) [First module. There, you will also find a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=151.06) [version of the product data service that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=154.04) [retrieves one product by id. You'll need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=156.65) [that to get the data for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=160.15) [ProductDetailComponent. At this point, our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=161.76) [AppModule is looking a little cluttered](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=166.19) [and hard to manage. Up next, let's spend](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=168.04) [some more time with Angular modules and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=171.13) [look at how to refactor our application into more manageable pieces.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m11&clip=6&mode=live&start=173.65)

[Angular Modules](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live)

[As we've seen throughout this course,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=2.24) [Angular modules are a key part of any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=4.26) [Angular application. Welcome back to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=7.01) [Angular: Getting Started, from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=10.29) [Pluralsight. My name is Deborah Kurata,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=11.335) [and in this course module, we focus on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=14.260000000000002) [Angular modules and how to use them to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=17.25) [better organize our code. Ooh, it's so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=19.94) [beautiful! No, it's not a van Gogh, not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=25.28) [even a Picasso, and yeah, it sort of looks](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=28.09) [like a metro map. This is a picture of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=31.34) [what our application could look like if we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=33.79) [leverage the power of Angular modules.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=36.57) [Instead of one large app module like we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=39.155) [have now, there are multiple modules, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=42.06) [each piece of our application has a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=45.41) [logical place within one of those modules.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=47.26) [This keeps each module smaller and more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=50.64) [manageable. In this course module, we take](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=53.32) [another look at the definition and purpose](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=57.39) [of an Angular module. We then focus in on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=59.71) [the Angular module metadata to better](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=63.13) [understand how to use it. We leverage that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=65.5) [knowledge to create a feature module for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=68.74) [our application and take it one step](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=70.9) [further, defining a shared module to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=73.85) [reduce duplication. Lastly, we re‑examine](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=76.45) [our application's root Angular module. Let's get started.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=0&mode=live&start=80.2)

[What Is an Angular Module?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live)

[What is an Angular module? As we've seen](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=2.34) [earlier in this course, an Angular module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=5.86) [is a class with an NgModule decorator. Its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=8.61) [purpose? To organize the pieces of our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=12.53) [application, arrange them into cohesive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=15.26) [blocks of functionality, and extend our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=18.3) [application with capabilities from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=21.02) [external libraries. Angular modules](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=23.03) [provide the environment for resolving the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=26.33) [directives and pipes in our component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=28.41) [templates. We'll talk more about this in a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=30.58) [few moments. And modules are a great way](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=33.18) [to selectively aggregate classes from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=36.24) [other modules and re‑export them in a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=38.63) [consolidated convenience module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=41.91) [BrowserModule, HTTPModule, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=44.64) [RouterModule are all examples of this, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=47.16) [we'll create our own convenience module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=50.26) [when we build a shared module a little](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=52.64) [later. An Angular module can be loaded](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=54.82) [eagerly when the application starts, or it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=57.71) [can be lazy loaded asynchronously by the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=60.73) [router. Lazy loading is out of the scope](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=63.67) [of this course but is discussed in detail](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=66.45) [in my Angular Routing course here on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=69.38) [Pluralsight. How does an Angular module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=71.61) [organize our application? An Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=75.07) [module declares each component, directive,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=77.73) [and pipe that it manages. Every component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=80.5) [directive, and pipe we create belongs to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=83.62) [an Angular module. An Angular module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=86.33) [bootstraps our root application component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=89.22) [defining the component needed to display](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=91.95) [our first template. An Angular module can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=94.43) [export components, directives, pipes, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=97.36) [even other Angular modules, making them](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=100.18) [available for other modules to import and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=102.82) [use. An Angular module imports other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=105.51) [Angular modules. This brings in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=108.63) [exported functionality from those imported](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=111.3) [modules. An Angular module can register](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=113.94) [service providers with the Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=117.32) [injector, making the services available to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=119.36) [any class in the application. We can think](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=122.4) [of an Angular module as a box. Inside that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=126.32) [box, we declare each of our components. If](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=130.22) [those components need any functionality,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=133.56) [that functionality also needs to be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=135.775) [defined within this box. The AppComponent](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=138.62) [sets up the routing for our main menu](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=142.88) [using routerLink and includes the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=145.12) [router‑outlet directive, so it needs the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=147.28) [routing directives Router service and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=150.22) [Routes, which are defined in RouterModule.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=152.78) [The ProductListComponent uses NgModel, so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=156.06) [it needs the FormsModule. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=159.59) [ProductListComponent also uses ngFor and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=162.43) [ngIf, so it needs the BrowserModule. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=165.77) [ProductListComponent uses the pipe, so it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=169.64) [needs that too. The ProductListComponent](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=172.64) [also uses the starRating component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=175.87) [directive, so it needs that as well. And](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=178.41) [so on until the box contains everything](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=181.87) [that each of our components needs. Saying](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=184.43) [this another way, for each component that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=188.16) [belongs to an Angular module, that Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=190.69) [module provides the environment for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=193.42) [template resolution. The module defines](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=195.61) [which set of components, directives, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=198.73) [pipes are available to the component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=200.71) [template. Each declared component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=202.71) [template is resolved using only the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=205.33) [capabilities provided within that module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=208.21) [Let's look at our ProductListComponent as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=211.91) [an example. The ProductListComponent's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=214) [template uses NgModel, so NgModel must be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=216.97) [available within this module. We achieve](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=220.66) [that by importing the Angular FormsModule.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=223.89) [The ProductListComponent's template also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=226.8025) [uses a directive we created, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=229.78) [StarComponent, so the StarComponent must](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=232.46) [be available within this module. Since the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=234.95) [StarComponent is one we created, we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=238.43) [either declare the StarComponent within](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=241.12) [the module directly, or we can import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=243.26) [another module that exports the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=246.41) [StarComponent. Importing an Angular module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=248.51) [brings in the functionality exported by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=251.82) [that module. And we'd need to do one or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=254.23) [the other, never both. We didn't need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=257.48) [think about template resolution much in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=261) [our sample application up until now,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=263.01) [because all of the pieces of our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=265.43) [application are in one Angular module. But](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=267.18) [we will need to keep this in mind as we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=270.8) [split our application into multiple](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=272.79) [Angular modules. Let's take a quick look](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=275.07) [at our current AppModule. Here is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=277.92) [Angular module we've defined throughout](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=281.77) [this course. It is the application's root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=283.99) [Angular module, and by convention is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=286.76) [called at AppModule. The AppModule imports](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=289.5) [the system Angular modules we need,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=292.85) [including the RouterModule, which is where](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=295.31) [we configured our routes. It declares each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=297.59) [component and pipe that we created in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=300.62) [course, and it bootstraps the application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=302.77) [with the root application component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=305.73) [AppComponent. We have a lot of information](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=307.97) [in here, and we're mixing up basic](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=311.2) [application pieces such as our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=313.36) [WelcomeComponent with pieces specific to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=315.49) [our product feature. Let's journey through](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=318.21) [the NgModule metadata to better understand](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=320.89) [how Angular modules work, so we can then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=324.07) [refactor our AppNodule into multiple modules for better code organization,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=1&mode=live&start=326.99)

[Bootstrap Array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live)

[As we have seen, every Angular application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=2.34) [has at least one Angular module called the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=5.29) [root application module or AppModule. And](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=8.38) [an Angular application has at least one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=11.89) [component called the root application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=14.1) [component or AppComponent. The AppModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=17.12) [bootstraps the AppComponent to provide the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=20.86) [directive used in the index.html file. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=22.68) [covered the bootstrapping process in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=26.58) [Introduction to Components module earlier](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=28.74) [in this course. The bootstrap array of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=30.98) [NgModule decorator defines the component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=33.79) [that is the starting point of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=36.86) [application. This is the component that is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=38.39) [loaded when the application is launched.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=41.22) [Here are some things to keep in mind when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=43.94) [using the bootstrap array. Every](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=45.86) [application must bootstrap at least one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=48.47) [component, the root application component.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=50.89) [We do this by simply adding the root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=54.54) [application component to the bootstrap](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=56.66) [array of the root application module. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=59.01) [bootstrap array should only be used in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=62.75) [root application module, AppModule. As we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=65.59) [build other Angular modules, we won't use the bootstrap array.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=2&mode=live&start=69.29)

[Declarations Array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live)

[Every component directive and pipe we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=2.38) [create is declared by an Angular module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=4.38) [We use the declarations array of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=7.74) [NgModule decorator to define the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=10) [components, directives, and pipes that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=12.45) [belong to this Angular module. Here are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=14.29) [some things to keep in mind when using the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=17.46) [declarations array. Every component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=19.49) [directive and pipe we create has to belong](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=22.93) [to one and only one Angular module. In our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=25.96) [sample application, all of our components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=29.84) [are defined in one Angular module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=32.51) [AppModule. It would be better to divide](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=34.82) [the components into multiple modules with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=37.74) [basic application pieces in the AppModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=40.46) [and feature pieces inappropriate feature](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=43.12) [modules. We'll do that a little later in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=45.53) [this course module. As we separate out our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=48.2) [pieces, it is important to remember that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=51.38) [each component directive and pipe belongs](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=53.86) [to one and only one Angular module. Only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=56.44) [declare components, directives, and pipes.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=61.12) [Don't add other classes, services, or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=64.34) [modules to the declarations array. Never](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=66.61) [re‑declare components, directives, or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=70.89) [pipes that belong to another module. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=72.94) [is a corollary to truth number 1. If we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=76.03) [re‑declare, then the component directive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=79.11) [or pipe no longer belongs to one and only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=81.25) [one Angular module. For example, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=83.66) [StarComponent directive belongs to Module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=86.9) [B, so we should never re‑declare](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=89.92) [StarComponent in Module A. We should only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=92.4) [declare components, directives, and pipes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=95.91) [that belong to this module. All declared](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=98.27) [components, directives, and pipes are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=102.11) [private by default. They are only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=104.12) [accessible to other components,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=106.65) [directives, and pipes declared in the same](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=108.46) [module. So if we declare the StarComponent](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=111.02) [in Module B, by default that component is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=114.48) [not available to components in other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=117.48) [Angular modules. We share components,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=119.91) [directives, and pipes by exporting them.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=123.05) [We'll talk more about exporting in a few](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=125.84) [moments. The Angular module provides the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=127.86) [template resolution environment for its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=131.54) [component's templates. When we include a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=133.83) [component in the declarations array of an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=136.49) [Angular module, the component belongs to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=138.84) [that Angular module. That component's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=141.62) [template, directives, and pipes are then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=144.59) [resolved within that module. When we use a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=146.77) [directive in a components template,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=150.09) [Angular looks to the module for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=152.27) [definition of that directive. If the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=154.02) [component defining that directive is not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=156.79) [declared within the same Angular module or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=159.38) [exported from an imported module, Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=162.45) [won't find the directive and will generate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=165.22) [an error. For this example, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=167.48) [StarComponent must be declared in the same](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=170.19) [module as the ProductListComponent, or the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=172.82) [StarComponent must be exported from an imported module. Never both.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=3&mode=live&start=175.87)

[Exports Array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live)

[The exports array of the NG module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=2.24) [decorator allows us to share an Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=4.34) [module's components, directives, and pipes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=7.76) [with other modules. We can export any of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=9.5) [this module's components, directives, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=12.82) [pipes so they can be pulled in when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=14.95) [another module imports this module. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=17.11) [also re‑export system Angular modules such](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=20.19) [as forms module and HTTP module. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=23.53) [re‑export third‑party modules such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=27.43) [material design. Material design is a set](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=29.73) [of high‑quality user interface components,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=32.86) [including buttons and dialogues, and we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=35.32) [can re‑export our own modules. Here are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=38.17) [some things to keep in mind when using the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=41.37) [exports array. Export any component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=43.51) [directive, or pipe if another component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=47.17) [needs it. A module can export any of its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=49.68) [declared components directives or pipes.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=52.83) [Re‑export modules to re‑export their](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=55.980000000000004) [components, directives, and pipes. This is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=59.04) [useful when consolidating features for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=61.8) [multiple modules to build a convenience or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=63.84) [shared module. We can re‑export something](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=66.64) [without importing it first. An Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=70.68) [module only needs to import the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=73.9) [components, directives, and pipes that are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=75.91) [required by the components declared in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=78.14) [module, but the Angular module can still](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=81.21) [provide capabilities to other modules that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=83.31) [import it by re‑exporting. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=85.83) [example, a shared module exports the forms](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=89.28) [module, even though it did not import it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=92.48) [So any module that imports the shared](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=95.68) [module will have access to the NG model](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=97.95) [and other forms directives. We'll see this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=100.97) [in an upcoming demo. Never export a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=103.95) [service. Services added to the provider's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=107.81) [array of an Angular module are registered](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=110.84) [with the root application injector, making](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=113.55) [them available for injection into any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=116.46) [class in the application, so there is no](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=118.83) [point in exporting them. They are already shared throughout the application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=4&mode=live&start=121.6)

[Imports Array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live)

[An Angular module can be extended by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=2.44) [importing capabilities from other Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=5.38) [modules. The imports array of the NgModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=8.05) [decorator allows us to import supporting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=11.5) [modules that export components,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=14.24) [directives, or pipes. We then use those](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=16.14) [exported components, directives, and pipes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=18.77) [within the templates of components that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=21.14) [are declared in this module. Many Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=23.13) [system libraries are Angular modules such,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=26.53) [as the FormsModule and HttpModule we've](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=29.56) [used in this course. We can import Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=32.54) [modules to use their capabilities. Many](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=35.49) [third party libraries are also Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=38.64) [modules such, as Material Design. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=41.01) [import third party Angular modules to use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=44.38) [their capabilities. We can import our own](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=47.13) [modules to extend our application with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=50.43) [additional features or share capabilities](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=52.8) [across several modules. We'll see that in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=55.46) [an upcoming demo. And we could separate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=58.41) [out our route configurations into its own](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=61.38) [module or a set of modules and import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=64.13) [that. Here are some things to keep in mind](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=66.98) [when using the imports array. Importing a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=69.66) [module makes available any exported](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=73.23) [components, directives, and pipes from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=76.15) [that module. Recall that we're using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=78.3) [NgModel in our ProductList component for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=81.33) [two‑way binding. The NgModel directive is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=84.15) [exported in the FormsModule. By importing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=87.48) [the FormsModule into our AppModule, we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=90.85) [use NgModel in any component declared in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=93.84) [our AppModule. Only import what this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=97.03) [module needs. Only import modules whose](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=100.91) [exported components, directives, or pipes](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=104.21) [are needed by this module's component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=106.48) [templates. Don't import anything this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=108.95) [module does not need. Importing a module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=111.67) [does not provide access to its imported](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=115.68) [modules. Hmm, let's look at that with a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=118.8) [picture. Here we have AppModule, which](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=122.34) [declares the ProductList‑Component and a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=125.64) [SharedModule that declares and exports the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=128.79) [StarComponent. AppModule imports the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=132.35) [SharedModule, so the SharedModule's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=136.72) [exports are available to the AppModule's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=138.33) [component templates. This means that the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=141.02) [ProductList‑Component can use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=143.64) [StarComponent directive. If the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=145.58) [SharedModule imports FormsModule, then the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=148.1) [FormsModules exports are available to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=151.39) [SharedModule, and the StarComponent could](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=154.28) [use the NgModel directive. But the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=157.44) [FormsModule exports are not available to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=160.37) [the AppModule. So the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=163.69) [ProductList‑Component could not use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=165.57) [NgModel directive. I've heard this rule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=168.02) [also stated another way. Imports are not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=170.86) [inherited. Note, however, that if the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=173.94) [SharedModule re‑exported the FormsModule,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=176.85) [then the FormsModule exports are available](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=180.41) [to the AppModule. And the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=183.65) [ProductList‑Component could use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=185.71) [NgModel directive. So when thinking about](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=187.83) [the relationship between modules, think of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=191.67) [a module more as a box than as a tree structure.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=5&mode=live&start=194.34)

[Providers Array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live)

[Angular modules can also register service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=2.84) [providers for our application. However,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=5.46) [this is no longer recommended practice.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=8.79) [Starting with Angular Version 6, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=11.69) [recommended way to register service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=14.27) [providers for our application is to use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=16.34) [the providedIn property of the service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=19.15) [itself, not the providers array of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=21.9) [Angular module. Because you may see older](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=24.95) [code use the providers array to register](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=27.82) [services, I'll still cover it. Here are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=30.36) [some things to keep in mind when using the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=33.17) [ng module providers array. Any service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=35.57) [provider added to the providers array is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=39.82) [registered at the root of the application,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=42.8) [so the service is available to be injected](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=45.88) [into any class in the application. Say,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=48.37) [for example, we have a future module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=51.6) [called ProductModule. We add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=53.76) [ProductService to the providers array of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=56.09) [this module. At first glance, we may think](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=58.47) [we have encapsulated the product service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=61.62) [into the product module, but that is not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=63.8) [the case. Any service provider added to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=66.7) [the providers array is registered at the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=69.72) [root of the application and is available](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=72.35) [to any class, even classes and other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=75.17) [feature modules. So if we want to ensure](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=77.96) [our particular service is encapsulated and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=80.87) [only accessible within a specific](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=83.62) [component or a set of components, add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=85.81) [service provider to the providers array of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=88.5) [an appropriate component, instead of an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=91.28) [Angular module. Note that this is not the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=93.8) [case for lazy loaded services. See the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=96.92) [Angular documentation for more information](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=99.85) [on lazy loading. Don't add services to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=102.46) [providers array of a shared module. As](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=106.75) [discussed in the services and dependency](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=110.29) [injection course module, there should only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=112.35) [be one instance of a service that is an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=114.79) [application wide singleton, so a service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=117.24) [should not be included in the providers](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=120.13) [array for any module that is meant to be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=122.06) [shared. Instead, consider building a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=124.31) [CoreModule for services and importing it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=127.17) [once in the AppModule. This will help](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=130.01) [ensure that the services are only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=132.71) [registered one time. We could even add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=134.67) [code to the code module's constructor to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=137.35) [ensure that it is never imported a second](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=139.89) [time. See the Angular documentation for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=142.25) [details. Now that we've covered the basics](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=145.01) [of the ng module decorator, let's refactor](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=148.55) [our application into multiple Angular modules.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=6&mode=live&start=151.83)

[Feature Modules](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live)

[So far in this course, we created the root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=2.34) [application module, AppModule. It declares](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=4.69) [all of our components and our pipe. It](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=8.02) [imports the system Angular modules that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=10.6) [our components need, but this is getting a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=12.86) [little unwieldy. We have no separation of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=15.31) [responsibilities. Here we are mixing our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=18.04) [basic application features, such as the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=20.71) [WelcomeComponent, with our product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=23.06) [features, such as the product components,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=25.18) [with our shared features, such as the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=28) [StarComponent. As we add more feature sets](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=30.26) [to this application, such as customer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=33.41) [management, invoicing, and so on, this is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=35.67) [only going to get harder to manage. So](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=38.3) [let's reorganize and refactor to break](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=40.73) [this into multiple Angular modules. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=43.38) [first thing we want to do is extract some](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=46.57) [of these pieces into feature sets. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=48.8) [then create a feature module for each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=51.62) [feature set. Using feature modules helps](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=53.96) [us partition our application into logical](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=56.89) [groupings with separate concerns. Our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=59.17) [first step is to define a new feature](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=63.08) [module. Creating a feature module involves](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=65.3) [defining a new module file, ProductModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=68.44) [in this example, and reorganizing the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=71.53) [pieces of the application so that all of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=73.95) [the associated feature pieces and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=76.16) [everything they need are here in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=78.53) [module. In the declarations array of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=80.92) [feature module, we add the appropriate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=83.45) [components that provide the features for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=85.81) [the application. In this example, we add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=87.82) [the ProductList component and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=90.97) [ProductDetail component. Then, as we did](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=92.52) [with the box example at the beginning of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=95.53) [this course module, we start to look at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=97.34) [what each component needs. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=99.68) [example, the ProductList component uses](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=102.15) [the pipe, so we need that. And both the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=104.75) [ProductList and ProductDetail components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=107.4) [use the StarComponent, so we'll need that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=109.74) [here as well. But that's not enough. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=112.24) [ProductLisT ‑ Component uses NgModel and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=115.17) [NgFor, and both components use NgIf and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=117.75) [routing. How do we get that? We import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=121.24) [these needed capabilities from other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=124.35) [Angular modules. Our product components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=126.39) [use routing, so we import the SystemRouter](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=129.28) [module. The ProductList component uses](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=132.06) [NgModel, so we import the SystemForms](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=135.06) [module. And we need NgFor and NgIf. So do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=138.1) [we pull in the system BrowserModule? Nope.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=142.48) [The BrowserModule should only be imported](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=146.59) [into the root application module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=148.8) [AppModule. Instead, we import this system](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=150.15) [CommonModule. The CommonModule exposes the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=154.36) [NgFor and NgIf directives. Not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=157.57) [surprisingly, the BrowserModule itself](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=160.79) [actually imports and exports the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=163.38) [CommonModule, which is why we have access](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=165.53) [to NgFor and NgIf when we import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=168.28) [BrowserModule in our AppModule. Our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=171.09) [FeatureModule is looking pretty good here.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=174.14) [But now that we've removed these features](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=176.74) [from the root application module, how will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=178.95) [the application find all of these](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=181.53) [features? What's that? Imports array, dDid](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=183.48) [you say? That's correct. We need to import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=186.62) [the product module into the AppModule.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=189.96) [That extends the AppModule with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=193.44) [ProductModule features. Want to try this out?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=7&mode=live&start=195.53)

[Demo: Feature Modules](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live)

[In this demo, we'll build a feature module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=2.44) [for our product features. We are back in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=5.67) [the sample application. Here is our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=9.1) [AppModule. Let's create a new feature](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=11.76) [module for our product feature. Want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=15.23) [try generating it with the Angular CLI? We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=18.33) [open the integrated terminal and type ng](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=22.15) [for the Angular CLI, g for generate, m for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=25.73) [module, and the name of our module. Since](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=30.15) [we are creating the ProductModule, we want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=33.43) [it in the products folder, so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=36.07) [products/product. That's all that's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=38.51) [required. But by default, Angular will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=41.88) [create a new folder for this module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=44.53) [because it rightly assumes that we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=47.11) [create the module when we define the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=49.18) [feature and the feature folder. But we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=51.51) [already have the products folder, so we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=54.17) [use the ‑‑flat option. And we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=57.03) [import this module into the AppModule to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=60.53) [pull in its functionality. So we use the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=63.42) [‑m flag, specifying the module name. Press](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=66.48) [Enter, and we see that the CLI created the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=70.73) [module. It also updated our AppModule. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=74.12) [can see that here. It added ProductModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=78.79) [to our imports array. Yeah! Let's open the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=82.01) [new ProductModule. The CLI already created](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=85.67) [the class with the @NgModule decorator and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=89.07) [the required import statements. Since this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=92.37) [module is for our product features, in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=95.48) [declarations array, we add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=98.37) [ProductListComponent,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=100.5) [ProductDetailComponent,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=102.32) [ConvertToSpacesPipe, and StarComponent.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=104.24) [Now we can remove these declarations from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=108.88) [the AppModule. Going back to our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=111.3) [ProductModule, we can see that the CLI](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=115.78) [already included CommonModule here since](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=117.54) [we need that in every feature module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=120.818) [We'll add the FormsModule and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=123.608) [RouterModule. Now we can remove the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=125.658) [FormsModule from the AppModule and it's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=128.728) [associated import statement. When we added](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=131.748) [the RouterModule to the imports array in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=134.918) [the AppModule, we called forRoot to pass](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=137.028) [in the configured routes for our root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=139.938) [component. Now that we are adding the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=141.628) [RouterModule to the imports array of a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=144.208) [feature module, we don't call forRoot,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=146.358) [rather we call forChild, and there we pass](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=149.638) [in the routes related to products. Let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=153.138) [cut the product routes from the AppModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=156.018) [and paste them here in our ProductModule,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=159.008) [and we need to import the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=161.858) [ProductDetailGuard. Recall that the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=163.208) [RouterModule registers the router service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=165.908) [provider, declares the router directives,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=168.738) [and exposes our configured routes. But as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=171.538) [we've discussed previously, we never want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=174.988) [to register a service more than once. So](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=177.288) [when we use forRoot to pass in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=180.018) [configured routes, the RouterModule knows](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=182.058) [to register the router service provider.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=184.568) [When we use forChild, as we did here, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=187.228) [RouterModule knows not to reregister the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=190.358) [router service. Note that we could also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=192.868) [consider moving the routes into their own](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=195.768) [modules. We'll look at that a little](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=197.998) [later. Do you think our application will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=200.288) [run? And our application works as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=203.038) [expected. So we now have our first working](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=206.278) [feature module. But let's think about this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=209.728) [for a moment. As we build our application,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=212.288) [we'll build more features. Each logical](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=215.158) [set of features will have their own](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=217.758) [feature module. And each feature module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=219.758) [will most likely need the CommonModule for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=222.868) [common directives such as ngFor and ngIf,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=225.588) [the FormsModule for NgModel in two‑way](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=228.0520625) [binding, and we may have other features](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=231.618) [that want to reuse our StarComponent. Do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=234.008) [we really want to repeat all of this in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=236.938) [each feature module? There has to be a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=239.178) [better way. Yep, we can define a SharedModule.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=8&mode=live&start=241.978)

[Shared Module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live)

[The purpose of a SharedModule is to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=2.24) [organize a set of commonly used pieces](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=4.36) [into one module and export those pieces so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=6.92) [they are available to any module that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=10.38) [imports the SharedModule. This allows us](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=12.56) [to selectively aggregate our reusable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=15.52) [components and any external modules and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=17.84) [reexport them in a consolidated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=21.3) [convenience module. Creating a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=23.64) [SharedModule involves defining a new](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=25.84) [module file, SharedModule in this example,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=28) [and reorganizing the pieces of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=31.29) [application so that the shared pieces are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=33.4) [here in this module. First, we add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=36.12) [components, directives, and pipes that we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=38.88) [want to share throughout our application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=40.9) [to the declarations array. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=43.06) [example, we only want to add the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=45.36) [StarComponent. Then we add to the Imports](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=47.4) [array anything that the shared component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=50.28) [needs. In this example, we import the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=52.88) [CommonModule because our StarComponent may](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=55.9) [need it. We don't import FormsModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=58.63) [because we don't need it here. If our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=61.77) [StarComponent did use two‑way binding or](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=64.2) [we added another component here that did,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=66.87) [we'd need to import FormsModule as well.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=69.35) [We then need to export everything that we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=72.84) [want to share. The exports array defines](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=75.52) [what this Angular module shares with any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=78.61) [module that imports it. We export the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=81.11) [StarComponent. That way, it is available](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=84.29) [to the components in any module that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=87.13) [imports the SharedModule. We reexport the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=89.3) [CommonModule and FormsModule so their](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=92.81) [directives and other features are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=95.74) [available to any module that imports the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=97.46) [SharedModule. And notice here that we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=100.02) [export something without importing it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=102.63) [first. To use the SharedModule, we import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=104.99) [it into every feature module that needs](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=108.80000000000001) [the shared capabilities such as our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=111.42) [ProductModule. Let's give this a try. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=114.02) [want to build a SharedModule and will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=119.06) [again use the CLI. Do you recall the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=121.703) [correct CLI command to generate a module?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=124.603) [We type ng for the Angular CLI, g for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=127.493) [generate, m for module, and the name of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=130.923) [our module since we are creating the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=133.393) [shared module we wanted in the shared](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=135.893) [folder, so shared/shared. We already have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=138.513) [the shared folder in place, so we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=143.073) [specify the ‑‑flat option. That way, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=145.173) [CLI won't create another folder. And we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=148.8205) [want to import this module into the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=151.493) [ProductModule to pull in its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=153.593) [functionality. So we use the ‑m flag,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=156.043) [specifying the module path and name, press](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=159.693) [Enter, and we see that the CLI creates the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=163.593) [SharedModule, and it updates our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=167.153) [ProductModule. We can see that here. It](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=170.043) [added SharedModule to our imports array.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=173.923) [Let's open the new SharedModule. The CLI](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=177.183) [already created the class with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=180.56799999999998) [NgModule decorator and the required import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=182.423) [statements, and it included CommonModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=185.823) [in the imports array here. Now, what did](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=189.003) [we want to share? Well, we want to share](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=192.163) [the StarComponent, so we add that to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=194.733) [declarations array here. To share the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=197.313) [StarComponent, we need to export it. Let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=199.903) [add an exports array and export the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=202.863) [StarComponent. There's a few more things](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=205.613) [that we want to share. So we don't have to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=208.633) [import them into every feature module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=211.353) [we'll add CommonModule and FormsModule to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=213.923) [the exports array. If there were other](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=217.093) [modules we wanted to share such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=219.833) [ReactiveFormsModule or Material Design, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=222.223) [could add them here as well. We could also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=225.733) [share the ConvertToSpacesPipe. I'll leave](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=228.723) [that up to you to add here if you wish.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=231.613) [Now we can remove the StarComponent,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=234.583) [CommonModule, and FormsModule from the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=237.213) [ProductModule along with their associated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=239.863) [import statements since these are now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=242.844) [already accessible from the imported](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=245.514) [SharedModule. Are we good to go? Yep, our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=249.174) [application comes up as it did before.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=252.464) [Looking back at our code, notice now that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=255.764) [our feature module, ProductModule, only](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=258.604) [contains product pieces and the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=261.524) [SharedModule, and the SharedModule is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=263.824) [clean only including the pieces we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=267.274) [share. We can reuse the SharedModule and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=270.374) [any future feature modules as we add functionality to our application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=9&mode=live&start=272.904)

[Revisiting AppModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live)

[We now know that every application has a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=2.14) [root application module that is, by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=4.77) [convention, called AppModule. The main](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=7.18) [purpose of the AppModule is to orchestrate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=10.14) [the application as a whole. And now that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=12.78) [we've removed the feature and shared](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=15.42) [pieces from this module, its purpose is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=17.17) [easier to see. Let's take another look.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=19.86) [We've reduced the code in AppModule such](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=24.34) [that it now fits on one page. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=26.64) [AppModule normally imports BrowserModule.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=29.1225) [This is the module that every browser](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=32.45) [application must import. BrowserModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=34.24) [registers critical application service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=37.9) [providers. It also imports and exports](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=39.41) [CommonModule, which declares and exports](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=42.43) [directive such a NgIf and NgFor. These](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=45.16) [directives are then available to any of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=48.76) [the AppModules component templates. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=50.72) [also import HttpModule to register the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=53.83) [Angular HttpClientService provider. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=56.81) [import RouterModule and call forRoot,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=60.62) [passing in the configured routes for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=63.34) [root of the application. Here we configure](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=65.23) [our default route and any wildcard routes.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=68.55) [Then we import each feature module. In](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=72.89) [this example, we have only one feature](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=76.13) [module, ProductModule. The declarations](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=78.42) [array identifies the list of components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=82.13) [that belong to this module. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=84.33) [example, the root component, AppComponent,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=86.77) [and the application's WelcomeComponent are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=89.54) [declared here. The bootstrap array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=92.44) [identifies the root component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=94.98) [AppComponent, as the bootstrap component.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=97.05) [When Angular launches the application, it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=99.94) [loads this component and displays its](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=102.16) [template. We could take the refactoring a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=104.17) [step further and separate the routing into](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=106.83) [its own module. We could create one](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=109.57) [Angular module for our root application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=112.19) [routes and another Angular module for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=114.59) [product feature routes. Let's go back to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=118.11) [the slides and see what that code would](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=120.74) [look like. If we wanted to refactor our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=122.6) [root application routes into their own](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=126.64) [module, this is what it might look like.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=129.01) [We export a class, at the NgModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=131.88) [decorator, and import what we need. We add](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=134.22) [the RouterModule to the imports array,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=137.65) [passing in our root application routes,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=140.16) [including our default route and our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=142.78) [wildcard route. Notice that we call](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=144.66) [forRoot here to ensure that we register](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=147.39) [the routing service provider. And we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=149.91) [export RouterModule so we can use it from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=152.37) [any module that imports this module. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=154.97) [import the AppRoutingModule in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=158.58) [AppModule here. Note that the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=161) [AppRoutingModule is listed after the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=163.85) [ProductModule in the imports array. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=166.78) [is required because Angular registers the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=169.71) [routes based on the order of the modules](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=172.39) [specified here. The ProductModule is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=175.45) [listed first, so it registers the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=178.31) [routes first. Then the AppRoutingModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=181.06) [registers the application routes,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=184.2) [including the wildcard route. If the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=186.51) [AppRoutingModule was before the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=189.74) [ProductModule, then the wildcard route](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=191.82) [would be registered before the product](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=194.7) [routes and the product routes would never](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=197.13) [be accessible. So the AppRoutingModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=199.63) [with the wildcard route should always be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=202.8) [last in this list. We can do the same to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=205.79) [refactor our product feature routes into](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=209.25) [their own module. The key difference here](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=211.72) [is when we import RouterModule in any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=214.82) [feature module, we pass the configured](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=217.29) [routes to the forChild method instead of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=219.87) [the forRoot method. This ensures that we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=222.67) [don't register the routing service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=225.84) [provider a second time, and we import this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=227.64) [ProductRoutingModule into the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=231.43) [ProductModule as shown here. Now let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=233.45) [finish up this course module with some checklists and a summary.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=10&mode=live&start=236.59)

[Checklists and Summary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live)

[Your application architecture depends on](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=2.24) [many factors, including the size and scope](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=4.97) [of the application you are working on,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=7.85) [your team's size and experience, and your](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=10.13) [project's goals. But here are some](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=13.12) [suggestions based on what we covered in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=15.92) [this course module. Every application must](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=18.18) [always have a root application module, by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=21.12) [convention called AppModule. This is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=24.12) [normally the module that bootstraps the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=27.06) [root application component, AppComponent.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=29.2) [For smaller applications, this could be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=31.830000000000002) [the only Angular module for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=34.66) [application, as was the case with our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=36.55) [sample application prior to this course](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=38.97) [module. As the application gets more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=41.43) [features, consider defining a separate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=44.5) [Angular module for each feature set. For](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=46.87) [example, a product module, a customer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=49.96) [module in an invoice module. This keeps](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=52.35) [the code organized, separates the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=55.41) [concerns, and prevents the AppModule from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=57.39) [getting excessively large and unwieldy. As](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=60) [you add feature modules, you might find](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=63.13) [components, pipes, and directives that you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=65.54) [want to share across feature modules.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=67.64) [Define one or more shared modules for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=70.63) [these shared pieces. Shared modules](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=73.01) [primarily used the exports and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=75.93) [declarations arrays, with most of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=79.02) [declared pieces exported as well. And as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=80.7) [we discussed in the last clip, we can also](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=84.37) [refactor our routes into their own routing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=86.93) [modules. When creating an Angular module,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=89.7) [we build a class and decorate it with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=93.84) [ng module decorator. The ng module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=96.18) [metadata includes the bootstrap array for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=99.41) [defining the list of startup components.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=102.83) [In many cases, there is only one, the root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=105.42) [component of the application. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=108.26) [declarations array declares which](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=110.73) [components, directives, and pipes belong](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=112.76) [to this module. The exports array](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=115) [identifies the list of components,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=117.82) [directives, and pipes that an importing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=119.65) [module can use The imports array lists](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=122.113) [supporting modules. These modules provide](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=125.563) [components, directives, and pipes needed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=128.453) [by the components in this module. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=130.443) [providers array lists the service](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=133.363) [providers. Angular registers each provider](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=135.733) [with Angular's root application injector,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=139.363) [so these services are available to be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=142.233) [injected into any class in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=144.463) [application. This course module was all](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=146.513) [about Angular modules. We took a second](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=149.773) [look at the definition and purpose of an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=152.813) [Angular module. We then focused in on the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=154.813) [Angular module metadata and covered the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=157.903) [truths to keep in mind when using that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=160.393) [metadata. We leveraged that knowledge to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=163.443) [create a feature module for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=165.243) [application and took it one step further,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=167.063) [defining a shared module to reduce](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=170.093) [duplication in our application. Lastly, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=172.223) [reexamined our application root Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=175.643) [module and saw how it orchestrates the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=177.903) [application as a whole. If you are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=180.493) [building a small application, such as the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=183.883) [sample application we've created in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=186.143) [course, you may only need the one root](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=188.173) [application module, as shown here. But as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=190.693) [your application grows, you'll want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=194.133) [refactor into feature modules and shared](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=196.253) [modules like this. Here we organized our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=199.233) [application into multiple modules. We have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=203.003) [our feature module, ProductModule, that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=206.123) [encapsulates all of the product features.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=208.763) [There will be more feature modules as our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=211.493) [application grows. We have our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=213.553) [SharedModule that shares commonly used](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=216.183) [components, directives, and pipes with any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=218.623) [module that imports it. Currently, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=220.983) [import it into the ProductModule. As we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=223.893) [build more feature modules, we'll import](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=226.783) [it into them as well. And we have our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=228.933) [AppModule that orchestrates the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=231.723) [application. Each feature module is added](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=233.603) [to the AppModule's imports array to extend](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=236.793) [the application with those features. Oh,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=239.673) [it's been quite a journey. Now let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=243.685) [circle back to the beginning and spend a little more time with the Angular CLI.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m12&clip=11&mode=live&start=246.195)

[Building, Testing, and Deploying with the CLI](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live)

[We've mentioned the Angular CLI a few](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=2.64) [times in this course but haven't really](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=4.58) [discussed what it is or what it can do.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=6.8) [What seemed like wizardry is instead a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=9.93) [full‑featured tool for building, testing,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=12.76) [and deploying our Angular applications.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=15.62) [Welcome back to Angular: Getting Started,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=18.54) [from Pluralsight. My name is Deborah](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=20.83) [Kurata, and in this module we look closer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=23.18) [at the Angular CLI. Let's peek behind the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=26.31) [curtain and learn more about this amazing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=30.1) [tool. In this module, we start with an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=32.6) [overview and discover the purpose and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=36.16) [basic features of the Angular CLI. We then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=38.3) [build an application from scratch using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=41.59) [the CLI and examine the many configuration](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=44.51) [and startup files it creates. We dig into](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=47.88) [how it serves up our application, learn](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=50.81) [more about its cogeneration features, take](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=53.16) [a brief look at running tests, and prepare](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=56.04) [the resulting application for deployment. Let's get started.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=0&mode=live&start=58.89)

[Angular CLI Overview](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live)

[The Angular CLI is a command line](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=1.44) [interface for Angular. Its primary purpose](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=4.45) [is to assist Angular developers with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=7.84) [building an Angular application,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=10.74) [generating Angular files, and executing,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=13) [testing, and deploying Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=16.32) [applications. Before you can use the CLI,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=18.24) [you need to install it. Just open a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=22.59) [terminal window or command prompt and type](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=24.95) [npm install ‑g @angular/cli. This installs](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=27.76) [the CLI globally so you can use it from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=34.7) [any folder. If you have not yet installed](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=37.17) [the CLI, do it now. Once you have it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=39.95) [installed, we'll jump into a demo and try](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=42.75) [it out. I've already installed the CLI.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=45.48) [Now, how can we find out what the CLI can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=50.14) [do? One option is to use the ng help](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=52.91) [feature. We can see that it is listing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=56.4) [every command. Let's try out the version](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=59.31) [command. Type ng for the angular CLI and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=62.17) [the command. We'll use the v alias. And we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=66.33) [see a nice text output, including our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=70.21) [angular CLI version. When you watch this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=72.77) [course, you may have a newer version. Use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=76.03) [the help command any time you need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=79.19) [assistance with the CLI commands or their](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=81.11) [flags. Now let's build a new application from scratch using the CLI.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=1&mode=live&start=83.92)

[ng new](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live)

[Using the Angular CLI, we create a new](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=1.54) [Angular application using the new command.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=4.72) [Let's try it out. Here in the terminal](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=8.45) [window, we'll type ng new and our new](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=11.78) [application name. Let's use a classic,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=15.39) [hello‑world. The CLI has the ability to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=18.33) [provide prompts to ask for more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=22.27) [information. The CLI may add or change](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=24.14) [prompts, so your experience may vary from](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=27.87) [what you see here. In this specific](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=30.72) [example, it's asking whether we want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=33.22) [add Angular routing to the application. To](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=35.63) [keep things simple for our demo, let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=38.78) [answer No. Next, it asks which style sheet](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=41.12) [format we want. Use the arrow keys to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=44.44) [select the desired format. We'll select](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=47.18) [CSS and press Enter to select. After we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=50.03) [answer the last question, the CLI](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=53.57) [generates our application. Look at all the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=56.05) [files that the CLI created. Now the CLI is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=59.87) [automatically installing the packages](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=64.05) [defined in that package.json file. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=66.5) [takes a bit of time, so I'll jump ahead.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=69.85) [When the CLI new command is finished, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=72.94) [see a success message. Yay! The CLI](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=75.68) [creates a folder with the same name as the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=79.38) [application name. Let's navigate down to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=81.77) [the created hello‑world folder. I'll then](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=84.81) [use the shortcut code . to open this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=88.62) [folder in VS Code. Starting at the top,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=91.88) [here is an e2e folder. This folder](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=94.84) [contains the start of an end‑to‑end test](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=98.13) [for the application. The node\_modules](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=100.55) [folder contains all of the libraries that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=103.16) [were just installed by the CLI as defined](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=105.3) [in the package.json file. The src folder](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=108.44) [contains the source code for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=112.12) [application. Below it is the app folder](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=113.66) [where we'll add all of the modules,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=116.45) [components, services, and other files for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=119.06) [our application. The assets folder is for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=121.64) [any images or assets we want to include](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=124.71) [with the application. In our APM project,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=127.06) [our welcome page logo is in this folder.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=130.38) [The environments folder sets up our build](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=134.26) [environments. By default, it generates](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=136.47) [two, one for development and one for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=139.37) [production. The CLI picks the appropriate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=142.11) [environment file based on the flags we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=145.03) [use. The CLI comes with a default favicon.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=147.18) [Nice! Feel free to replace it with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=151.14) [whatever is appropriate for your](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=153.45) [application. The index.html file is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=155.16) [first file downloaded when a user accesses](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=158.92) [our application. There isn't much here.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=161.48) [You'd think that there would be at least a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=164.58) [few script tags, but no. We'll see why a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=166.49) [little later. In most cases, you won't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=170.13) [need to ever modify this file. Main.ts is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=172.72) [the file that bootstraps our application.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=176.4) [This is another file you should never need](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=179.14) [to modify. The polyfills file aids in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=181.08) [supporting both evergreen and classic](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=184.26) [browsers. Pollyfills add code to allow](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=186.57) [functionality written for modern browsers](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=189.41) [to work in older browsers. By default. It](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=192.29) [is set up to support evergreen browsers,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=195.39) [as stated here. If you need to target](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=197.61) [older browsers, there are comments in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=200.41) [file defining which additional libraries](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=203.02) [you need. Simply remove the comment marks](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=205.34) [from the desired libraries to include](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=207.97) [them. Here is a style sheet for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=210.11) [application‑wide styles. As its name](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=212.44) [suggests, the test file sets up for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=215.43) [testing. That's it for the src folder. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=218.47) [browserlistrc file defines the list of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=222.42) [browsers and browser versions that your](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=225.34) [application will support. It's used by the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=227.99) [build system to build bundles appropriate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=230.9) [for your supported browsers. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=233.42) [editorconfig file provides some standard](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=235.73) [settings for your editor. The gitignore](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=238.08) [tells Git which files to ignore for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=240.7) [checking in to Git. Notice that our large](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=242.69) [node\_modules folder is included in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=245.07) [list. Let's skip the CLI configuration](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=247.26) [file for a moment and quickly cover the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=250.66) [remaining files here. The karma.config](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=252.77) [file sets up Karma, which is a JavaScript](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=255.08) [test runner. We'll use that for our unit](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=258.38) [tests. We walked through the package.json](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=260.92) [file in the First Things First module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=264.01) [earlier in this course. Here's a basic](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=266.42) [README. The tsconfig files are for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=269.11) [TypeScript configuration. Lastly, there is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=271.87) [a tslint configuration file. Tslint is a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=275.29) [TypeScript linter which checks our code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=278.8) [against a set of code style rules and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=281.19) [notifies us if any of the rules aren't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=283.75) [followed. This file defines those rules.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=286.14) [Feel free to change these settings based](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=289.58) [on your team's selected code style](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=291.64) [preferences. Now let's go back to the CLI](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=293.5) [configuration file. This file is used to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=296.7) [configure how the CLI generates code and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=299.57) [works with our files. I'm not going to go](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=302.52) [through every option here, but want to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=305.29) [point out a few key settings. The assets](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=307.19) [array allows us to provide a list of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=310.37) [folders or files that are included with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=312.5) [our application. This defines our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=314.85) [application's selector prefix. Recall that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=317.35) [in the APM application we defined a prefix](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=320.97) [of pm. By default, the CLI creates a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=324) [prefix of app. If you want to assign a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=327.28) [unique prefix for your application, it is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=330.31) [best to do that as part of the new](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=333.2) [command. Use ng new hello‑world ‑‑prefix](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=335.28) [hw for hello world or whatever prefix you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=341.32) [prefer. Lastly, any global style sheets](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=344.97) [are defined in this styles array. You can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=348.18) [list any number of style sheets as needed,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=350.96) [but only include the global style sheets](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=353.59) [here. So that's an overview of the basic](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=356.2) [files created by the CLI new command.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=359.22) [Before moving on, let's look at a few key](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=361.84) [new command flags. Since we have VS Code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=366.07) [open, we can now use its integrated](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=369.4) [terminal. And I'll make it a little](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=371.98) [larger. Type ng new ‑‑help. Scrolling back](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=373.85) [to the top, we can see that it has many](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=379.1) [flags. The ‑‑skip‑install is nice if you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=381.16) [want to generate some code without waiting](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=384.63) [for it to install the Node packages. You](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=387.14) [can install packages later using npm](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=389.75) [install. We've already discussed the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=392.09) [‑‑prefix flag. Feel free to create](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=394.67) [additional applications using the new](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=397.58) [command with any of these flags. Just note](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=399.5) [that you cannot generate a new Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=402.81) [application within the folder of an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=405.15) [existing Angular application. And so be](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=408.14) [sure to navigate out of the hello‑world](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=410.74) [folder before using the new command. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=412.63) [next thing we want to do is run our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=415.67) [application, so let's check out the serve command.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=2&mode=live&start=417.51)

[ng serve](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live)

[Once we have a generated application, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=1.54) [first thing we may want to do is run it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=4.34) [We do that with the ng serve command.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=6.98) [Let's give that a try. Here in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=10.14) [TERMINAL window, we'll type ng serve. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=12.93) [application is then built, and we can see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=17.35) [that it compiled successfully. The CLI](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=20.48) [launches a development server and listens](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=23.65) [on port 4200. The compiler is now in watch](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=26.23) [mode, so it watches for any changes and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=29.76) [automatically recompiles for us. So, where](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=32.31) [is it? Where is our application? We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=36.14) [navigate to the defined port 4200. And](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=40.02) [here is the application. It has a slick](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=44) [welcome page with links to the Tour of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=46.96) [Heroes tutorial, the CLI documentation,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=48.95) [and the Angular team's blog. Feel free to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=52.28) [check out those links. Previously in this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=55.41) [course, we used npm start to run our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=58.95) [application, not ng serve. If we open the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=61.81) [package.json file, we see that the npm](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=65.77) [start script is associated with the ng](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=68.91) [serve command. So using npm start](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=71.9) [basically executes ng serve. We can use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=75.22) [Ctrl+C then y to stop execution. Then type](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=78.87) [npm start. The process is the same. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=83.01) [see that it executes ng serve. But we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=86.52) [still have to manually bring up a browser](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=89.67) [and navigate to the appropriate port. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=92.23) [haven't had to do that for the other demos](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=95.08) [in this course. What's up with that? Let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=97.32) [look back at the APM application. In the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=100.43) [package.json file that I included with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=103.22) [starter files for this application, I](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=105.87) [added ‑o to the start script. The ‑o is an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=108.37) [alias for the ‑‑open flag, which opens the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=112.67) [default browser. Mystery solved. Going](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=116.4) [back to the hello‑world application, let's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=120) [stop execution and restart with the ‑o](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=122.43) [flag. We type ng serve ‑o, which](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=125.79) [automatically opens our default browser](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=129.65) [and navigates to our application. But we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=132.23) [can go into our package.json and update it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=135.29) [here if we'd like. Before we move on,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=138.09) [let's take a moment and look more closely](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=140.99) [at the output of the ng serve process.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=143.2) [When we use the ng serve command, the CLI](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=146.19) [builds the application and outputs it as a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=149.1) [set of bundled JavaScript and map files.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=152.15) [Here we see the list of bundles. These](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=155.94) [files are generated in memory and are not](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=158.28) [available to find on disk. We'll generate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=161.39) [actual files we can look at when we use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=164.44) [the ng build command shortly. Here is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=167.22) [application in the browser. We'll open the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=170.69) [developer tools and view the Sources tab.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=173.06) [We see those same bundles here on the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=176.44) [left. And notice our index.html file. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=179.04) [CLI injected the needed script tags for us](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=183.37) [to pull down all of these bundles. Another](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=187.16) [mystery solved. Peeking inside the main](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=190.47) [bundle, we see something that looks a bit](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=193.58) [like our code. Here is our AppModule](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=195.86) [transpiled to JavaScript. Unless we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=198.64) [specify otherwise, all of our application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=201.66) [code will be compiled into this bundle.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=204.43) [Since the CLI also generated the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=207.12) [associated map files, we can see that we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=209.51) [have our actual TypeScript code. This](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=212.42) [makes it much easier to debug our code, as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=215.29) [we saw earlier in this course. Now I'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=217.86) [close the browser and use Ctrl+C to stop](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=220.69) [the development server. Now let's look at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=223.64) [some of the key flags available with the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=226.98) [serve command. Type ng serve ‑‑help. There](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=229.03) [are lots of flags here. Many of these](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=234.3) [we'll use with the build command later.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=236.98) [There are two I used regularly. The ‑‑port](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=239.44) [flag lets you specify an alternate port so](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=242.87) [you don't have to use 4200. And we've seen](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=245.56) [the effect of the ‑‑open flag. Now that we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=249.19) [have an application and can run it, we'll](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=252.44) [want to add to it. Let's check out the generate command next.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=3&mode=live&start=255.64)

[ng generate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live)

[Our new little application is cool and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=2.54) [all, but it doesn't do much. We need to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=4.39) [add components, and templates, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=7.33) [services, and modules. We do that with a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=9.22) [generate command. We've already seen this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=12.28) [command in action, but it can do so much](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=15.08) [more. If we type ng g ‑‑help, this lists](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=17.69) [all of the different types of files we can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=25.55) [generate with this command. We can create](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=27.59) [simple classes. We can create components](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=30.32) [with external template and style sheet](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=33.01) [files as we did with the product detail](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=35.67) [component earlier in this course. We can](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=37.41) [generate our own custom directives, enum](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=40.06) [values, and route guards as we did with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=42.93) [our product detail guard. We can create](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=45.46) [interfaces and modules. We can create](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=48.15) [pipes and services all with only typing a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=51.49) [few characters. Neat! Let's generate a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=54.63) [component. Type ng g c and our component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=59.09) [name, and let's say welcome. The output](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=64.12) [indicates that it created a style sheet](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=68.01) [file, template HTML file, unit testing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=70.01) [file, and TypeScript file for our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=73.59) [component. By default, it created a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=75.86) [welcome folder and added these files to it.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=4&mode=live&start=78.46)

[ng test](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live)

[Testing our Angular code is always](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=1.94) [important, but often neglected due to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=3.88) [additional time and effort required to set](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=6.52) [up and execute the tests. The CLI makes it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=8.79) [a bit easier by generating the testing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=12.17) [spec and configuration files for us. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=14.48) [can run these tests using ng test and ng](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=17.8) [e2e. To run our unit tests, in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=21.58) [terminal window type ng test. This builds](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=26.38) [the application, launches the browser, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=30.28) [executes the Karma test runner. From here,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=33.22) [we can see the results of our unit tests.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=36.47) [Angular generated four tests for us, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=39.36) [they've all passed, so we are all green.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=42.31) [The test runner runs in watch mode so we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=45.64) [can modify our files and the tests will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=48.8) [immediately rerun. I'll close the browser,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=51.55) [and notice that it tried to bring it up](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=55.21) [again. I first need to terminate the test](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=56.92) [runner with Ctrl+C, then I'll clear the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=59.5) [screen with cls. We can use the e2e](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=62.28) [command to run our end‑to‑end tests using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=65.86) [Protractor. Let's try that out. Ng e2e.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=68.9) [Notice that it pops up the browser,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=73.86000000000001) [executes our application, and closes the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=76.61) [browser again. We can see here that it](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=79.23) [successfully executed one spec. Testing is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=81.96) [a big topic that is beyond the scope of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=85.4) [this course. See the Pluralsight library](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=87.5) [for more information about testing. Now](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=90.2) [that we have our application built and tested, we are ready to deploy.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=5&mode=live&start=93.57)

[ng build](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live)

[An application is not very useful unless](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=1.44) [you can deploy it to your users. The build](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=4.4) [command helps you prepare your application](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=7.34) [for deployment. Let's take a look. Here in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=9.85) [the terminal window we'll type ng build.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=13.96) [The output is similar to the ng serve](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=18.24) [command. When the ng build process is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=20.57) [complete, we have a dist folder here in](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=23.35) [our project. If we open the folder, we see](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=25.84) [our actual bundles. We can look again at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=29.14) [the main bundle .js file and find our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=32.34) [code. And here is the resulting index.html](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=35.31) [file with the script tags to pull in each](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=39.39) [bundle. We can then deploy these files to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=41.74) [a server somewhere. But wait, there's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=44.44) [more. When we deploy it to production,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=47.52) [there are a few more things that we want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=50.22) [to achieve. We want our bundles to be as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=52.21) [small as possible. This means that we want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=54.78) [to minify or uglify the code and perform](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=57.65) [something called tree shaking. Tree](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=60.53) [shaking shakes up our code to drop out any](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=62.84) [dead branches, which basically means that](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=65.39) [it removes any unused pieces. The CLI will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=68.07) [do all of these things for us if we simply](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=71.83) [add the ‑‑prod flag. Let's try that out.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=74.87) [Type ng build ‑‑prod. Now if we look at](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=79.96) [the files in the dist folder, we notice](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=86.57) [that they have a hash as part of the file](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=88.94) [name. This is a cache‑busting technique.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=91.31) [Every time we update something in our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=94.7) [code, it needs to be redeployed to the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=96.39) [server. We expect the new version of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=98.89) [files to be downloaded by the browser when](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=101.59) [a user accesses our application. But for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=103.84) [performance reasons, the browser may have](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=106.85) [cached those files. By changing the file](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=109.29) [names using a hash, the browser will](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=112.11) [download the latest version because the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=114.39) [file names won't match its cached](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=116.74) [versions. Notice also that there are no](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=118.87) [map files here. By default, the ‑‑prod](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=122.15) [flag does not generate map files, but](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=125.73) [there is a flag for that if you need them.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=128.55) [Peeking into the main bundle, all the code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=130.35) [is on one line. And look at those variable](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=134.42) [names. It's been minified. Glad we don't](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=137.3) [have to debug using that code. Let's look](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=140.66) [at some of the key flags available with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=144.09) [the build command. Type ng build ‑‑help.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=146.1) [We'll scroll up a bit. There are quite a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=149.74) [few flags here to help you tune exactly](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=153.42) [what you want the built command to do. One](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=155.91) [of the other key flags here is the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=158.51) [‑‑base‑href. Recall that we set the base](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=160.29) [element in our index.html file to specify](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=164.39) [the root path for our Angular routing. But](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=168.17) [when we deploy it to production, we may](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=171.26) [not want to deploy to the root path of our](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=173.29) [server. We can use the ‑‑base‑href flag to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=175.52) [set the appropriate based URL for the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=179.79) [deployed application. Wow, the CLI is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=182.09) [powerful. Now let's finish up this module](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=185.54) [with some checklists we can use as we leverage the Angular CLI.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=6&mode=live&start=188.56)

[Checklists and Summary](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live)

[Here are the key CLI commands for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=2.34) [reference. Use ng help or ng, a command](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=5.26) [name ‑‑help to view the CLI documentation.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=9.55) [The remaining commands here help you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=13.94) [create, execute, build, test, and deploy](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=15.81) [your Angular application. You may find](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=19.38) [yourself using ng generate a lot. Refer to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=23.25) [this checklist as you generate the code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=26.76) [files for your application. In this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=28.7) [module, we discovered the purpose and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=32.02) [basic features of the CLI. We built an](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=34.58) [application from scratch and examined it's](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=37.6) [many configuration and startup files. We](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=40.36) [dug into how it serves up our application,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=43.56) [learned about its code generation](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=46.61) [features, looked at running tests, and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=48.5375) [prepared the resulting application for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=51.19) [deployment. Now that we've peeked behind](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=53.44) [the curtain, you know the secrets of the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=56.83) [CLI. There is no wizardry here. There are](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=59.51) [more commands and many more flags than](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=63.54) [what we discussed in this module. To learn](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=66.07) [more about the Angular CLI, check out John](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=69.02) [Papa's course happily entitled, Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=72.01) [CLI in the Pluralsight library, it covers](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=75.2) [many more of its amazing features. Only one module left.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m13&clip=7&mode=live&start=78.59)

[Final Words](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=0&mode=live)

[As you have seen throughout this course,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=0&mode=live&start=2.34) [Angular provides a consistent set of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=0&mode=live&start=4.3) [patterns for building components,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=0&mode=live&start=6.29) [templates, and services, helping us to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=0&mode=live&start=8.37) [come up to speed quickly. Welcome back too](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=0&mode=live&start=10.88) [Angular: Getting Started from Pluralsight.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=0&mode=live&start=13.94) [My name is Deborah Kurata, and the final](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=0&mode=live&start=16.72) [words in this course include a recap of](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=0&mode=live&start=19.35) [our journey, a few pointers to additional](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=0&mode=live&start=21.63) [information, and a look at a broader](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=0&mode=live&start=24.25) [description of Angular. Let's jump right into this short module.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=0&mode=live&start=26.77)

[Recapping Our Journey](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live)

[The goal of this course was to guide you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=2.58) [down the right path, making your own](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=4.85) [adventures with Angular more pleasant and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=7.18) [productive. Let's recap our journey and](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=9.33) [review the answers to the key questions we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=12.66) [identified at the beginning of this](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=14.94) [course. What is a component? We discovered](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=16.68) [that a component is a view defined with a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=20.91) [template, logic defined with the class,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=23.37) [and meta data defined with a decorator.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=26.43) [Where do we put the HTML for our user](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=30.44) [interface? Either in the metadata using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=32.94) [the template property or in a separate](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=36.08) [HTML file using the template URL property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=38.33) [in the metadata. When should we use](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=41.59) [binding? Any time we want to display a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=44.37) [component class property value in the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=46.96) [view, when we want to control the DOM by](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=49.03) [setting a DOM element property in code,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=51.96) [when we want to respond to user actions,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=54.74) [and when we want to display a component](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=57.74) [class property and update the property](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=59.76) [when the user makes a change. Why do we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=62.63) [need a service? We uncovered several](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=65.91) [reasons for building a service: to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=68.67) [implement functionality that is](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=70.88) [independent from any particular component,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=72.59) [to share data and logic across components,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=75.34) [and to encapsulate external interactions,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=77.86) [such as with data access. And how? How do](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=81.07) [we build an Angular application? With code](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=86.18) [that looks like this. Export a class,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=89.31) [attach a decorator. and import what we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=92.12) [need. Then put each component directive](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=94.48) [and pipe in its appropriate Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=97.45) [module. Leverage the Angular CLI for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=99.66) [creating building, testing, and deploying](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=103.02) [your Angular application. Along the way,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=105.58) [each module provided a set of checklists](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=109.16) [containing steps and tips. Feel free to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=112.11) [revisit and reference these checklists as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=115.18) [you start building your own Angular applications.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=1&mode=live&start=117.62)

[Learning More](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live)

[This course covered the basics, but there](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=2.54) [is so much more. On Pluralsight, the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=4.86) [Angular: First Look course provides a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=8.42) [comparison of AngularJS to the newer](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=10.48) [versions of Angular and presents a more](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=13.53) [full‑featured sample application. The](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=16.3) [Angular CLI course covers much more about](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=18.97) [the Angular CLI. Angular Reactive Forms](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=21.85) [covers building and validating data entry](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=25.42) [forms with Angular and details basic CRUD,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=27.96) [or create, read, update, and delete,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=31.29) [operations using HTTP. In the Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=33.66) [Routing course, you'll learn how to define](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=37.2) [more complex routes, pass data to routes,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=39.52) [guard your routes, preload data for your](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=42.54) [views, lazy load routes for better](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=44.94) [performance, and much more. Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=47.2) [Component Communication provides effective](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=50.5) [solutions for tracking and sharing state](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=53.03) [and sending notifications between](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=55.95) [components. This course teaches you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=58.61) [numerous communication techniques and,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=61.05) [more importantly, which to use when.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=63.98) [Angular Fundamentals expands on the basics](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=67.34) [and covers more intermediate information](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=70.19) [on every key aspect of Angular. And Unit](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=72.62) [Testing in Angular teaches you everything](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=76.17) [you need to know to unit test your Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=79.04) [projects, including testing services,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=81.63) [component templates, and dealing with](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=84.79) [asynchronous code. In addition to courses,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=87.44) [the Angular documentation is very](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=90.97) [comprehensive and is a great reference to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=93.22) [everything Angular. And I've set up a](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=96.37) [GitHub repository for this course so you](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=99.8) [can use it as a starting point or learning](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=102.26) [aid. It provides starter files if you want](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=104.78) [to try building an application yourself,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=107.67) [or you can review the completed course files here.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=2&mode=live&start=110.09)

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[At the beginning of this course, we](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=2.54) [defined Angular as a JavaScript framework](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=4.37) [for building client‑side applications](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=7.39) [using HTML, CSS, and a language such as](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=9.52) [JavaScript. But this is a somewhat narrow](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=12.97) [view of Angular, focusing on using it just](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=15.67) [for client‑side web applications. But](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=18.84) [Angular is actually so much more. A better](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=21.55) [definition is that Angular is a platform.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=25.38) [It supports multiple languages, multiple](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=29.34) [templating syntaxes, and multiple](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=32.02) [rendering targets. It has features to](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=34.69) [support mobile web, such as material](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=37.58) [design, a set of widgets that work across](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=40.18) [devices, Angular Universal to prerender](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=42.71) [views on the server, and web workers for](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=46.22) [background processing. And Angular](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=49.11) [supports native mobile development using](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=52.48) [products such as Ionic and NativeScript.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=54.68) [Keep an eye on Pluralsight and Angular.io](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=57.59) [for more information on these exciting technologies.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=3&mode=live&start=60.73)

[Closing](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=4&mode=live)

[Congratulations, you've made it, yay!](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=4&mode=live&start=2.24) [You've completed the journey through the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=4&mode=live&start=5.8675) [basics of Angular. But the road goes ever](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=4&mode=live&start=7.85) [on and on. There are so many more paths](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=4&mode=live&start=11.55) [for us to take and so much more to learn.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=4&mode=live&start=14.09) [Thoughts or comments about this course?](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=4&mode=live&start=17.415) [Please use the Discussion tab on the](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=4&mode=live&start=19.815) [Pluralsight page for the course to leave](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=4&mode=live&start=21.85) [your feedback. And follow me on Twitter.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=4&mode=live&start=23.96) [It would be great to hear about your](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=4&mode=live&start=27.84) [Angular adventures. Thanks for listening,](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=4&mode=live&start=29.59) [and I hope you enjoyed our adventure through Angular.](https://app.pluralsight.com/player?course=angular-2-getting-started-update&author=deborah-kurata&name=angular-2-getting-started-update-m14&clip=4&mode=live&start=32.67)