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**Deep Dive - Terraform**

by [Ned Bellavance](https://app.pluralsight.com/profile/author/edward-bellavance)

Terraform is an amazing toolset for automating infrastructure in the public and private cloud. This course will teach you the advanced Terraform concepts and functionality needed to take your skills to the next level.

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[Hi everyone, my name is Ned Bellavance.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=4.09) [And welcome to my course, Deep Dive - Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=7.09) [An intermediate course for those that have](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=10.06) [a firm grasp on Terraform basics](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=13.03) [and would like to dive deeper](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=14.07) [down the automation rabbit hole.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=15.09) [Deploying and maintaining traditional infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=18.03) [is a manual endeavor, fraught with repetitive tasks,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=20.08) [inconsistent configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=24) [and always out of date documentation.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=25.06) [Maybe you've been tinkering with Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=28.02) [on some smaller projects.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=30.01) [Now it's time to expand your aspirations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=31.06) [and tackle enterprise size problems.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=33.08) [In this course, we are going to explore](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=36.06) [some of the more advanced uses of Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=38.02) [including importing existing infrastructure,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=40.05) [remote state and workspaces, data sources and templates,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=43.05) [CICD pipeline integration and configuration management.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=47.02) [By the end of this course,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=51.07) [you'll have a deeper understanding of Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=52.07) [including advanced use cases and how it can integrate](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=54.08) [with other dev ops tools and processes.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=57.08) [It's not necessary to be a dev ops guru](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=60.06) [to jump into this course,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=62.07) [however before beginning the course](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=64.03) [a basic understanding of Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=66) [and its essential functions is assumed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=68) [A novice-level of familiarity with AWS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=70.07) [would also be helpful, as the course relies heavily](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=73.02) [on deploying resources in AWS.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=75.09) [If you're interested in taking your](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=78.06) [fundamental terraform skills](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=80.02) [and turning them up to 11,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=82) [I invite you to take the plunge](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=83.08) [with Deep Dive Terraform at Pluralsight.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=12818fad-b2d9-47da-b537-59f9e2b0702b&clip=0&mode=live&start=85.04)

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[**Introdcution and Prerequisites**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live)

[Welcome to Deep Dive - Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=1.08) [In this course we're going to be diving down](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=4.05) [the rabbit hole that is Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=6.03) [to see all the different ways that Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=8.09) [can further integrate within your workflow](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=11) [and engage with other tool sets that you have](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=13.07) [in your organization.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=15.08) [This is the first module, Setting the Stage](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=17.03) [and I'm Ned Belavance, Microsoft MVP](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=19.07) [and Cloud and Datacenter Management.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=21.09) [And I'll be guiding you down this interesting journey.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=23.08) [So the first question you have to ask yourself is,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=27.08) [are you ready?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=30) [And by that, what I really mean is,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=31.08) [are you ready for this level of Terraform integration?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=34.04) [In order to successfully complete this course,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=38) [and really get the most out of it,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=40.01) [there's a few things that you should already](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=42.02) [be familiar with, and the very first of those](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=43.09) [is the Terraform command line.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=46) [I'm assuming throughout this course](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=48.04) [that you're comfortable with the Terraform command line](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=50.01) [and the various commands that you could issue](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=52.06) [such as plan and apply, destroy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=55.03) [We are going to be getting into some newer](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=58.05) [and advanced commands, such as the import command,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=60.03) [but I do expect that you do have a basic](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=63.03) [understanding of the Terraform command line in general.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=65.03) [The next thing that I would expect you to have](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=68.06) [familiarity with, are variables and values.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=70.04) [And of course, variables within the Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=73.03) [configuration file hold information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=76.04) [that the configuration will use.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=78.08) [And when I say values, I'm talking about](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=80.07) [the different types of values that a variable can hold,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=83) [such as a list or a string or an array.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=86.02) [You should also be familiar](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=89.09) [with the concept of providers and provisioners](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=91.03) [within Terraform, providers being the things](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=93.08) [that Terraform hooks into to provision resources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=97.05) [provisioners being the action by which resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=100.04) [are further provisioned once they are created.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=103.07) [And finally speaking of resources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=106.09) [you should have an understanding of some](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=108.09) [of the basic resources that exist within Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=110.03) [We're mostly going to be working in AWS,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=112.09) [so understanding some AWS resources will also be important.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=115.05) [And finally, modules.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=119.01) [If you're not comfortable with the concept of modules,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=120.09) [you may want to do a little bit of reading](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=123.05) [prior to this, or you could of course go through](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=125.07) [the modules section of my Terraform Getting Started](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=128.04) [course to sort of jump off into the world of modules](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=131.09) [and gain a firmer understanding of what's involved there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=135) [We will be integrating some additional technologies](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=138.05) [in to this process.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=141.02) [So the first of those, as I mentioned,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=142.07) [is Amazon Web Services.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=144.03) [That's the public cloud provider we're going to be using](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=146.01) [for instantiating most of our resources in this course.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=148.06) [They next thing that we're going to use is Docker for Windows.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=152.04) [And you might say, who would use Docker on Windows.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=154.08) [And the answer is me, because I use Windows.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=158.05) [And we're going to be using Docker to spin off a container](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=161) [to run Jenkins, speaking of which,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=165.01) [Jenkins for our CICD pipeline, in one of the later modules.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=166.06) [We're also going to be taking advantage of software](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=171.08) [called Ansible for configuration management.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=174.07) [Ansible is an agent list configuration management software,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=177.02) [and it's a common design pattern that I've seen](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=180.05) [to take a Terraform configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=183.03) [and once all the resources are instantiated,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=185.03) [hand the remainder of configuration off to Ansible](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=187.08) [for initial and then ongoing management.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=0&mode=live&start=191.01)

[**Scenario and Course Content**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live)

[In this course, we're going to be using our real world](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=1.775) [simulation with the Globomantics company.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=3.805) [So if you're coming to this](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=6.755) [from the Terraform Getting Started course,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=7.825) [you will know that you were wildly successful](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=9.835) [at deploying a new project at Globomantics using Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=12.785) [They were so happy, that of course your success](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=16.815) [is going to be rewarded with more work.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=19.775) [Now, you did that project on your own](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=21.795) [from an administrative standpoint, but no admin](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=24.775) [is an island, and you have a team of admins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=27.775) [you need to work with in order to provide ongoing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=29.835) [management of infrastructure.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=33.785) [And in fact, Globomantics is now asking you](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=34.815) [to use Terraform across all of the infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=37.785) [that they're deploying in their public cloud.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=40.835) [Also, the Terraform software lends itself](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=43.745) [to a CIDC pipeline integration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=45.835) [and so the technology leaders at Globomantics](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=49.765) [would like you to integrate your Terraform configurations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=51.805) [with their development team.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=54.825) [And finally they would like to automate](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=56.795) [all the things, meaning they would like to pack](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=59.745) [as much automation into each deployment as possible,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=61.775) [so the deployment of infrastructure, the deployment of code,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=64.805) [the testing of infrastructure, the testing of code](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=68.815) [and then the ongoing configuration of that infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=71.745) [on day two and beyond, all that should be automated](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=74.775) [as much as possible.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=77.765) [So what are we going to be covering in the course content?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=78.835) [Well, the first thing we're going to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=82.745) [is importing existing resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=83.755) [As I said, Globomantics wants to use Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=85.795) [for all of their infrastructure, but of course,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=87.835) [they already have infrastructure deployed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=90.775) [So how do you get that infrastructure moved into Terraform?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=92.795) [Once that infrastructure is moved into Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=96.775) [you're probably going to want to take that state file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=98.835) [that holds all that information,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=101.745) [and move it to a remote location for two reasons.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=102.795) [One, if your local desktop or laptop fails,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=105.785) [you don't want to lose that local state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=108.765) [and all of your data; and the second reason](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=109.835) [is because you want to be able to coordinate](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=113.765) [with other members of your team](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=116.745) [when they're making updates to the overall](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=118.765) [configuration, as well.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=120.795) [The next thing that we'll be looking at](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=122.815) [is a way of specifying custom data sources and templates.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=124.765) [The primary purpose behind this is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=128.745) [as your configurations grow and expand,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=129.825) [you may find it necessary to import custom data](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=133.745) [to control configuration and utilize templates](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=135.815) [for more advanced configuration situations.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=139.805) [Finally, once you've got all those things put together,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=143.745) [we're going to integrate your deployments](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=145.825) [into a CIDC pipeline using Jenkins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=148.765) [And the idea behind that is you're going to use Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=151.775) [to deploy the infrastructure in Jenkins,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=154.835) [use automated tests to validate the environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=157.765) [and then build the application on top of that infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=160.755) [that's been deployed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=163.775) [And in a CIDC world, you can actually](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=164.785) [have multiple stages where you're deploying it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=167.755) [to dev, and then staging and then QA](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=169.775) [and maybe even production.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=172.755) [And finally, we want to hand off the responsibility](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=173.815) [of configuration of the resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=177.765) [to a configuration manager,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=179.835) [after the initial configuration is run,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=181.825) [and we're going to be doing that using the Ansible software.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=1&mode=live&start=184.775)

[**Summary**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live)

[So to sum up, it's a very short module,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=2.166) [but I just kind of wanted to set the stage](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=4.186) [for what we're going to do.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=6.166) [So the first question is, are you ready to learn this](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=7.236) [somewhat challenging but very interesting information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=10.206) [about Terraform?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=13.166) [And I hope at this point that you're raring to go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=13.246) [The next stage is to prepare your environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=16.186) [We're going to be covering some of that in each module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=18.246) [So you don't have to go out and install and configure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=22.176) [a whole bunch of things right now.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=24.246) [We're going to be stepping through preparing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=26.206) [your environment using those technologies](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=28.206) [that I talked about earlier.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=30.226) [Now, if you're using a non-Windows platform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=32.206) [like Mac OS or Linux, you don't have to use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=34.236) [Docker for Windows, you just need Docker.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=37.176) [Obviously since I'm going to be running](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=39.196) [on a Windows platform, I'm going](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=40.246) [to be utilizing Docker for Windows for my deployment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=43.186) [Things are going to be a little bit DevOps in this,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=46.156) [and you know when I start talking about CIDC pipelines](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=49.216) [and automation, your brain probably already](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=52.186) [went to DevOps, and I know some people aren't](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=54.206) [in love with that term, but that's literally](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=56.226) [what we're doing here, we're being the ops side](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=58.216) [of DevOps in the scenarios that are coming up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=60.236) [in the modules.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=63.176) [We're here to take Terraform to the next level.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=65.166) [If you've done the Getting Started course,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=66.226) [or if you've gone through some of the tutorials](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=68.206) [on Terraform's own website,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=71.166) [that'll get you to a certain point](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=73.156) [where you can really start tinkering.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=74.216) [When you're ready to expand your Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=76.186) [deployment out to an entire enterprise,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=78.206) [you have to take those skills to the next level.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=80.216) [And through the modules in this course,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=82.226) [I'm going to help get you there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=84.216) [So thanks for joining me, and on to the next module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=ec879cd2-9a94-43cd-9599-d948f14d2ac7&clip=2&mode=live&start=86.156)

[**Importing Existing Resources**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live)

[**Introduction**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live)

[There's a really good chance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=2.07) [that when you're first deploying Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=3.07) [there's going to be existing resources out there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=6) [that you might want to bring into the management realm](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=8.08) [of Terraform and that's what this module's going to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=12) [be dealing with, all about importing existing resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=14.07) [Hi, I'm Ned Bellavance, Microsoft MVP](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=18.09) [and cloud and data center management](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=21.03) [and let's get started with some resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=22.08) [All right, what are we going to be covering](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=26.09) [in this module?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=28.04) [First of all, and as I alluded to in the introduction,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=29.09) [Greenfield really is the exception](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=34.01) [when it comes to introducing Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=35.07) [into an environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=38.01) [There's a pretty good chance that you're going to have](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=39) [some existing infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=40.06) [that needs to be fed back into Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=42.02) [so that's what we're going to be focusing on](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=45.01) [in this module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=46.05) [Now, another reason that you may have infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=47.06) [that needs to be imported is sometimes you have admins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=51) [that want to help but they not necessarily know Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=53.09) [or how to use it or perhaps they're working](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=56.09) [on a new project, they don't know about Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=59) [or that's the standard that you've adopted](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=62.04) [within the organization](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=64.04) [and so, they've set up all this infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=65.07) [for some other developer](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=68.01) [and now that needs to be brought under control.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=70.03) [Now, there are some important caveats](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=73.04) [about importing resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=76.01) [and the first thing that I want to point out](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=78.04) [is that the import command assumes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=80.05) [that you've already created a configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=83.05) [for the resources within your Terraform configuration files,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=85.05) [so that means if you have an instance in AWS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=89.02) [and you want to import that instance,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=92.05) [you first have to create a configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=94.02) [for that instance in your Terraform files](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=96.04) [before you try to import it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=98.09) [There is a switch to ignore the fact](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=101) [you don't have a configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=102.08) [but then you just have a random resource](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=104) [in your state file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=106.05) [that has no configuration associated with it,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=107.06) [so that's not a great idea,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=109.08) [so while it is a manual process](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=111.05) [to create those configurations,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=113.04) [HashiCorp has committed to the fact](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=115.05) [that they're going to be improving](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=117.06) [the import function to include sort](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=118.08) [of an auto discovery portion](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=121.01) [for your resources in whatever the provider is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=123.03) [and a way to at least partially generate](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=125.09) [the configuration for those resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=128.08) [so you're not always starting from nothing.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=130.08) [The last thing we're going to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=133) [is validate that the resources that we're importing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=134.01) [match what's in the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=136.09) [and if any of them don't match](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=139) [what the guidelines are for your configurations,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=141.04) [you can remediate those in the compliance,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=144.01) [for instance, if you have a set of security groups](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=146.06) [associated with the web server](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=149.05) [and your standard is only allow 80 and 443](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=151.01) [for port exceptions,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=154.04) [and someone has added 8443](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=156.02) [that would be out of compliance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=158.07) [so you could have Terraform as part of the import process](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=160) [modify that security group](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=163.09) [to only allow 80 and 443](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=165.08) [or go back to the developer and be like hey,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=168) [why are you using 8443 for your port?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=0&mode=live&start=169.07)

[**The Globomantics Environment**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live)

[So, for this module once again](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=2.084) [we'll be working within the Globomantics framework](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=3.134) [and so you are the sys admin](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=6.144) [and you have deployed an environment in AWS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=9.094) [as per requests from developers.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=12.174) [You've decided to standardize on Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=15.154) [as your tool set for deploying new infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=18.134) [and managing existing infrastructure.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=21.154) [That helps you guarantee](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=24.084) [that the networks that are deployed in your environments](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=24.174) [are deployed consistently](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=27.164) [and in a secure manner.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=29.124) [It also makes sure that tagging for those networks](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=30.174) [and the resources within](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=33.154) [follow your company policies,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=35.164) [so you can make sure to include things](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=37.114) [like billing code and project code,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=39.084) [especially when you're trying to do cost optimization](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=41.174) [knowing which resources tied to what project](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=44.144) [becomes pretty important.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=48.094) [So, that's what you've set up so far,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=49.174) [so let's look a little deeper](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=52.134) [at the current environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=53.174) [So, within your current environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=56.094) [it's set up in the AWS US West 2 region](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=58.104) [and within that region there's a single VPC](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=62.084) [using the 10.0.0/16 address space](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=64.174) [and within that VPC there are three availability zones,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=68.174) [2a, 2b and 2c.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=73.164) [Now, for the environment that you're setting up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=76.104) [you really only need two availability zones](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=78.154) [worth of redundancy](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=81.154) [and that's also a cost control issue](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=83.104) [because within each of those](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=85.134) [there's going to be a NAT gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=87.124) [and that NAT gateway actually costs money](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=88.164) [to have it up and running,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=91.124) [so since the application that's going to be in this environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=93.084) [doesn't require three availability zones,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=96.114) [you haven't set up three availability zones.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=98.134) [In availability zone 2a and 2b](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=101.114) [there's a private and public subnet.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=103.164) [The public subnets get the odd numbers,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=106.084) [the private subnets get the even numbers,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=108.084) [easy to remember](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=110.094) [and up top you've got an internet gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=111.114) [to handle all the traffic,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=113.134) [so overall this is a pretty standard environmental setup.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=1&mode=live&start=115.104)

[**Reviewing the Terraform Configuration**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live)

[We're going to drop into the demo](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=1.493) [so we can actually set up this environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=3.483) [so what we're going to do here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=5.463) [is first examine the Terraform file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=6.483) [for setting up this environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=8.473) [We'll deploy the configuration into AWS,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=10.433) [review the results to make sure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=13.463) [we get everything the way want](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=14.493) [and then we can move onto the rouge admin](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=16.453) [who's going to make some changes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=19.443) [we don't necessarily want.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=20.463) [If you'd like to play along,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=21.513) [what you're going to need is first an AWS account,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=23.433) [you can sign up for their free tier](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=25.513) [and most of the resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=28.443) [with the exception of the NAT gateway are free,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=29.493) [so it's really not going to cost you anything.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=31.523) [You'll need the Terraform software.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=34.483) [You can download that from Terraform.io](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=36.463) [or use a package manager, whatever you like](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=39.453) [and finally, the demo files](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=42.433) [that are included with this module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=43.473) [All right, let's drop into VS Code.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=45.483) [So, VS Code is my preferred code editor](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=49.433) [for when I'm working with Terraform files](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=51.493) [but really any editor will work.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=53.453) [If you like Sublime or Atom,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=55.473) [feel free to use whatever you're comfortable with](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=57.463) [but for these demonstrations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=59.463) [I'm going to be using Visual Studio Code](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=60.503) [and the good news is you can use that across Mac,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=62.523) [Linux or Windows.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=65.473) [So, if you look in the left portion of the screen](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=67.483) [you see I've got moduel2 expanded.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=70.523) [There's three Terraform files.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=72.523) [The first one we're looking at the variables file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=75.483) [Now, the variables file has the variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=77.523) [for the AWS access and secret keys](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=80.493) [and also a subnet count](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=83.433) [that determines how many subnets are going to be deployed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=84.463) [Within the resource file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=88.453) [we're defining a few things,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=89.503) [so the first thing is the provider](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=90.513) [we're going to be using, so AWS.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=92.463) [In the data section we're going to be pulling in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=93.523) [the availability zones](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=95.493) [that are available within that particular region](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=97.453) [and then we're going to be using the VPC module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=100.463) [to deploy the networking,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=103.523) [so depending on what version of Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=105.463) [you're using there have been some significant changes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=107.443) [when it comes to using modules](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=110.503) [and the most significant is that HashiCorp](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=112.443) [has created a registry for modules in Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=114.453) [so you can go on that registry](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=117.523) [and find modules that are either created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=119.513) [by the provider themselves,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=123.483) [so AWS actually creates these](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=125.463) [or other people that have registered their modules](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=127.473) [with the registry](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=130.433) [and in that way you can discover commonly used modules](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=131.473) [without having to write them from scratch yourself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=135.513) [So, in this particular case,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=137.513) [I'm using the VPC module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=139.463) [that is provided by AWS for this configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=141.493) [and so, it takes a few parameters.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=145.433) [You have to give it the source for the module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=146.493) [first and foremost and then the name](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=149.493) [of the VPC we're going to be deploying.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=151.483) [It requires that you provide it with a cidr,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=153.473) [address space, what availability zones](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=156.503) [you're going to be using,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=159.513) [so in this case I'm taking](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=160.493) [the availability zones I pulled from data](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=162.433) [and then using the subnet\_count](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=165.453) [to sort of parse out the availability zones](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=167.433) [I want to use.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=169.493) [In this case I only have two subnets](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=171.433) [so I'm slicing off two](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=172.513) [and feeding that back in as a list](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=174.433) [and then finally, what are the IP address ranges](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=176.503) [for the private and public subnets.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=180.433) [Some of this, especially the IP addressing,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=182.483) [you could automatically generate from just the base cidr.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=185.523) [In this case I'm not doing that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=189.453) [but that's something we're going to get into](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=190.453) [in the custom data resources module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=192.473) [Finally, a couple more properties,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=194.503) [enable\_nat\_gateway is set to true](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=196.463) [because I do want to create a NAT gateway for each one](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=198.483) [and then finally, create\_database\_subnet\_group](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=200.523) [is set to false.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=203.483) [I don't want a separate database subnet group.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=204.473) [So, that's everything that's in the resources file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=206.523) [Finally, in the outputs file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=210.443) [outputs is completely empty,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=212.443) [I don't have any necessary outputs in the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=2&mode=live&start=213.503)

[**Running the Terraform Configuration**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live)

[Since I'm using a module,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=2.34) [I need to run the initialization of Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=4.32) [to download the module contents](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=7.35) [to the local folder so it will be able to use that module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=11.26) [in the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=14.35) [The other thing, and this is new to Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=16.3) [starting in .10, one of the versions in there,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=19.31) [is they've actually decoupled the provider plugins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=22.32) [from the main Terraform executable.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=25.31) [Each provider has its own executable as a plugin.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=27.35) [What that means is the first time you use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=31.31) [a provider for a configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=33.3) [you also have to run the initialization](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=35.27) [so it will download that plugin.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=37.29) [So, as you can see,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=39.33) [it realizes I needed a module,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=40.34) [so it downloaded the latest version of the module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=43.26) [and then it realized that I needed that AWS plugin](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=46.26) [so it downloaded the most recent version of the plugin.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=48.33) [It is possible to specify versions for modules](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=52.28) [and plugins, so if there's a newer plugin](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=55.35) [that comes out for AWS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=58.33) [that you don't want to use yet](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=60.26) [because it introduced some buggy features](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=61.31) [or you just know your stable](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=64.27) [on 1.3 and you don't want to go to 1.4 yet,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=66.26) [it is entirely possible](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=69.31) [to specify what version of plugin you want to download.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=70.34) [Now that we've downloaded our plugins and modules,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=75.27) [we can run the plan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=77.33) [So, as you can see the plan command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=80.26) [includes the variable file terraform.tfvars](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=82.27) [which there's an example of that file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=85.32) [in the files included with the module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=88.26) [and that simply includes the AWS access key and secret key.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=91.27) [The out parameter creates a Terraform plan file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=95.31) [which specifies exactly what changes Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=99.29) [is planning to make based on the run of the plan right now.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=103.28) [That's important because if for some reason](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=108.3) [the environment changed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=110.35) [in between the time you ran plan and apply,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=112.31) [Terraform would adhere to what's in the plan file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=115.29) [as opposed to the current state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=118.31) [of the environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=120.28) [and it would let you know](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=121.28) [if there's been some changes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=122.29) [that break the ability to run that plan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=123.33) [So, let's go ahead and run that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=127.33) [So, it's going to go out to AWS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=129.33) [and figure out what it needs to create,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=131.3) [in this case it needs to create 20 new resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=133.33) [which sounds great](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=135.35) [and as you can see, the plan was saved to terraform.tfplan](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=137.28) [so the actions that's showing above](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=140.33) [are exactly what it's going to actually create.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=144.26) [It tells me, if I want to perform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=146.33) [these exact actions, go ahead](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=148.3) [and run the apply command with terraform.tfplan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=149.34) [Now, if you don't give Terraform a plan file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=152.33) [starting with I think version .11,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=156.29) [it will no longer apply those changes blindly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=159.28) [It will now ask you to explicitly accept the changes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=163.27) [that it's going to make before it actually applies them](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=166.34) [and that's just a safe guard to say](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=169.32) [if you don't have a plan, I'm going to force you to look](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=171.32) [through changes and explicitly say yes, make those changes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=174.27) [just in case someone's made an alternation](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=177.32) [to the configuration in between the time](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=179.35) [you ran plan and apply.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=181.34) [Obviously in this case no one else is making changes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=183.28) [but in a larger group setting,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=186.27) [that could become a serious issue.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=188.28) [So, let's go ahead and run apply](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=190.31) [and it's going to go out and deploy all the infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=192.31) [that we wanted it to.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=195.28) [So, while that's deploying](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=197.29) [you can see that it's creating resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=198.3) [and those resources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=201.32) [each one has a resource ID](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=203.33) [that is specific to Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=205.31) [so in the case of the NAT gateway,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=207.29) [the name of each NAT gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=210.34) [is module.vpc.aws\_nat\_gateway.this](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=212.31) [and then whichever iteration of the NAT gateway,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=216.33) [so if we were creating NAT gateways,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=219.32) [you'd have zero, one and two.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=221.33) [That's the internal reference](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=224.27) [that Terraform uses in its state file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=225.33) [So, you can see now that the NAT gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=229.27) [is created it is assigned an ID from AWS.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=231.27) [In this case the ID is nat- and then an alphanumeric string.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=234.33) [Within the Terraform state file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=239.29) [that ID is associated with the internal resource](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=241.3) [of nat\_gateway.this zero](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=244.35) [and so, Terraform knows how to match up the AWS ID](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=249.27) [to the Terraform ID](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=253.28) [and in fact, if we go ahead and open up the state file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=255.27) [and scroll down a bit,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=258.34) [we can see the mapping actually happening within it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=260.26) [So, here you see the resource section](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=263.29) [and you can see that the aws\_eip.net resource](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=265.3) [what type it is and within its attributes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=271.29) [it has a resource ID](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=274.28) [and that's how it's mapping the resource within Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=277.26) [to the resource within AWS.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=279.33) [The reason I bring all this up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=281.31) [is because when you're using the import command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=282.35) [it's going to become very important](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=286.31) [that you can match up the resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=288.28) [that Terraform is creating](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=291.35) [from the configuration to the resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=294.27) [that exist within AWS.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=295.35) [So, let's just bounce to the AWS console](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=298.31) [and validate that our VPC is there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=300.35) [Our VPC is there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=303.3) [We've got our four subnets, two public and two private](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=304.34) [in the availability zones.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=307.31) [Everything looks correct.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=3&mode=live&start=309.34)

[**Jimmy the Junior Admin Helps**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live)

[All right, so we deployed our environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=1.499) [and this is the environment we have.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=3.459) [Now, Jimmy the junior admin](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=5.469) [he looked at that configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=8.449) [and thought hey, wouldn't it be great](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=10.469) [if we had a public and private subnet](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=12.489) [in the third availability zone,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=15.489) [so I'm going to use the AWS PowerShell,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=17.509) [I'm going to create the public and private subnets](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=20.469) [and a NAT gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=22.489) [and my boss is going to be so excited](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=23.509) [that I took the initiative and built out all this stuff.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=26.499) [Oh Jimmy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=30.429) [That's not what we're trying to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=31.479) [and you used PowerShell instead of Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=33.449) [which don't get me wrong,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=35.449) [I love PowerShell but still,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=37.429) [we're using Terraform to manage all this stuff,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=39.439) [so let's drop back into the shell](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=41.459) [and make those changes that Jimmy has done.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=42.499) [All right, so back in Code,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=45.499) [I have set up this PowerShell script.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=48.459) [The PowerShell script will get the AWS keys](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=52.419) [from your terraform.tsvars file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=55.489) [so you probably have to update the path](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=58.439) [and then it's going to install the AWS PowerShell](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=60.419) [if you don't already have it,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=62.509) [so let's run through those real quick.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=63.499) [So, I will execute one, looks good,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=67.499) [so let me just scroll back down a little bit.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=72.499) [Okay and now let's install the AWS PowerShell module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=74.509) [if I haven't already which I have installed it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=78.509) [but it will install it if you haven't.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=81.439) [We're going to set the AWS credentials.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=83.509) [It's taken the values out of the terraform.tfvars file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=87.499) [and using them as the secret and access key](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=91.429) [for your AWS credentials.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=92.509) [We also have to set the default region,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=94.499) [so you don't have to say the region](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=96.459) [for every single thing.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=97.489) [Now we're going to get our existing VPC](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=99.459) [and availability zones](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=102.449) [and create some subnets.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=103.469) [All right, those subnets should be provisioned.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=106.449) [Now we're going to have to get the public route table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=108.499) [and create a new public route table association](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=112.419) [with the new public subnet.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=115.449) [Then we're going to create a new elastic IP](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=117.459) [and associate it with a new NAT gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=120.469) [and that takes about five seconds or so](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=122.509) [for at least the initialization of that,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=125.469) [so I put a timeout in there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=127.509) [in case you're wanting this in one big block.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=129.439) [Now we're going to create a private route table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=131.509) [for the new private subnet](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=134.459) [and route for that going to the new NAT gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=136.489) [and register that route table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=140.489) [with the subnet, let's go ahead and do that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=142.439) [All right, that all worked](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=144.499) [and now we're going to get a little bit of output.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=146.459) [Oh Jimmy, what did you do?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=150.459) [So, the reason I have this output here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=152.489) [is as I was saying before,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=154.469) [we need to match up the AWS resource IDs](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=155.509) [with the Terraform IDs](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=159.499) [and so, what I've done is just easily output](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=162.429) [all of the values for those resources here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=164.499) [so we can go back and plug them into the import commands](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=167.459) [we're going to be using.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=170.429) [Speaking of the import command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=4&mode=live&start=171.459)

[**Import Command Review and Demonstration**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live)

[The import command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=1.644) [So, as I said at the beginning,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=3.614) [it does not automatically import resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=5.604) [Sad face.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=8.574) [I know it would be awesome if you could point](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=9.594) [in AWS environment and say,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=10.664) [go import all that, create configurations for me,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=12.604) [I'm going to go have a cup of coffee.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=15.594) [We're not at that point yet,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=16.644) [so you do need to update your configuration manually](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=18.644) [to include the resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=21.664) [that have been created outside of Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=23.604) [before you try to import them.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=26.574) [As I mentioned before,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=28.574) [it will require identifiers from the provider](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=29.574) [and the configuration to match those two up nicely.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=31.634) [Once you've done all that and you run the import command,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=35.664) [it's going to add the new resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=38.654) [to the state file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=41.574) [so now those resources are managed by Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=42.634) [So, let's look at the syntax of the command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=47.584) [and how it works.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=49.604) [So, basically Terraform import a list of options,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=50.614) [the ADDR which is the resource identifier](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=53.654) [that Terraform uses](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=58.584) [and then the ID which is whatever provider you're using,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=59.624) [the provider specific identifier](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=63.654) [for that resource.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=66.594) [So, if we look at an example command for this,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=68.604) [Terraform import, I'm giving it the var-file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=72.634) [so it can build the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=75.594) [and then I'm giving it the resource](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=77.614) [from within the configuration for Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=80.574) [and the resource ID](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=83.604) [that I've pulled out of AWS.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=84.634) [So, that's the import command in a nutshell.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=86.654) [Let's go ahead and do that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=89.654) [All right, so we're back in VS Code](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=91.604) [and in the bottom pane](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=93.594) [there are the values from AWS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=94.614) [for the resources that Jimmy created for us.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=97.584) [Now, before we incorporate these resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=100.614) [into our Terraform configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=103.574) [we first need to update the actual configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=105.614) [to include those resources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=108.584) [so I'm going to need to make changes in two places.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=109.664) [The first is to go into resources itself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=112.624) [We're going to be adding additional subnets here,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=115.594) [so I'm going to need to give IP address ranges](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=117.634) [for those subnets, so here the next private subnet](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=121.614) [would be 10.0.5.0/24](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=125.594) [and the next public subnet would be 10.0.4.0/24.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=129.574) [So we've added that in.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=135.634) [The other thing we need to add](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=137.574) [is in the variables.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=138.614) [We need to bump the subnet count up to three](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=140.664) [and this is how it determines where to place the subnets](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=144.604) [in the availability zones,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=147.624) [so I'm going to save these two files,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=149.584) [so those are now part of the Terraform configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=151.614) [so now we're ready to import these resources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=154.614) [so I created a file called ImportCommands](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=157.604) [and what's in this file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=160.634) [is the import command for each resource](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=161.664) [that we want to import into our configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=164.634) [Just like in the example that I showed in the slide deck,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=167.584) [so that command goes terraform import var file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=169.654) [and the values for the variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=174.574) [that you want to use,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=175.644) [the Terraform specific resource,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=176.664) [in this case the first line is the elastic IP](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=179.574) [to be used with the NAT gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=182.574) [and then I have to follow that up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=183.664) [with the AWS specific resource ID.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=185.614) [So, I'm going to go ahead](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=188.634) [and copy that value down here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=190.594) [and paste it here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=192.664) [and then I can now run this command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=194.624) [and it will import the existing resource](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=197.574) [into my Terraform configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=199.614) [and add it to the state file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=201.594) [So, let's go ahead and copy and paste](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=203.584) [this entire command and run it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=205.574) [The import was completed successfully.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=209.594) [It imported that ID](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=211.664) [and refreshed the state to add that ID](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=213.604) [to the state file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=216.584) [So, import successful.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=217.614) [Everything's good.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=218.654) [So, I'm going to go ahead and scroll back up to the values](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=219.644) [and copy and paste the values for the remainder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=222.614) [of the resources in here,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=224.644) [so we've got our private route table,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=226.614) [it goes here, we've got our NAT gateway,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=229.644) [it goes here, we've got our public subnet](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=232.634) [which goes here and our private subnet](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=235.624) [which goes up here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=238.614) [So, all these commands are ready to go,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=241.584) [so all I have to do is copy all of them](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=243.594) [and paste them down here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=245.604) [and it will go through and import each resource](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=247.604) [and there we go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=251.594) [All the resource imports were successful.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=252.584) [Now, I know that there's some resources in AWS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=254.664) [that were not part of this configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=257.594) [such as specific route entries](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=260.604) [in the route table and those are not importable resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=262.584) [If you try to import one of them,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=266.604) [Terraform's actually going to throw](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=268.594) [an error based off of the AWS provider](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=269.634) [and say I'm sorry, that resource cannot be imported,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=271.654) [it's not importable.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=275.574) [Bear that in mind that only some of the resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=276.584) [that you create in AWS are in fact importable](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=278.624) [but generally speaking it's the most imported ones.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=281.584) [Okay, so we're going to go ahead and run Terraform plan now](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=284.574) [and we're going to do that to see](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=286.664) [what differences Terraform thinks exists](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=288.634) [between the configuration file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=291.654) [and the state file and what changes it thinks](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=293.604) [it needs to make to bring those two in line.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=295.624) [So, I'm going to expand the screen here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=298.574) [so we can see the output a little bit better](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=299.634) [and we'll go ahead and run the Terraform command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=302.594) [and it's going to calculate and see if there's any changes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=304.654) [that need to be made to bring things in line.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=307.584) [It's going to refresh state from a couple data sources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=310.594) [and there we go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=313.624) [So, it does see some modifications that need to be made,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=314.614) [so let's go ahead and take a look](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=316.664) [at what it's actually planning on doing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=318.584) [starting at the top.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=320.594) [So, the first thing is that it's going to add a tag](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=321.614) [to the NAT gateway,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=324.614) [so the NAT gateway that Jimmy created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=325.614) [didn't have any tags associated with it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=328.594) [which would not be in line with the corporate rules,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=330.594) [so now that tag's going to be added.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=332.634) [It's going to remove an existing private route](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=334.624) [and add this private route for the NAT gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=337.604) [and then it's going to modify the private route table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=340.644) [to include the tags.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=344.654) [It's going to create a route table association](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=347.594) [for the public.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=349.664) [It's going to add a tag for the private subnet](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=351.644) [and add a tag for the public subnet.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=355.584) [So, it's not really making any significant changes,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=357.614) [it's mostly just bringing things in line](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=360.584) [with the way that they should be based](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=362.614) [on the Terraform configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=364.614) [So, that all sounds pretty good.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=366.604) [Let's go ahead and run the Terraform apply](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=368.594) [and that's going to run](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=370.654) [and it should run relatively quickly,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=371.664) [it's just going to make a few quick modifications](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=373.654) [to bring things in line](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=375.654) [and there we go, the apply is complete,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=377.604) [we successfully imported the resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=379.594) [that Jimmy created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=381.604) [without having to really destroy anything](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=382.614) [and we're in good shape](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=385.594) [from an enterprise compliance perspective.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=5&mode=live&start=386.584)

[**Module Summary**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live)

[In summary, what did we cover in this module?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=2.288) [Well, we learned that Brownfield really is the norm.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=5.298) [You're going to walking into situations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=8.258) [where it's not just a single subnet,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=9.328) [it could be multiple subnets,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=12.298) [a whole VPC or instances](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=14.268) [that back it that you need to import.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=16.248) [So, now at least you know how to take a configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=17.338) [that you've created in Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=21.258) [and associate it with resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=22.298) [that already exist in AWS.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=24.248) [We've looked how the import function works.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=26.328) [Well, it kind of works.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=29.258) [Ideally the import function](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=30.308) [as I said would actually just go out,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=32.268) [look at the resources, create the configuration file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=34.318) [for you and make those associations.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=37.288) [It's not there today.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=40.268) [It is an active area of development for HashiCorp,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=41.328) [so expect to see expanded functionality](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=45.248) [of the import function in the very near future.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=47.298) [It is possible to script out the import](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=50.338) [to a certain degree.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=53.268) [You saw a low level version of that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=54.298) [where I outputted everything that was created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=56.288) [via PowerShell and then manually copied](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=58.308) [those values into import statements.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=60.338) [It is entirely possible](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=63.268) [to script out that process](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=64.288) [to take those outputs and automatically associate them](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=65.318) [with a list of resources or even like output the whole thing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=68.298) [to a CSV so you can run the import command later](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=72.258) [but first validate that it all makes sense.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=74.338) [Even though import function doesn't work exactly](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=77.258) [like you might want it to,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=79.298) [it's entirely possible to get it closer.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=80.338) [Now, coming up in the next module,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=83.328) [we're going to look at how we can enable remote state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=85.278) [and that's super important](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=88.288) [now that you're working in a multi-admin user group.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=89.308) [There are going to be admins that want access](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=93.278) [to the Terraform state file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=95.268) [and keeping it on your local computer](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=96.338) [is no longer really an option.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=98.338) [And the other thing we're going to look at](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=101.248) [is using workspaces.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=102.288) [This used to be called environments in Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=103.318) [but they're now calling them workplaces.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=106.288) [The idea is that you're separating out](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=108.268) [the state file and some configuration data](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=110.338) [from the actual Terraform configuration itself,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=113.338) [so you can use the same Terraform configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=116.308) [for multiple workspaces like dev, QA, staging and production](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=119.288) [so all that and more is coming up in the next module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=19a8eb9a-9396-4a72-a04b-7d030159ed4f&clip=6&mode=live&start=123.338)

[**Setting up Remote State and Workspaces**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live)

[**Introduction**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live)

[Up until now,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=2.04) [if you've been following along with](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=3.07) [my Terraform Getting Started course](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=5.06) [or if you've been doing the tutorials](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=7.06) [that are on the Terraform website,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=9) [most of them involve using local state which](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=10.09) [when you're just test driving something for the first time](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=13.04) [or you want to deploy something for development](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=15.08) [or a PEP project,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=17.08) [local state is probably fine.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=19.01) [As things progress along, you move into a team](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=21) [or you want to move something to production,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=23.09) [you might want to start thinking about remote state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=25.07) [And in addition,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=28.03) [you might need multiple versions of the same configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=29.01) [in different environments](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=32.03) [and that's where workspaces would come in,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=33.04) [high-end developments, Microsoft MVP,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=35.09) [and cloud and data center management.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=38.02) [In this module,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=40) [we'll be covering Setting up Remote State and Workspaces.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=40.09) [Alright, the first thing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=45.08) [that we're going to be covering is remote state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=47.04) [And as I said in the introductory slide,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=49.05) [remote state is the next logical step.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=52.02) [Once you've tried something out in development](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=54.03) [or as a PEP project,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=56.04) [and you're ready to take the next step](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=57.08) [in your Terraform configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=60) [remote state is really where it's at.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=62) [So we're going to be looking at that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=64.03) [Another reason you might want remote state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=66.05) [is that if you're part of a team,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=68.06) [in all likelihood,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=70.08) [you're going to need to collaborate on your configurations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=71.07) [and the deployment of those configurations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=74.09) [into whatever public cloud or private cloud you're using.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=77.05) [Remote state enables teams to collaborate and configure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=81.01) [the state of an infrastructure deployment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=85.06) [without having to pass around a local file of any kind.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=88.01) [Remote state also insulates you from the problem of](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=91.06) [perhaps losing your laptop or having a hard drive go bad](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=95.08) [and losing the state file that you have stored locally.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=98.08) [So, it's not just about teams and collaborating](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=102.01) [but it's also about protecting yourself from Murphy's law.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=104.05) [Another thing about remote state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=108.04) [is that it can be a data source](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=109.08) [so envision a situation where](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=111.08) [you have a deployment of infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=114.09) [and then you have an application team](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=117) [that wants to deploy their application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=118.07) [on top of that infrastructure.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=120.04) [They're going to need information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=122.04) [about the underlying infrastructure they're deploying to.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=123.05) [And they can pull that information from remote state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=126.04) [and use it as a data source](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=129) [in their Terraform configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=130.04) [Also as I mentioned,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=132.07) [with this whole team and multiple environments](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=133.08) [staying in mind,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=137.05) [workspaces are replacement](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=138.03) [for Terraform's old environment command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=139.09) [And they're utilized to take](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=142.06) [a single Terraform configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=144.02) [and deploy it in multiple environments](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=146.04) [with multiple different state files.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=149) [So you're able to reuse your code multiple times.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=0&mode=live&start=150.09)

[**Real World Scenario and Remote State Config**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live)

[Okay, so let's talk a little bit about](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=2.418) [the real world scenario at Globomantics.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=4.358) [Now, up 'til now, you've been a](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=6.418) [nameless systems administrator at Globomantics.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=8.398) [But now, congratulations.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=11.378) [You get a name, it's Mary Moe.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=12.428) [And we're going to need that for configuring](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=14.388) [AWS profiles so I had to give](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=16.438) [our character at Globomantics some name.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=19.368) [In addition to you, there is a team that you work with.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=21.418) [So Mary Moe is part of a larger infrastructure team.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=25.358) [And this team is going to be](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=29.388) [configuring infrastructure for another team,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=31.378) [the applications team.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=33.428) [The applications team needs to be able](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=35.438) [to deploy their Terraform configurations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=37.438) [on the infrastructure that you set up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=40.438) [Now, remote state enables not only collaboration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=43.358) [within your infrastructure team](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=46.368) [but also collaboration with other teams](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=49.358) [within the larger sphere of the organization.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=51.408) [Now, you don't trust those other teams](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=54.448) [with the crown jewels, right?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=56.448) [You don't want them altering the infrastructure.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=58.378) [You just want them to be able to read it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=61.358) [And so, because of that, you're going to want to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=63.368) [restrict access for those other teams.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=65.448) [So let's look at the remote state setup](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=69.428) [that we're going to be using.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=72.358) [We're going to start with AWS IAM](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=73.408) [or Identity Access Management.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=75.398) [And within Identity Access Management,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=77.418) [we're going to set up two users.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=79.438) [One is Mary Moe which is you](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=82.368) [and the other one is Sally Sue](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=83.438) [who is the head of the applications team.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=85.408) [So you both have an account in AWS.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=88.398) [Now we're going to set up some S3 buckets.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=91.418) [And the first one is going to be for networking](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=94.408) [or the infrastructure that your team](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=97.358) [is in charge of deploying.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=98.438) [The second bucket is going to be the application bucket.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=101.358) [And that's the bucket that the application team](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=104.428) [will use for their state files.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=106.418) [When it comes to access to those buckets](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=108.448) [and the ability to write or read information,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=111.378) [what we're going to be doing is Mary Moe will get](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=114.388) [read-write access to that bucket so that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=117.368) [she can create state files](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=119.428) [and manipulate them.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=122.358) [And Sally Sue is going to get read-only access](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=123.418) [so she has the ability to read the current state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=125.428) [but not actually manipulate it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=128.428) [In addition to the S3 buckets,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=130.448) [we're going to need to set up a DynamoDB table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=133.368) [called ddt-tfstatelock.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=136.368) [And the point of this table is to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=138.418) [enable Terraform to lock the state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=141.378) [of a particular workspace,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=144.418) [while that workspace is being modified](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=146.418) [or a plan is being run against it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=149.388) [S3 doesn't have a native ability to do that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=151.418) [so the backend configuration for state files and S3](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=154.438) [uses a DynamoDB table to log when a lock is enforced](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=158.378) [and then when that lock is removed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=162.408) [Since both Mary Moe and Sally Sue will be using this table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=164.438) [when their state files are being updated,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=168.428) [they're both going to need read-write access to the table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=1&mode=live&start=170.428)

[**Setting up the Remote State Environment**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live)

[So now we're going to go ahead](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=2.84) [and set up that diagram that we saw on the previous slide.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=3.84) [First, we'll examine the Terraform setup file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=6.9) [And so, I've created a file just to set up the prerequisites](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=8.93) [for the rest of the demonstrations.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=11.92) [Now we're going to deploy the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=13.92) [and review the results to make sure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=15.93) [that the intended configuration has been put in place.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=17.91) [If you like to play along, you'll only need a few things.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=21.84) [You're going to need an AWS account that you can log in to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=24.84) [and create resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=26.89) [You're going to need the Terraform software from Terraform.io](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=28.84) [and the demo files that have been included with this module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=30.93) [Let's get started.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=34.88) [Alright, so we have module 3 open in VS Code.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=36.88) [If you look at the folder structure,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=40.84) [you'll see that there's a networking folder,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=42.9) [a networking2 folder, and prerequisites.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=44.9) [The configuration that we're interested in right now](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=47.87) [is in the prerequisites folder.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=49.9) [And I have the single file open in the main pane.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=51.88) [So let's look at what's in there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=56.84) [For a start, we have standard variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=57.92) [like the access key, the secret key.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=59.92) [We're also defining our S3 buckets.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=61.92) [So the networking bucket is ddt-networking,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=64.84) [the application bucket is ddt-application,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=66.91) [and the DynamoDB table is ddt-tfstatelock.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=69.93) [There's one more variable there that you might](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=73.9) [scratch your head a little bit about](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=75.87) [and that is the user home path.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=76.93) [The way that the backend configuration works,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=78.91) [it will look for explicitly defined S3 credentials](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=81.85) [in the backend config, which you probably don't want to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=84.89) [since you don't want to have your AWS keys](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=87.86) [just stored in the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=89.92) [Then it will check for an AWS credentials file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=91.92) [in your user path.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=95.86) [If it finds that,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=96.92) [it'll look through the profiles that are in there and](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=98.84) [match it up to the one that you've defined](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=100.87) [in the configuration or just use the default.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=102.9) [So once we create the users,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=105.84) [we're actually going to write out their credentials to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=106.91) [the Home Paths Credential File.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=109.85) [So let's scroll down a little bit.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=111.89) [Alright, so we have our provider, which is AWS.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=113.89) [I'm also pulling in the EC2Admin group](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=116.93) [from AWS to add users to it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=119.93) [Then within the resources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=122.92) [we're creating the DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=124.88) [The requirement of creating the DynamoDB table is that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=127.88) [the hash\_key, which is like the primary key for the table,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=130.93) [has to be named, LockID,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=133.91) [and it is case-sensitive,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=135.9) [and the type has to be string.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=137.86) [So just bear that in mind if you're manually creating it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=139.93) [You're going to need that LockID and string.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=143.85) [Then we're going to create a bucket for networking,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=145.9) [and apply a policy to it that allows the app team,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=148.86) [in this case, Sally Sue, the ability to get objects](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=152.85) [from the S3 bucket and we're going to define another policy,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=155.93) [which allows Mary Moe to perform all actions on the bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=159.86) [and the contents of the bucket.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=163.85) [Scrolling down further,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=164.92) [we're going to do the same thing for the app bucket,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=166.84) [except the policy is going to allow Mary Moe read-only access,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=168.86) [and Sally Sue read-write access.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=171.89) [And we're going to create the user and the user policy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=173.91) [So this is the policy assigned to the user,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=177.87) [which is giving once again Sally Sue read-write access](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=179.92) [to the application bucket.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=183.89) [If we scroll down further,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=184.93) [we create Mary Moe's user.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=186.84) [We create an access key for Mary Moe,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=189.85) [and then we create a policy for her that gives her](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=191.89) [read-write access to the networking bucket,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=195.86) [and it also gives her access to the DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=197.91) [So she has the ability to perform any actions](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=201.9) [on the DynamoDB table that has that particular name.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=204.87) [Now we do some group membership,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=208.85) [and then we get into the resource local file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=210.84) [This is a specialized kind of resource that was created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=213.92) [because a lot of people asked HashiCorp](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=217.84) [to create this particular resource.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=218.91) [It has the ability to write whatever content you specify](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=220.9) [to a local file from where this is being executed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=224.84) [And this is perfect for what we want to do.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=227.86) [So in this particular case,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=229.91) [we are writing out the default credentials,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=231.87) [Sally Sue's credentials and Mary Moe's credentials.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=233.92) [And we're writing that to a file name](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=237.84) [that is your homepath.aws/credentials](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=238.93) [that will be used by the backend in the next configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=242.85) [Finally, in the output, in case you needed it,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=245.86) [the access keys and secret key for Sally Sue and Mary Moe](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=247.91) [are also being outputted.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=250.93) [So that all looks good.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=252.86) [We're very happy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=253.86) [Let's go ahead and jump into the terminal](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=254.84) [and actually execute on this stuff.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=256.9) [Let's go into module 3,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=258.87) [the prerequisites folder.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=261.93) [All we have is the remote state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=263.88) [And so the first thing I have to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=264.92) [is run Terraform in it, obviously,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=266.87) [to get the various providers that I'm going to be using.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=268.93) [So let's go ahead and run that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=271.9) [Alright, so it's going to initialize the plugins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=273.87) [We're using AWS and we're using the local provider](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=274.93) [to do that local file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=277.89) [So it initialized both of those.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=278.9) [That's all set and ready to go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=280.93) [Now we're going to go ahead and run Terraform plan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=283.85) [Now, in this command, I just want to point out,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=285.93) [since I don't have the variable user home path](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=287.93) [defined in my Terraform TF Vars file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=291.84) [I've specified it within the command line instead.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=294.84) [You could actually go and add that as an entry to the](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=297.88) [TF Vars file but since it's a specialized, it's variable,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=299.92) [I'm only really going to use one site,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=303.9) [I decided to specify it out separately.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=305.85) [Alright, so it's going to run through.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=307.86) [It sees that there's 11 new things to add.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=308.91) [Everything looks good.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=311.85) [So let's go ahead and run the apply for this.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=312.85) [Okay, so run the apply and it's going to go ahead](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=314.93) [and create all of those users, the keys, the DynamoDB,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=317.91) [and it's going to create the S3 buckets.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=322.84) [Alright, so it finished and it outputted all the](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=324.91) [access keys and secret keys.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=326.9) [If I want to look and see what's in the user profile,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=328.92) [now you can see that the credentials file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=333.85) [has been written out,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=335.92) [and that will contain the credentials that were just created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=336.9) [for Mary Moe and Sally Sue.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=340.93) [If we bounce it over to the AWS console,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=343.84) [we look in S3 and refresh our view.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=346.85) [We can see that the ddt-application and networking buckets](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=348.86) [have been created over in DynamoDB,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=351.88) [and look at our tables.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=355.84) [We now have one table, which is the ddt-tfstatelock.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=356.84) [That's everything that we've created so far.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=2&mode=live&start=359.88)

[**Introducing Backends**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live)

[Alright, so that was pretty fun](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=1.164) [but the question is why did we do all this,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=2.204) [and the reason is because we're trying to create a backend.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=4.184) [Now, the remote state is stored in a backend.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=7.124) [So when I'm talking about the backend,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=9.194) [I'm simply talking about a place to store the remote state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=11.154) [Backends have to be initialized using the init command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=16.134) [So before you try to use the backend,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=19.174) [you actually have to initialize it using the init command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=22.144) [Now, within the backend configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=25.184) [you can specify everything about the backend](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=27.184) [or almost nothing except for the type,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=31.124) [and a lot of that's dependent on how you plan to use it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=33.154) [and whether things are going to change.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=36.174) [There's some restrictions on what the backend](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=38.174) [can do from an interpellation perspective.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=41.154) [Generally, speaking HashiCorp recommends](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=44.144) [that you use a partial configuration for your backend.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=46.134) [So you can use the same backend configuration file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=49.154) [for multiple different Terraform configurations,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=52.194) [you know, that whole code reuse thing.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=55.214) [And there's also going to be some](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=57.204) [potentially sensitive information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=59.184) [that you wouldn't want to include in the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=61.184) [So that's why we want to go with the partial config.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=64.124) [Now you might be scratching your head and think,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=67.134) ["Well, when I just put that in a variable](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=68.184) [and specify the variable in the init command."](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=70.214) [Unfortunately, you can't do that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=74.174) [Backends do not support interpolation.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=76.164) [What I mean by that is the backend configuration process](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=79.144) [happens before everything else,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=82.214) [which means that Terraform doesn't evaluate variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=85.134) [and other portions of your configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=88.194) [before it evaluates the backend.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=91.144) [So it doesn't support the interpolation](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=93.154) [of something like a variable.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=95.204) [So everything in the backend configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=97.184) [is going to be static strings](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=100.144) [as opposed to some sort of dynamic value.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=102.204) [There are ways around that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=105.204) [and we'll come to that in a moment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=107.144) [Let's look at the configuration of a basic backend.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=110.174) [The way that the configuration is laid out is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=114.144) [the Terraform keyword and then backend and a type.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=116.184) [There are many different types of backend.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=120.144) [Some examples are S3, which is what we're using.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=122.174) [Consul, which is a product from HashiCorp.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=126.124) [AzureRM, which uses the blob storage,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=128.184) [and then you can use file systems.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=131.184) [There's a lot of different potential backends.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=134.134) [The important thing to remember is that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=137.174) [partial configurations are absolutely allowed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=139.134) [You can literally just specify backend,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=142.124) [S3 is the type, and put no more information in there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=145.144) [and supply it all at runtime.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=148.144) [And also, as I said,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=150.154) [does not support any kind of interpolations.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=151.184) [So you're going to have to specify those values](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=154.134) [in a different way and that's something that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=156.214) [we're going to cover in the demo.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=3&mode=live&start=158.214)

[**Demonstrating Backends**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live)

[So moving back into the demo,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=1.877) [let's go ahead and look at the files](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=4.827) [that are in the networking directory.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=6.817) [So I've got a backend filing here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=10.887) [Let's go ahead and open that up,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=12.907) [and there's not a whole lot in here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=14.877) [Like I said, this is a partial configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=16.827) [We've got the backend being specified as S3.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=18.887) [The key which is the name of the file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=22.847) [that you want to store the state in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=24.897) [on the S3 backend bucket,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=26.877) [and the region in which it's going to be stored.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=29.847) [So this is US West 2.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=32.837) [Notice, I didn't specify any AWS credentials,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=34.857) [and I also didn't specify the name of the bucket itself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=37.837) [Those are all going to be runtime things that we specify.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=41.817) [In terms of the actual configuration that we're deploying,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=45.817) [it's very simple.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=47.887) [We're deploying a single subnet in a single VPC.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=49.847) [For the resources, there's not a whole lot in here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=53.857) [We're doing a very simple deployment using the VPC module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=55.907) [So we're simply creating a single private subnet,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=59.887) [a single public subnet, and we're not even](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=62.907) [putting in NAT gateway in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=65.827) [because we're going to add the NAT gateway later](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=67.857) [in order to demonstrate some locking functionality.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=69.857) [Let's go ahead and run some commands,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=72.857) [so that you can see](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=74.817) [what the backend configuration looks like.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=76.837) [Here's the first command we're going to run.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=78.887) [There's a lot here to digest.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=80.857) [So we're doing Terraform init and we're passing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=82.837) [in a TF vars file, which just has the variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=84.897) [that are defined in the variables file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=88.817) [and then we're specifying some backend config stuff.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=90.837) [So this is what fills out the rest](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=92.877) [of the configuration for the backend.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=94.847) [So we're specifying a DynamoDB table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=96.867) [where we want our state lock entries to be placed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=99.837) [We're specifying a backend config bucket,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=101.887) [so the bucket is DDT networking.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=104.857) [And lastly, we're specifying a backend config profile,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=106.847) [so what profile should it use?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=109.847) [And since we're specifying the profile,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=111.867) [it's going to look in that credentials file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=113.867) [in the user home directory,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=115.847) [and see if that named profile is in the credentials file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=117.837) [Let's go ahead and run this.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=121.827) [So it's going to pull the VPC module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=122.847) [It's going to initialize the plugins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=124.887) [and it's going to setup the backend.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=126.837) [Let's scroll up a little bit.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=128.907) [So it's successfully configured the backend for S3.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=130.827) [So Terraform is going to use this backend.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=132.877) [If we look over in the folder structure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=135.817) [in the Terraform folder,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=137.817) [we'll see that there's now a Terraform TF state file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=139.827) [So let's look at what's in this state file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=141.907) [and this is not much.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=144.847) [All it does is basically specify the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=145.857) [that we wanted to use.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=148.847) [So what's the bucket?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=149.887) [What's the table?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=151.847) [What's the key?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=152.827) [The profile and region?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=152.907) [And then, there's a serial number here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=154.827) [And that serial number gets incremented](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=155.867) [when every time the state is updated.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=157.867) [If we go ahead and look at the S3 bucket itself,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=159.907) [we go and look in the S3 bucket.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=163.857) [We can see it's actually empty right now.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=166.827) [So even though the backend has been configured,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=167.887) [nothing has actually been placed in the bucket yet.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=170.837) [That's going to happen when we actually write a state file out.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=173.867) [So, let's go ahead and run some commands](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=176.887) [for planning and applying the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=178.887) [Paste that in and you know,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=181.907) [this is just the basic plan command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=183.907) [That's going to write out a Terraform TF plan file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=185.897) [Let's go ahead and run that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=188.907) [Okay, so it's going to create nine new resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=191.877) [That all sounds good to me](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=194.897) [so let's go ahead and run the apply.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=196.817) [So first thing you'll see is it's acquiring a state lock.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=198.847) [So it's putting that entry in the table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=201.837) [It releases it and then it actually acquires it again](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=203.837) [so it's kind of funky how it decides to do it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=205.877) [but it goes through and creates all these resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=208.817) [And since there wasn't a whole lot in there,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=212.897) [it didn't take very long.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=214.827) [And then the last thing it does is release the state lock](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=215.847) [which removes an entry from the DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=217.867) [So let's switch back to the AWS console](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=220.857) [and refresh our view of this bucket.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=223.847) [There it is, that's the networking state file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=226.857) [that contains the state for our Terraform configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=228.877) [If we switch over to DynamoDB](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=232.827) [and look in this particular table,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=234.887) [and look at the items,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=237.877) [there is now one item in here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=239.817) [which was the locking ID that it created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=241.827) [while it was doing that configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=245.817) [Let's cancel out of there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=247.877) [Alright, let's go back to VS code.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=248.887) [So you may have noticed that there's a networking2 folder.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=250.897) [There's a reason for that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=253.857) [It's going to minimize the command prompt, go into resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=255.847) [and we're going to make a change here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=258.887) [to enable NAT gateway to true and save that file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=260.847) [Now, the networking2 configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=264.827) [is almost exactly the same as](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=267.857) [the networking1 configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=269.877) [with a couple of key differences.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=271.867) [If we open the resources file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=273.897) [instead of one subnet for public and private,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=276.847) [there are two subnets for public and private.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=279.827) [So a slight difference.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=282.847) [So let's envision a situation](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=283.897) [where we have two different admins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=285.897) [that are trying to update the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=287.897) [at the same time.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=290.887) [Admin one is working in the networking folder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=292.837) [and admin two is working in the networking2 folder.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=295.827) [So let's go ahead and get that set up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=297.887) [So in my main terminal, I'm in the networking folder.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=299.857) [I'm going to add a second terminal.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=302.877) [Go into module three and the networking2 folder.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=305.837) [And now, I'm an essence user number two.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=309.847) [So user two is going to run the same initialization command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=312.877) [Just so we can get the proper providers and everything](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=317.857) [and make sure the backend is configured consistently.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=320.827) [So networking2 user is now primed to run configurations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=322.887) [but we're not going to do anything just yet.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=327.877) [Let's go back to networking1.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=329.867) [So now that we're back in networking1,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=332.847) [we're going to go ahead and run a Terraform plan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=334.857) [And since we changed that NAT gateway value](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=337.907) [from false to true,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=340.887) [it's going to want to add a NAT gateway,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=342.827) [an elastic IP, and a route for the private subnet](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=344.867) [to the NAT gateway.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=348.817) [So, three new things are going to be added.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=349.857) [We're all good to go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=351.907) [And it's stored in that TF plan file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=353.837) [Now let's go ahead and run that configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=355.877) [and it's going to create the NAT gateway.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=357.877) [While that's running,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=360.847) [we're going to switch over to networking2.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=361.857) [And we're going to try to go ahead](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=363.847) [and run a Terraform TF plan here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=365.837) [because maybe as user number two,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=367.877) [I don't know that user number one is making changes.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=369.897) [So Terraform is going to go out and try to acquire a state lock](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=372.847) [and uh-oh, it couldn't get a state lock](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=374.867) [because it checked the DynamoDB table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=377.857) [and saw somebody else has it locked](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=379.857) [and you can see who it is.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=381.867) [So let's switch over to the AWS console real quick](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=383.857) [and see what's going on.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=385.887) [If we refresh DynamoDB,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=387.867) [we can see there's actually now two entries in here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=389.857) [The first one was the entry that was already there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=392.877) [and this is the actual locking entry](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=394.867) [which provides the info about](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=396.857) [who, when, where, what and why is locking this currently.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=398.877) [Let's close out in that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=402.877) [If we drop back to the command prompt](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=403.897) [and switch back to terminal number one,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=406.827) [we can see that it is still creating that NAT gateway.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=408.897) [And since it's still creating the NAT gateway,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=411.867) [it still has the lock on the state file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=414.837) [Once this completes, the lock will be released](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=417.847) [and then user number two would be able to run](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=420.857) [Terraform plan successfully.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=423.857) [So the last thing it did is release that state lock.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=425.857) [Let's go back to user number 2 and just validate.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=428.877) [We're going to try to run that plan again.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=432.847) [It's going to try to acquire a state lock.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=435.867) [It was able to acquire the state lock this time.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=438.837) [Refresh the state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=440.887) [about what the environment looks like right now.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=442.837) [So it has a lot of things that it has to add](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=444.907) [because we're adding additional private subnets](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=446.907) [and additional public subnets which also requires](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=449.897) [the addition of another NAT gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=452.837) [because it's in another availability zone](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=454.877) [And there's a lot going on here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=457.817) [The central point is that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=458.887) [now that this plan has been run,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=460.887) [user number two would be able](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=462.887) [to successfully update the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=463.907) [with the additional private and public subnets.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=4&mode=live&start=466.877)

[**Introducing Workspaces**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live)

[Alright, well I hope your mind](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=1.47) [is appropriately blown at this point.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=2.49) [But wait, there's more.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=4.49) [Let's talk about workspaces.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=6.43) [So, there was an environment command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=8.51) [in older versions of Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=11.49) [and workspaces replaces the environment command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=14.47) [There were some things that the user community](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=16.52) [and HashiCorp didn't necessarily like about the way](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=19.43) [that environment handled state files](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=21.47) [and controlling which environment you're in,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=24.48) [those types of things.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=27.45) [So they introduced the workspaces command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=28.48) [The environment command has been deprecated](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=31.52) [and will be no longer supported in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=34.45) [some future release of Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=36.44) [Now basically, all that workspaces does](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=39.52) [is create a separate state file for each workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=43.44) [and then understand which workspace you're currently in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=46.48) [so that it knows which state file it should be talking to.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=51.48) [And that enables you to use a single configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=55.47) [for multiple deployments.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=59.45) [The use of workspaces is only supported](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=61.51) [by select backends.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=64.49) [So not every backend is capable of supporting workspaces](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=66.44) [just like not every backend is capable of supporting](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=70.46) [state locking.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=73.52) [So let's go ahead and look into what goes into](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=75.52) [configuring a workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=78.47) [So the workspace commands](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=80.45) [are show, list, select, new, and delete.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=81.49) [And all of those are pretty self-explanatory](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=85.46) [so I'm not going to run through all of them right now](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=87.46) [but those are all the commands that exist.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=90.44) [Now for a few examples of that,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=92.51) [in our first command, we're running](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=94.52) [Terraform workspace new development.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=96.47) [And what that will do is create a new workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=99.43) [with the name development.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=102.43) [When you run that command,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=104.46) [Terraform will automatically select the new workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=105.46) [as the workspace you're currently working in.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=108.46) [If you're not in the workspace that you want to use,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=110.52) [you would run the second example](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=113.47) [which is Terraform workspace select.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=115.44) [And in this case, we're specifying](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=117.49) [the development workspace which will switch from](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=119.44) [whatever the current workspace is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=121.44) [to the development workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=122.51) [The nice thing about using workspaces](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=124.5) [is that it also exposes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=126.49) [what workspace you are to the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=128.44) [through the object Terraform.workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=131.43) [So that will return](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=133.46) [whatever the name of the workspace is.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=134.5) [And you could use that in a few different ways.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=137.44) [One could be for your metadata tagging](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=139.45) [so you could tag your resources with](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=141.47) [whatever workspace they should be associated with.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=143.5) [You could also use the workspace to determine](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=146.48) [sizing for a particular environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=149.43) [So in your development environment, you might want](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=150.5) [an auto scale group that starts at one and goes to three.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=153.44) [But for your production workload,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=156.5) [you want an auto scale group that can go up to ten](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=158.45) [or you could do instance sizing.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=161.45) [Say you want to use a T too small](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=163.43) [for your development environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=164.51) [but you want to use C for medium](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=166.43) [for your production environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=168.48) [Using the workspace value would allow you](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=170.47) [to do all of that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=172.47) [So let's jump into a demonstration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=173.5) [of how to use workspaces.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=5&mode=live&start=175.46)

[**Demonstrating Workspaces**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live)

[Alright, so we're back at the console.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=1.967) [And I'm in the networking folder right now.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=3.967) [And the first thing I'm going to do is create a new workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=5.987) [called development.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=8.957) [Drop that command in there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=9.967) [and in no time at all,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=10.997) [and there we go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=13.987) [We created and switched to the workspace development.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=14.967) [And what it tells you is that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=17.967) [we are now on an empty workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=18.987) [Now you don't have to run initialization again because](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=21.927) [even though the state file is different,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=24.987) [the working folder isn't.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=27.917) [If you look over in the networking folder,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=28.977) [you can see it's added an environment file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=30.987) [and let's look at what's in that environment file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=33.977) [It is not very exciting.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=37.007) [There's one entry, it's development.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=38.997) [If you created another workspace,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=40.977) [it would add another entry to this file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=42.947) [and so on and so forth.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=44.947) [But the modules and plugins that are available](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=46.937) [to the workspace are the same as the default workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=48.987) [that we started with.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=51.937) [Let's go ahead and run another workspace command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=52.957) [which is show.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=54.927) [And that simply shows you what workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=55.917) [you're currently in.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=56.987) [If you want to know](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=58.947) [all the workspaces that exist,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=59.967) [you can use the list command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=61.967) [and that will list all the workspaces that exist.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=63.927) [It also put a little star next to whichever one](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=65.977) [you're currently working in.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=68.937) [So as you can see, there's a development](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=69.977) [and a default workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=71.957) [Special thing to note about the default workspace,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=73.947) [that's the workspace that you're in automatically](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=75.977) [whenever you start a new Terraform configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=78.967) [and it can't be deleted.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=81.917) [So you could create a whole bunch of other workspaces](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=83.917) [but you can never delete the default workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=85.967) [It's not a big deal](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=88.957) [but it's just something to be cognizant of.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=89.937) [So since we're in the development workspace,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=91.937) [let's go ahead and run a plan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=92.997) [And if you look at the command,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=95.957) [the one thing I've changed in this](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=97.007) [is that the out file for the plan is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=98.977) [Terraform-development.tfplan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=101.967) [That's to differentiate which workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=104.917) [this plan file is for.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=106.967) [Let's go ahead and run that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=109.917) [Since this is a new workspace,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=110.977) [it treats this as if it's a new environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=112.917) [So even though I've already used this configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=114.927) [to deploy one environment,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=116.947) [as far as Terraform's concerned,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=118.917) [this is a whole new environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=119.957) [with twelve new items to add.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=121.007) [Now, if you look at the tagging,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=124.917) [the name tag says Terraform-development](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=126.927) [and the environment tag is set to development.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=128.977) [If we look at the resources configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=131.007) [the name of the VPC is using the Terraform.workspace object.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=133.927) [and down in the tags,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=138.007) [we're specifying Environment = "(Terraform.workspace)"](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=139.957) [So that is an example of how you can use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=142.967) [that particular object within your configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=144.997) [The plan look good.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=148.947) [Let's go ahead and run the apply.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=149.947) [And while that's running,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=151.977) [let's switch over to the S3 bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=152.977) [and see what's going on in there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=154.957) [Alright, in my S3 bucket,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=156.997) [I am going to refresh.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=158.977) [And, oh that's different.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=161.977) [There's an env folder now.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=163.937) [And within that env folder,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=165.957) [there's a development folder.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=167.987) [And within that development folder,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=169.917) [there's a networking.state file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=170.957) [And this is the default behavior of Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=172.927) [When you change to a non-default workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=175.007) [and you're using S3 as a backend,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=178.007) [what it's going to do is create](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=180.937) [a top level environment folder.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=181.987) [And then within that, it will create a folder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=184.987) [for each workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=187.917) [and then store the state within that folder.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=188.967) [There are ways to manipulate the default behavior](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=191.927) [of how it stores the state file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=193.937) [but I can't think of a really great reason](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=195.927) [why you would want to.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=196.997) [This seems to work out pretty well.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=197.997) [Switching over to Dynamo DB,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=200.917) [let's see what's going on in our Dynamo DB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=201.997) [We have two new entries in there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=205.977) [So the first one is a lock and that is letting me know](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=207.937) [that the lock is on the networking state file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=210.947) [that's in the development workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=213.947) [And there's also a separate LockID](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=216.957) [that is for the workspace environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=219.937) [When the current apply is completed,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=222.927) [the second locking entry will go away](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=224.977) [and you'll just have the two LockIDs with the digests](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=227.947) [for the default workspace and the development workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=231.947) [Speaking of which,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=235.007) [it has finished and released its state lock.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=235.997) [Alright, so let's switch to the default workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=239.917) [What we're going to do now is try to delete](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=243.007) [the development workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=245.947) [Let's say, we created that workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=247.927) [to test out a new feature.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=248.977) [We figured out that it works fine,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=250.967) [and we're ready to get rid of it and move on.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=252.937) [I'm going to go ahead and run the delete.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=254.977) [So Terraform does a couple checks](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=257.007) [before it'll let you just straight-up delete a workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=259.007) [What it's trying to tell you is that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=262.977) [removing the development workspace with the force flag](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=264.947) [would remove the state file that's being stored](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=268.917) [but it won't destroy any of the resources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=270.917) [which means you'll have dangling resources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=272.927) [which means they're no longer managed by Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=275.977) [You could, in theory, go through the whole process of](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=278.007) [spinning up a new configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=281.917) [and importing all the resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=282.967) [But why go through that headache](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=284.997) [if you're already done with these resources?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=286.927) [So what we're going to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=287.997) [is go back into the development workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=288.997) [and destroy the resources that exist](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=292.927) [in the development workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=293.997) [So Terraform is going to prompt me](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=295.977) [to make sure I actually](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=297.927) [want to destroy these things.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=298.957) [I say yes, it goes ahead and destroys everything](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=300.997) [that's in the development workspace,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=304.007) [leaving the default workspace untouched.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=306.917) [Alright, awesome possum.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=308.987) [Everything's destroyed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=310.917) [Now, we can go back to the default workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=311.957) [and choose to delete the development workspace it'll check.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=316.937) [Make sure that the development workspace is empty,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=321.927) [which it is to a state lock.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=323.917) [Delete the development workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=325.937) [That workspace is now gone.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=327.937) [If we go into the DynamoDB table,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=328.997) [you'll see we're down to one entry](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=332.917) [that which is just for the default environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=333.967) [And if we go into the S3 console,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=335.967) [you can see that the environment folder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=338.997) [has now been removed since there's no other workspaces](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=340.987) [besides the default workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=344.927) [So the Terraform does a pretty good job](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=346.007) [of cleaning up after itself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=347.957) [So that is workspaces.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=6&mode=live&start=348.987)

[**Module Summary**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live)

[Alright, in summary,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=1.228) [what have we learned in this module?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=3.148) [Well, the first thing that we learned is that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=4.208) [remote state is a must-have.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=7.138) [Whenever your projects expand beyond just tinkering around](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=9.198) [with configurations and doing a PEP project of some kind,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=12.228) [it's time to put on your big boy pants](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=16.178) [and move into remote state land.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=18.208) [So that's what you've learned in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=21.148) [over the course of this module is how to go about doing that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=22.178) [Now, not all backends are created equal.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=25.178) [We used S3 and DynamoDB to enable locking in this case,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=28.148) [which also supported workspaces.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=32.138) [But not all backends do support workspaces.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=33.198) [So just be cognizant of your backend choice,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=36.178) [and what features it supports before you go down](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=39.158) [a particular path.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=41.208) [You also learned that workspaces manage the state for you.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=43.148) [So it is entirely possible to create multiple](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=46.228) [different state files in multiple different directories,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=50.138) [and handle that all yourself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=52.188) [You can absolutely do that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=54.148) [But workspaces just make it easier for you,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=55.188) [especially once you start working with remote state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=57.228) [They make it a lot easier for you.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=60.208) [Workspaces can also be common](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=63.138) [across multiple Terraform configurations.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=64.218) [So it's possible for another team](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=67.178) [to be using the same workspace name as you.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=70.208) [And then you can have that consistency](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=73.168) [across multiple configurations.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=75.158) [Coming up in the next module,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=77.208) [we're going to be working with data sources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=79.168) [which doesn't sound that exciting.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=82.188) [But I assure you we're going to do some cool things](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=83.228) [with Lambda and DynamoDB.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=86.178) [So you don't want to miss out on that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=88.158) [And we're also going to be creating templates,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=90.138) [and I know you're thinking in your head,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=91.208) ["Hey, haven't we been creating templates this whole time?"](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=92.228) [And the answer is no.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=96.138) [In the world of Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=97.138) [templates means something a little bit different](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=98.218) [than the configuration files we've been working with so far.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=100.198) [So you'll learn all about that and what templates are](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=103.148) [in Terraform land.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=106.138) [All that and more in the next module coming up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=3f193e33-47c4-4490-b485-9953ba91dd5f&clip=7&mode=live&start=107.168)

[**Creating and Using Custom Data Sources and Templates**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live)

[**Introduction**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live)

[As your resource deployments](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=2.02) [increase in complexity you may find yourself needing to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=3.06) [string together multiple configurations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=7) [or create custom information for resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=9.06) [So custom data sources and templates are the glue](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=13) [that can bind together multiple smaller deployments.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=16.06) [Smaller deployments follow the same principles](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=20.03) [as something like microservices.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=22.05) [They are highly focused on a single operation or function](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=24.09) [and it's possible to swap out individual configurations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=28.05) [as part of a larger deployment module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=32.02) [Hello everyone, this is Ned Bellavance,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=35) [Microsoft MVP in Cloud and Data Center Management,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=36.07) [and this is creating and using custom data sources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=39.03) [and templates.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=42.06) [So the first thing we're going to cover is templates,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=46.02) [templates, templates.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=48.07) [Boy, that's exciting.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=49.09) [I know you're thinking to yourself,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=51.01) [haven't I been creating templates?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=52.07) [Isn't that basically what a Terraform configuration is?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=54) [And it's not.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=57.03) [Templates in Terraform land is a way of representing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=58.03) [a very long text string and adding some interpolation in.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=63) [So that's the best way to think of it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=66.06) [Why would you use templates?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=68.06) [One is to improve code reuse.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=70.03) [If you can abstract something out into a template](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=72.04) [as opposed to hard coding it in the Terraform configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=75.04) [then you can re-use that template in other configurations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=79.04) [that need the same sort of text string.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=82.09) [The other reason is to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=85.08) [make your configurations more readable.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=86.07) [There's nothing that screws up the flow of](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=88.09) [reading a configuration more than a giant blob of EOF text](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=90.06) [clogging up your thought process.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=95.07) [If you can see that it points to a template file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=98.05) [that does something](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=100.08) [you can go read that template file when you're ready to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=102) [or you can just proceed through the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=104.05) [as you're reading it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=106.06) [Then we're going to move on the data sources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=108.02) [and what is the primary reason for using data sources?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=109.06) [And one of the big reasons is to tie configurations together](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=113) [whether that's resources that exist](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=116.02) [in a single configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=118.03) [or resources that are located in different configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=120) [How do you share information between configurations?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=122.09) [We're also going to see how you can use data sources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=126) [to pull configuration information from an external source](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=128.09) [that's outside of Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=131.08) [Maybe you're storing information about your deployment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=133.08) [in some sort of database or maybe there's a website](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=137.06) [that provides information about how a particular thing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=140.04) [should be configured.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=142.09) [You can grab that information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=144.03) [and pull it into your Terraform config.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=145.05) [We're also going to look at how you can retrieve](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=148) [remote state information.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=149.08) [So in the previous module we really looked at](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=151.03) [how to set up remote state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=154) [but we didn't dive into how to actually pull information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=155.04) [from one remote state and use it in the other](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=157.08) [and we're going to cover that in this module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=0&mode=live&start=160.03)

[**More Teams, More Problems**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live)

[Alright so back at Globomantics](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=1.32) [the theme of the module so far has been adding teams](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=4.29) [to your organization and with more teams come more problems.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=7.32) [So we're going to introduce some additional teams](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=12.29) [as well as existing teams.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=14.26) [The first is the security team and what do they want?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=15.27) [They want to be able to define policies](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=18.29) [for AWS objects and resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=21.25) [They're concerned that policies are not going to be applied](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=23.3) [consistently so they want to be able to hand developers](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=27.24) [and infrastructure people policies written in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=31.23) [AWS' policy language and make sure they're applied](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=33.31) [consistently throughout the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=36.29) [Then you've got the application team](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=38.31) [and what they want to do is be able to read](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=41.23) [the network configuration that your team has been setting up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=43.28) [and use it in their application deployments.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=47.29) [So we're going to look at how we can do that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=50.29) [And then we've got the change management team,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=52.25) [and what's their concern?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=54.24) [Their concern is tracking changes and making sure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=55.32) [that things go through change management](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=58.3) [and aren't just changed willy-nilly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=60.29) [And so what they'd like to do is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=62.29) [put all the configuration settings in a shared repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=64.23) [and have that repository be the end all and be all](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=67.32) [of how resources should be configured](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=71.3) [when you're deploying them.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=73.31) [We're going to use data sources and templates](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=74.32) [to accomplish the goals of all of these different teams.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=77.23) [So let's take a look at the remote state set up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=82.23) [that we configured in the previous module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=84.31) [Basically we had a couple S3 buckets, a DynamoDB table,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=87.26) [and two users in AWS identity access management.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=91.32) [So Mary Moe is you, you're the network operator,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=95.3) [and you have read write access to the networking bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=98.29) [and the state lock table that allows you to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=102.23) [store your remote state in networking](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=105.25) [and lock the state when you need to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=107.29) [using the DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=110.23) [Sally Sue the developer has read only access](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=112.24) [to the networking bucket which allows her to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=115.3) [read the remote config without altering it in any way.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=117.31) [She also has read write access to the application bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=121.31) [and that's where she's going to be storing her remote state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=125.25) [for her application specific items.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=127.32) [Now she also has read write access to the state locked table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=130.27) [because she needs to be able to put](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=133.27) [lock entries in there as well](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=134.28) [for the application remote state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=136.28) [So that's the setup we have so far.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=138.25) [Let's talk a little bit about roles and policies](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=140.25) [and how the security team factors into this.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=142.3) [So from the security perspective](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=146.24) [you've got a number of different people.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=148.24) [You've got Mary Moe who's the network admin](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=150.24) [and she needs read write access to DDT networking](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=152.29) [and read write access to DDT state lock.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=155.3) [Then you have Sally Sue](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=158.28) [she needs read access to DDT networking](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=159.32) [and read write access to DDT application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=162.25) [as well as read write to state lock.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=165.24) [Then you have the networking bucket itself](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=167.29) [that needs to allow read write for Mary Moe](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=171.23) [and read from Sally Sue.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=173.24) [And finally the application bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=174.31) [needs to allow read write from Sally Sue.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=176.32) [So when you think about it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=179.3) [we've really got two sets of policies here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=180.3) [We've got the policies that apply to the users](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=183.28) [and then we have the policies that apply to the bucket.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=186.28) [So what we can do is we can use two different template files](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=189.27) [to define those policies](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=193.29) [and then just pass values to it that include the users](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=195.24) [and the buckets that the policy is applied so.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=1&mode=live&start=199.25)

[**Introducing Templates**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live)

[Which brings us to templates.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=2.193) [Alright, now we're getting into the meat of things.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=4.213) [So what is a template?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=6.263) [It is a long form string with interpolation.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=8.173) [Wow what does that mean?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=11.173) [Let's break it down a little bit more.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=12.173) [So it is a long string, so, you know, multiple lines,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=13.243) [including new line characters and all that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=18.183) [and you're allowed to pass values to it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=20.213) [that will be interpolated by the Terraform engine.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=22.253) [Now the template itself can be defined by a file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=26.173) [so you can pass it a file that represents the template](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=29.233) [or they can actually be defined in line](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=32.213) [if it's a shorter form template](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=34.233) [and you just need a certain value generated.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=36.193) [What the template returns once it's rendered the string](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=39.183) [is just that string in a string form only.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=42.243) [If you think about the different data types](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=45.243) [that exist in Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=47.193) [there is the string type, the list type, and the map type.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=49.193) [In the case of the templates](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=53.203) [it is only going to return a string type](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=55.173) [it can't return a map or a list type.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=57.223) [There are some functions that exist in Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=60.213) [to manipulate that string once it's been rendered](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=63.173) [but just remember the thing that you get back](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=65.263) [from a template is just a plain old string.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=67.263) [Finally templates work with the count parameter](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=70.233) [so if you need to create multiples](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=72.263) [of that template for some reason](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=74.243) [you can use the count parameter with that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=76.243) [and create those multiples very easily.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=78.243) [So let's take a look at the syntax for a template file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=81.173) [So you're going to use the data key word](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=85.263) [because it is a data source.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=87.213) [The type of object is template file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=89.173) [and then the name in this case is example.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=92.173) [We're going to use the count function in this.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=94.173) [So we start off by defining a count of two](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=95.243) [and then we're going to pass it a template](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=98.253) [and this is an in-line example](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=100.243) [so we're defining the template in line.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=102.253) [So if you look at the value that we're passing template](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=104.263) [it's got a double dollar sign and the double dollar sign is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=107.193) [a double interpolation.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=111.193) [It allows you to reference variables that are being defined](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=113.173) [within this block of the template file itself](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=115.263) [as opposed to variables that were defined somewhere else](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=118.213) [within the Terraform configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=121.203) [So the string that we want template to return](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=123.213) [is whatever's stored in var1, then a dash,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=126.193) [and then whatever's stored in current count.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=128.243) [So that's the string that will be returned.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=131.223) [Below template we define the variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=133.253) [to pass to the template.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=135.263) [So there's var1 which turns out to be a variable](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=137.223) [that's in the more general Terraform configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=140.213) [And the second variable that we pass it is the current count](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=143.233) [in which we reference the count index.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=147.173) [So the first time this runs](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=149.213) [the current count will be zero](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=151.183) [and so it will pass zero](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=153.193) [to the template file to be rendered.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=154.263) [When you want to use the template that's been rendered](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=156.253) [the way to reference the string is to use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=158.263) [data.template file.example.rendered](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=160.263) [and that will return back the string.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=164.223) [So rendered is the return or the output value that you get](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=167.183) [from a template.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=170.253) [Let's take a look at how an example template](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=171.263) [would be passed in a file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=174.183) [So we're going to look at an example](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=176.193) [of how to define a template by passing in a file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=177.223) [So the first thing we're going to do is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=180.213) [look at the template configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=182.213) [and then we'll look at the file it gets passed to.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=183.263) [In the template configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=185.203) [we're going with data template file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=186.253) [and then calling it S3 user policy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=188.253) [And then for the template value we're passing it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=191.183) [a file function interpolation](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=193.193) [so the file function allows you to reference a file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=195.253) [that's locally stored.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=198.233) [And then we're going to pass it a variable](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=200.203) [and in this case we're passing it the name](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=202.213) [of the S3 bucket that we want this configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=204.253) [to apply to.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=207.263) [So what does the file look like?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=209.203) [In the template file we've got an S3 in line policy](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=210.253) [that is saying allow any action on S3 for this bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=214.183) [and anything that's inside this bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=218.183) [and you'll see we're passing it the](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=220.193) [S3 underscore bucket value and we're using the dollar sign](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=221.253) [and curly braces syntax to let it know](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=226.183) [that it's interpolation.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=229.203) [So Terraform will put whatever value we passed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=230.223) [in that interpolation and then pass back](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=233.203) [this whole string rendered.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=235.263) [As a policy gets more complicated, especially in AWS,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=237.233) [this policy document can get very long](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=241.213) [so being able to store that in a separate file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=244.183) [actually becomes really beneficial.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=246.253) [So let's jump into a demo](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=248.263) [of how we're going to be using these template files.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=2&mode=live&start=250.203)

[**Template Demonstration**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live)

[For the demonstration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=1.9) [we're going to examine the Terraform set up file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=2.92) [Then we'll deploy the configuration and review the results.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=5.9) [If you like to play along all you need is an AWS account,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=9.92) [the Terraform software, and the demo files](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=13.89) [that have been provided with this module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=15.95) [So let's go ahead and jump into that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=18.87) [Alright here we are in Visual Studio Code](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=20.91) [and if you look on the left](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=22.96) [I've got the module four directory expanded](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=24.87) [and then within module four there's a remote state directory](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=27.89) [and that's where we're going to be using templates initially.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=30.91) [Let's take a look at the remote state file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=33.89) [This is very similar to the remote state file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=36.88) [that we were using in the previous module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=38.9) [There's a few subtle changes that have been made here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=41.9) [So if we scroll down here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=44.88) [and look at the resources in the very first one](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=45.94) [we'll see that we're defining a template file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=49.93) [for the application bucket policy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=51.92) [We're passing in a file that's stored](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=54.88) [in the templates subdirectory](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=55.94) [and then we're passing it values which is Mary Moe's arn,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=57.92) [Sally Sue's arn, and then the name](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=61.93) [of the application bucket.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=63.89) [So let's take a look at this template file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=64.95) [and see how that's being used.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=66.95) [So this is the bucket policy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=69.95) [You'll see that the read only user arn value](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=72.87) [is getting get star and list star so they can get and list](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=75.9) [anything in the S3 bucket that's being referenced](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=78.95) [in the resource section.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=81.91) [If we scroll down a little bit more](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=83.95) [there's a full access section](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=85.94) [and the user that's passed as the full access user arn](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=87.93) [is getting S3 star so they can do anything](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=91.9) [in the context of the S3 bucket that's being passed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=94.88) [Go back to remote state, scroll down a bit more,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=97.92) [we're doing the same exact thing creating a template file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=100.94) [for the network bucket.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=103.91) [So now we have our templates for the policy](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=104.94) [for the network bucket and the policy](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=107.94) [for the application bucket.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=109.9) [Then we have a template file for Mary Moe's policy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=110.94) [So we're using the user policy template file to do this.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=113.96) [We're passing it the name of the networking bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=118.88) [that's for read write access,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=121.89) [the application bucket for read only access,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=123.88) [and the DynamoDB table that's going to house the state lock.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=126.91) [So in this particular case we are giving](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=130.91) [Mary Moe read only access to the application bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=132.91) [in case you ever needed to pull the state of the application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=135.91) [before she made a modification to the network.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=138.93) [Let's take a look at this template.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=141.91) [In the first block we're giving the action of S3 star](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=143.93) [to the resource of read write bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=147.91) [and any contents of the read write bucket.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=149.96) [And then in the next policy](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=152.96) [we are giving get star and list star action](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=155.91) [for the read only bucket that we've passed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=157.96) [And then finally down at DynamoDB we're giving DynamoDB star](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=161.89) [for the resource DynamoDB table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=165.94) [so whatever DynamoDB table we passed it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=168.89) [So that way we've generated a user policy for Mary Moe.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=170.95) [And then switching back to remote state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=174.93) [we are going to do the same thing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=177.88) [to generate Sally Sue's policy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=178.95) [Let's scroll down a little bit more](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=181.87) [and we can see that we're now](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=183.89) [going to start creating our resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=184.93) [This is very similar to what was in the previous module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=186.93) [We create our DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=188.93) [We create our S3 bucket and so the thing to notice here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=190.96) [is down in the policy section](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=195.87) [for the S3 bucket for networking](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=197.89) [we are pulling the policy that was generated](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=199.94) [from the template file by doing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=202.9) [data template file network bucket policy rendered](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=203.94) [so that returns the string and now we don't have that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=207.88) [big block of EOF text in here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=209.96) [We're going to do the same thing for the app bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=212.96) [and then we're going to create Sally Sue as a user.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=215.91) [And then we're going to create a user policy for Sally Sue.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=219.89) [So in that policy we're defining what the name is,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=222.89) [what the user it's being applied to is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=225.92) [and then the policy is taking the template file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=227.88) [Sally Sue policy that's been rendered](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=230.9) [and passing that string in.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=232.87) [So we're doing the same sort of thing that we did](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=233.91) [for the bucket policy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=235.9) [And then we repeat that same process for Mary Moe.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=237.88) [Then we generate the access key.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=242.91) [And we're going to create some groups for them to be in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=244.91) [so an RDS admin which grants access to RDS,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=247.93) [an EC2 admin which grants access to EC2.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=251.92) [And then we're going to do group associations here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=256.87) [so EC2 admin we're giving Sally Sue and Mary Moe](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=259.9) [access to do stuff in EC2.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=262.94) [And then for RDS we're giving Sally Sue access to do things](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=264.94) [in RDS because she's going to be creating resources in RDS.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=268.9) [And then finally the local file to output the AWS keys](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=272.92) [to the credential path.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=276.94) [Let's go ahead and run this.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=278.89) [Let's navigate into the directory](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=280.89) [and into the remote state location.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=284.9) [Alright, and now we're going to run](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=287.87) [the initialization for Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=288.93) [So just standard initialization](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=291.89) [with the regular variable file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=293.92) [And since we're using the template provider](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=295.95) [it has to pull the template provider down](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=297.95) [as well as the local provider.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=300.87) [Alright now that we've got our initialization done](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=302.89) [let's clear the screen](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=304.94) [and I'm going to go ahead and run the plan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=305.93) [So in the plan, the only thing that we have to do is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=309.87) [pass the variable for the home path](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=312.87) [where that credentials file is going to be written out.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=314.93) [Let's go ahead and run that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=317.9) [Alright so it looks like we got 16 resources to add.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=318.96) [That sounds about right so we're just going to copy and paste](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=322.91) [Terraform apply right here and go ahead and run that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=325.93) [Alright and that should go pretty quickly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=329.88) [It's creating some users the S3 bucket in DynamoDB](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=331.91) [but it's not doing any actions that take a long time](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=334.88) [so it should complete relatively quickly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=337.88) [And there we go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=339.9) [Okay so we got our 16 resources added.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=340.88) [So we now have our S3 buckets with the policies we wanted](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=342.94) [and the DynamoDB table with the policies we wanted.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=345.96) [If we wanted to spot check we can jump over](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=348.93) [to the AWS console.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=350.93) [Alright so we're here an identity access management](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=352.87) [we're going to go into users and we can see that Marry Moe](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=354.9) [and Sally Sue have been created.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=357.92) [Sally Sue's a member of EC2 admin and RDS admin](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=359.96) [and Mary Moe is a member of EC2 admin.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=363.89) [If we look at Sally Sue we can look at her in line policy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=366.88) [Let's scroll down a little bit.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=371.87) [You can see that the policy that's been generated here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=372.96) [is based off of the template file that we passed to it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=376.91) [so that all looks correct.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=379.92) [If we want to bounce over to S3](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=381.92) [and take a look at one of the buckets in here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=383.93) [we can take a look at the networking bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=386.95) [and look at the permissions, and the bucket policy,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=389.92) [and the bucket policy here should match up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=393.9) [to the template file that we generated.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=395.89) [So let's jump back to the presentation](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=398.89) [and we'll move forward to talk a little bit](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=400.88) [about data sources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=3&mode=live&start=402.88)

[**Introducing Data Sources**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live)

[Data sources you can think about them as the glue](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=2) [to hold together multiple configurations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=5.239) [as well as the glue that holds together resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=7.279) [that are being defined within a single configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=10.279) [That's probably the most useful way to think about them.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=13.299) [When you create a resource in Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=16.289) [that resource has values that are associated with it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=19.219) [so you can treat that resource](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=22.229) [that you've created in Terraform as a data source](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=24.219) [in and of itself, and we've seen that before,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=26.299) [you create a subnet and then](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=29.219) [further down in the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=30.309) [if you're creating an instance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=32.289) [you can reference that subnet.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=34.229) [Another data source are providers, so,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=36.239) [you've seen this before as well.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=39.229) [When we're configuring stuff for AWS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=41.239) [and we want to get a listing of the](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=43.259) [available availability zones for a particular region](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=45.239) [we use the data keyword to pull that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=48.299) [So AWS has a whole bunch of data sources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=50.309) [that have been made available for Terraform to consume.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=54.229) [Now there are alternate data sources available.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=57.299) [And a few examples of those are template files.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=60.299) [I mean, we use the data keyword](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=63.279) [when we are generating the templates](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=65.249) [so you can see that templates are essentially a data source.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=67.229) [Additionally you can also use HTTP as a data source](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=71.229) [so you can define a data source that makes a call](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=75.239) [to a URL and then does something](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=77.259) [with the output of that URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=79.269) [And then finally there's an external data source type](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=81.279) [and the external's sort of the](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=84.269) [Swiss Army Knife of data sources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=85.269) [so that allows you to run a script](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=87.309) [with whatever preferred program you want](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=90.259) [to be able to extract information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=93.229) [and return it back to Terraform for consumption.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=95.219) [So we've already covered the templates file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=98.229) [in the previous section,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=99.309) [so let's take a look at how the HTTP data source is used.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=101.249) [Here's an example of an HTTP data source.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=106.269) [In this case we're using the data keyword, the HTTP type,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=109.309) [and then calling an example.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=112.309) [The only value you have to submit is the URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=114.299) [What URL is it going to be sending a request to?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=117.279) [And the type of request that it sends](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=120.249) [is a simple get request.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=122.219) [You can't do a post or anything like that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=123.309) [You can specify request headers](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=126.219) [to be included in the get command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=128.259) [So in this example we have the request headers block](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=130.269) [and we're using a header name and then a header value](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=133.309) [as a key value pair.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=137.259) [That will be included in the generic headers](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=139.269) [that are sent as part of the get request.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=142.309) [The response that Terraform gets back](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=145.299) [has to be in text or JSON format.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=148.229) [So it will look at the response type](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=151.309) [and if it's not string or JSON it's going to reject that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=154.269) [and throw an error.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=157.259) [Now even though it accepts JSON as a return value type](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=158.309) [it will not treat that as JSON when it returns it to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=163.219) [the greater Terraform configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=166.239) [it's going to treat it as a string.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=168.229) [So whatever manipulation you need to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=170.229) [you're going to have to convert that string](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=172.279) [to a list or map if you need it to be that data type.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=174.269) [When you want to use the response](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=177.309) [you use the data.HTTP.example.body.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=179.309) [So body is the output value for whatever response](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=184.249) [was received from the URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=188.249) [Now let's take a look at the external data source type.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=191.289) [So for the external data source type again](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=195.239) [data, then type is external, and we use example as the name.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=198.219) [What we're doing is passing it the name of a program to run](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=201.269) [and then a path to a script for that program to run](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=204.289) [so you can use Bash, you can use Python,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=208.259) [you can use PowerShell, as long as that program is available](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=211.279) [wherever Terraform is running](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=215.279) [it will run that program and then you pass it a path](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=217.279) [to a script you want that program to run.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=220.309) [Within the query block you give it a set of values](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=223.299) [which is a key value pair.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=227.229) [The information in the query will be packaged up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=228.289) [in JSON format and passed as part of standard input](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=231.239) [to the script.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=235.239) [So within the script you're going to have to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=236.279) [ingest that standard input, convert it to JSON](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=238.259) [and then parse it however you need to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=241.289) [to generate a response.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=243.279) [Once you've generated that response](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=245.269) [you have to convert that to JSON as well](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=247.259) [and feed it to standard output.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=249.299) [Terraform's pretty strict about this](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=252.219) [so if you try to pass it something](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=253.259) [that's not properly formatted JSON to the standard out](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=255.219) [Terraform will throw an error and not move any further.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=258.309) [Now when you want to use that response](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=261.309) [the nice thing is it does treat it as JSON](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=264.239) [which is basically like a map type.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=266.269) [When we want to reference a value](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=268.299) [that's been stored in the JSON tree](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=270.229) [we use data.external.example.result](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=272.229) [so result is all the results and then .some value](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=275.269) [and that value will be the key to return whatever value's](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=279.299) [stored in the JSON.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=284.219) [So we'll see a demonstration of that coming up shortly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=4&mode=live&start=285.239)

[**Creating an External Data Source**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live)

[So how are we going to use these additional data sources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=1.375) [to satisfy the needs of their remaining teams?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=4.365) [So if we go back to the set up that we've had so far](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=8.365) [we're going to add an additional table here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=11.385) [which is called DDT data source](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=14.295) [and this is for the change management team.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=16.305) [They said they wanted a centralized repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=18.315) [for all configuration information.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=21.295) [We're already using DynamoDB for some other stuff](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=23.325) [so why not just store that configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=26.315) [in a table in DynamoDB?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=28.315) [So the question becomes,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=31.325) [how do you get information out of this DynamoDB table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=33.335) [that we have sitting?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=36.375) [Because Terraform doesn't include a data source](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=38.295) [that can pull items directly out of a DynamoDB table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=42.295) [based on some query.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=45.365) [Maybe they will at some point in the future](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=47.305) [but today that doesn't exist.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=48.355) [So how are we going to do this?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=51.295) [Well there is something built in AWS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=52.345) [that can pull a DynamoDB table and that is Lambda.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=54.365) [Lambda is a server-less functions as a service](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=58.355) [offering within AWS so you write a script or a function](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=61.325) [that Lambda is supposed to run based off of some input](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=66.335) [and then it produces output.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=70.295) [So sort of event driven programming.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=71.375) [You can grant it access to that DynamoDB table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=74.315) [to pull items.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=77.305) [Now Lambda's only available internally, really,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=78.375) [so in order to facilitate accessing Lambda](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=82.345) [from an external end point you can use the API gateway.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=86.375) [We can pull that API gateway to fire off a Lambda function](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=90.355) [and pull information from a DynamoDB table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=94.315) [and that's where the external data source comes into play.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=96.385) [The Terraform config is going to have an external data source](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=99.365) [that fires off a PowerShell script.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=102.345) [So let's work through the process here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=104.345) [The first thing that's going to happen](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=106.385) [is that the Terraform config is going to use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=108.315) [the external data source to fire off a PowerShell script.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=111.305) [That PowerShell script is going to take information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=114.325) [from the external data source, turn it into a web request](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=116.345) [and send that web request to the API gateway.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=120.295) [The API gateway in turn is going to change the request](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=122.375) [from a get to a post and transform the header](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=125.365) [because Lambda doesn't like headers](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=129.335) [it only like stuff being in the body of the request.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=131.385) [The API gateway is responsible](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=135.295) [for doing that transformation.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=136.365) [Then it sends that request along to Lambda.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=138.385) [Lambda interprets the information, runs its function,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=141.355) [queries the DynamoDB table, which will return an item](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=144.365) [with the configuration information we want](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=148.385) [and then pass that information to the API gateway.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=151.315) [The API gateway in turn will send that information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=154.305) [to the PowerShell script which will take that information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=156.355) [and pass it back to the external data source](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=159.365) [thereby making it available](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=162.325) [for the Terraform configuration to use.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=163.375) [Super simple, right?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=166.355) [It's worth noting that when I originally planned this out](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=169.315) [I was going to use the HTTP data source](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=172.305) [which makes a lot of sense considering we're trying to use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=174.385) [a web request to get information out of a DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=177.355) [What I discovered in the process is that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=181.335) [since the HTTP data source will only give you](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=183.325) [a string back instead of JSON](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=185.385) [it's much harder to work with](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=189.295) [when you're trying to pull information out](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=191.295) [for the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=192.375) [It turned out it was a lot easier to use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=195.295) [the external data source to perform this operation](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=196.365) [rather than using the HTTP data source.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=198.375) [But enough talking, why don't we dive into the demo](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=201.345) [and get this all set up and see how it actually works?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=5&mode=live&start=203.335)

[**External Data Source Configuration**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live)

[Alright so we're back in Visual Studio Code](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=1.651) [and what I've got open here is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=3.651) [in the Lambda folder of module four](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=6.571) [I've got the index.js file open, that's the JavaScript file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=8.661) [that's going to be used for the Lambda function.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=12.651) [Now you can't just upload the JavaScript directly](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=16.601) [you actually have to put it in a zip file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=18.651) [So you notice below the index.js there's an index.zip file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=20.611) [that's the exact same file just placed inside a zip file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=24.641) [So it can be uploaded to AWS and unwound](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=28.581) [and placed in the Lambda function.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=30.601) [So what's inside this?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=32.581) [Now, I'm no JavaScript expert, but,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=32.661) [I did manage to cobble this together from some examples](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=35.601) [that I found online.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=38.611) [The first thing we're doing setting up a couple variables.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=39.641) [The first thing is to load the AWS SDK into a variable.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=42.591) [Configure what the region's going to be](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=45.661) [and then create a DynamoDB variable](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=47.621) [using the constructor AWS.DynamoDB.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=50.651) [So we've got that all set up,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=54.571) [we're ready to talk to DynamoDB.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=55.581) [Now we have to set up some parameters and expression](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=57.601) [to hand it to DynamoDB as a query.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=60.651) [So within the exports.handler function](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=64.591) [we are creating a variable called params.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=67.611) [Within the headers that are passed to this script](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=70.591) [there's a query text header.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=72.641) [That query text header has the query](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=74.601) [that we want to run against DynamoDB](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=76.631) [which should return exactly one item from the table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=78.651) [So we're storing that value in P](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=82.571) [and then we're creating a condition expression](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=84.591) [where project environment...](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=87.571) [Project environment in this case is the primary key](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=88.611) [of the DynamoDB table, equals P.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=91.591) [And the table name that we're talking to is DDT-datasource.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=94.641) [Then we actually execute a query using the query function](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=98.621) [and for the query function we hand it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=101.641) [the parameters variable that we just crafted.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=103.631) [Now if there's an error it has to hand back](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=106.621) [an error to the console.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=108.611) [If there's not an error and the query executes properly](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=110.571) [we're going to build a response body to hand back](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=113.641) [to the external data source.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=116.661) [So we have to create a JSON response to give back.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=119.611) [So we start with the curly brace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=122.631) [and then we iterate through each item](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=124.611) [that's returned by the query.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=126.591) [Now only one item should be returned](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=127.631) [so we actually only run through this loop once.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=129.581) [So we're going to add to the response body string.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=131.611) [We're going to go through each entry in the item](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=134.611) [and create key value pairs that are separated by a colon](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=136.641) [and then put a comma after each](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=139.661) [thereby constructing proper JSON.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=141.661) [At the bottom we add another curly brace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=144.641) [Once that response body is created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=147.571) [we have to structure the actual response itself](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=148.661) [so we create a final variable called response](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=151.571) [with a status code of 200 signaling that it was successful.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=154.591) [No headers, the response body as the body,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=157.581) [and then, that it's not base 64 encoded](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=160.571) [and then the callback function sends that response](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=162.651) [back out of Lambda to whatever called it initially.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=166.651) [So that's the whole index.js.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=170.631) [So let's jump over to the Lambda functions.TF file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=172.661) [and take a look at what's in there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=175.661) [So in the Lambda functions.TF file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=177.641) [we're taking standard variables AWS access and secret key](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=180.601) [we're specifying what the DynamoDB table is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=184.591) [that's going to hold all this configuration data](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=187.591) [and also the variable account ID](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=189.631) [and the reason we have to specify that,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=192.621) [that's the account ID associated with your AWS account.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=193.661) [There's no data source that exists in Terraform today](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=197.651) [that can pull that value so](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=200.631) [so we actually have to specify it in the variables.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=202.601) [So I've added that as an entry in my Terraform tf vars file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=204.611) [Scrolling down into resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=209.571) [first we're going to set up the DynamoDB table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=211.581) [and as you saw in the index.js](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=213.631) [the hash key is project environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=216.581) [so that's the primary key for this DynamoDB table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=218.611) [so that has to be unique.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=222.601) [And then we're creating a policy](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=224.621) [that allows access to the DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=225.661) [So it allows actions like DynamoDB get and DynamoDB query.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=229.591) [Once we've set that up we also create a role for Lambda.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=234.641) [So Lambda has no access to anything else by default](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=238.631) [we have to create a role that it will assume](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=242.591) [when it's running.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=245.621) [So that's what this resource is doing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=246.611) [it's creating a role for Lambda to assume.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=247.661) [And then the final portion of that, the key to this,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=250.641) [is we attach the policy that allows access to DynamoDB](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=254.591) [to the role that Lambda's going to assume](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=258.661) [and now it's going to have access to DynamoDB](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=260.631) [to run queries and get items.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=264.591) [Now we get into the Lambda function creation.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=267.591) [So the first thing we do is create that Lambda function,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=269.591) [you can see we specify a .zip file name](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=271.601) [that's going to be uploaded to Lambda to create the function.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=274.631) [We give the function name,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=278.611) [we give the role that we created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=279.631) [for it to assume access to DynamoDB.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=281.601) [We specify a handler, and then, what's the run time?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=284.621) [In this case we're using nodejs.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=286.661) [Then we have to start constructing the API gateway.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=289.601) [So the first thing we have to do for API gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=292.641) [is create a rest API type for it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=295.651) [so we do that first.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=298.611) [And then we create the API gateway resource itself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=299.651) [For that we have t hand it the ID](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=303.591) [of the rest API that we just created before that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=305.591) [Once the gateway exists we have to create a method](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=307.661) [for our rest API, and in this case,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=311.631) [we're creating a get method.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=313.661) [I want to be able to send a get request to the API gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=315.591) [and get a response back from it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=319.571) [Now the question is what is the API gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=321.571) [do with that get request?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=323.581) [And that's handled by the next section](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=324.621) [which is the integration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=327.571) [The API gateway integration takes the rest API](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=328.591) [and the HTTP method we just described](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=331.611) [and now we're going to tell it what to do with that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=335.591) [So it's going to convert the get request into a post request](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=338.591) [and it's going to proxy that request](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=341.651) [so the type is proxy and it's going to proxy that request to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=344.591) [the Lambda function so we give it the URI](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=348.571) [of the Lambda function.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=350.621) [Then we have to give it permission to invoke that function](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=352.611) [so the next resource simply gives the API gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=355.631) [permission to invoke the Lambda function](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=360.581) [otherwise it wouldn't be able to do it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=362.601) [So we give it the function name](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=364.581) [and what action it's allowed to do.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=365.611) [And we also have to specify the source arn.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=367.631) [Now in this case that is constructed from the current region](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=371.621) [and the account ID along with some other values](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=375.581) [and that is why we need the account ID as a variable,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=378.581) [it's the only time it's used.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=381.601) [Hopefully there will be a way in the future](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=382.641) [to get that information without specifying the variable.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=384.601) [For the moment being, we have to look it up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=387.591) [and then specify it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=388.661) [Scrolling down a little further](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=390.621) [is the last portion of this](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=392.571) [which is to actually deploy the gateway.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=393.631) [So we've done all this work](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=395.621) [we've got it prepped and ready](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=396.651) [now we actually want to deploy the gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=398.631) [and make it accessible externally.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=400.631) [So in this case we have to have](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=402.641) [an explicit dependency on the integration piece](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=403.661) [then we hand it the rest API ID and the stage name](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=407.601) [that we want to deploy it in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=411.591) [so we're making up a stage called prod.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=412.601) [Now the output of all of this](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=414.611) [is going to be the URL that can be used](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=417.571) [to invoke the Lambda function](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=419.621) [and that's a construction of the deployment ID,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=421.611) [the current region that we're in,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=424.621) [the stage that we're in, and the Lambda function name.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=428.611) [So munge all that stuff together and you get the actual URL](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=431.661) [that you're going to call in order to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=436.571) [invoke the Lambda function and get the information you need.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=438.591) [So let's go ahead and deploy this thing.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=6&mode=live&start=441.651)

[**External Data Source Deployment**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live)

[Alright so let's go into the Lambda folder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=1.41) [and we're going to run the Terraform initialization.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=5.36) [Pretty standard here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=9.35) [We're just going to drop in Terraform in it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=10.37) [with our variables file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=12.39) [it's going to pull down whatever resource providers it needs](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=14.36) [which in this case, it's only the AWS, so,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=17.41) [that pulls pretty quick.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=20.36) [Alright clear screen again.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=22.34) [Okay so we're going to run the Terraform plan here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=23.4) [And that should go relatively quickly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=27.39) [We go, so it's going to add eight new resources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=30.36) [sounds good to me.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=33.34) [Let's go ahead and run Terraform apply.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=34.38) [And the nice thing about this is it will go pretty quickly](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=36.39) [because fortunately it doesn't take very long](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=39.38) [to create Lambda.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=41.4) [So the thing that actually probably takes the longest](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=43.33) [is to create that DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=45.39) [Alright so we have finished that, and,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=48.33) [what you're going to want to make note of here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=50.4) [is the invoke URL because that's going to be used](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=52.37) [in future configurations.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=55.39) [We're also going to have to populate some information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=56.37) [in our DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=58.36) [So if we expand out the scripts folder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=59.42) [that's within module four](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=62.37) [there's two files, a development, and a production DynamoDB.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=63.41) [So within the development DynamoDB text file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=67.39) [what we've done here is set up a bunch of key value pairs.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=71.35) [They're going to be used in the network](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=75.41) [and application configurations.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=77.36) [There's stuff in here like, who's the application lead?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=79.35) [What's the project code?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=81.38) [What RDS engine is being used?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=83.35) [And then the CIDR range and the subnet count.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=85.4) [So all this information is going to be used](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=88.36) [in the configuration that I'm going to show](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=91.37) [in the next part of the demonstration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=93.38) [but in order to use these](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=95.36) [we actually have to add them to DynamoDB.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=96.39) [So, what we're going to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=98.42) [is just take all this text and copy it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=100.39) [We'll switch over to DynamoDB, so let's jump into DynamoDB.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=101.42) [Look at our tables.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=108.33) [There's our data source table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=109.4) [Click on the items and we're going to create an item](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=112.37) [and so the easiest way to create an item in this case](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=115.38) [is we're going to change the drop down to text.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=118.41) [Highlight what's in here and just overwrite it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=121.41) [with what was in the development text.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=125.34) [Go ahead and save that,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=126.35) [now we have a development environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=127.41) [that's associated with that project.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=129.37) [If we go back and open the production DynamoDB](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=131.37) [we can just repeat the same process.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=134.42) [There we go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=138.35) [So now we have a development and production environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=139.41) [configuration settings stored in this table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=143.37) [that can now be accessed by that external data source.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=146.35) [So before we actually go through that exercise](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=149.41) [let's take a look at the environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=152.36) [that we're actually going to be deploying](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=153.39) [using all this configuration information.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=7&mode=live&start=155.42)

[**Application Environment**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live)

[So here's the current network configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=1.731) [that we've been working with in the previous modules.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=4.681) [It's a very simple set up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=6.751) [You've got two public and two private subnets](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=8.711) [each in their own availability zone](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=11.711) [each one has a nat gateway associated with it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=13.731) [and then there's an internet gateway.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=15.751) [That's what's going to be set up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=18.711) [by the network configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=20.741) [The IP addressing for that information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=21.731) [is going to be stored in that configuration file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=23.751) [so that's one of the things that's going to be accessed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=25.751) [during the configuration process](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=28.671) [as well as the number availability zones](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=30.691) [and therefore the number of subnets](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=32.671) [that should be configured as well.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=33.721) [What we're going to be adding on top of this](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=35.721) [is an auto scaling group for a webapp.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=37.721) [So that's going to be created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=40.691) [and it's going to span the two availability zones.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=41.741) [And in front of that we're going to put](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=44.741) [an elastic load balancer to balance traffic](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=46.761) [across the auto scale group.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=48.711) [Behind that we're going to be putting an instance of RDS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=50.741) [and that RDS instance could either be](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=54.691) [in a single availability zone](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=56.691) [or we could do a multi-availability zone](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=57.731) [depending on what the setting is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=60.731) [in the configuration we're pulling from the DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=62.711) [Additionally we're going to set up a bastion host](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=66.671) [and that bastion host could be used by the application team](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=68.741) [to get inside the environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=72.681) [and make any tweaks or modifications](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=73.751) [or it could be a way to programmatically access things](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=76.691) [in that environment to load data](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=79.671) [or make configuration changes on individual instances.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=81.681) [So that's what we're going to be deploying](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=85.731) [from the application standpoint.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=8&mode=live&start=87.691)

[**Networking Configuration and Deployment**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live)

[First let's look at networking, and within networking,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=1.843) [there's a file called data sources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=4.893) [And the first thing that I want to look at](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=7.813) [is actually a little farther down](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=8.853) [it's the external configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=9.903) [and that's kind of what a lot of](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=11.893) [the rest of the data sources rely on.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=13.853) [So within the external configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=16.833) [the program we're using here is PowerShell](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=18.833) [and that's just because I like PowerShell.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=20.853) [But like I said you could use Bash or Python](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=23.853) [or whatever scripting language you want](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=26.853) [as long as the executable is available locally.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=28.833) [We're also passing it a script](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=31.873) [and the script is the get environment.PS1 script.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=33.823) [In the web request we're going to assemble a header](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=36.873) [called query text and so we need to pass it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=39.863) [some values to use.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=42.823) [The first is what workspace are we in?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=43.843) [Are we in development, are we in production,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=45.863) [what's going on there?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=47.863) [The next is the project code.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=49.813) [The project code combined with the work space](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=50.893) [is how we query the DynamoDB table for information.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=52.903) [And finally the URL of the front side of the API gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=56.833) [to send that request to to get the information.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=60.893) [Let's take a look at the PowerShell script](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=63.873) [to see what it's actually doing.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=65.813) [Now and the first thing it does](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=66.853) [and I referenced this before](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=67.893) [is the values that are being passed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=69.863) [are passed in standard in in JSON format.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=72.863) [So we have to take whatever's sitting on that standard in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=75.863) [and pull it into a variable,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=79.883) [we're going to call it JSON payload](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=81.893) [and then convert it from text to JSON so it's usable.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=83.853) [Then we're going to access those values](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=89.843) [and place those values in variables.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=91.823) [Now we're going to create the query.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=94.823) [And so first we're going to create a hash table for the headers](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=95.883) [and in those headers add a header called query text](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=99.843) [which has work space dash project code as the value.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=103.853) [That values is what's going to be used](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=107.833) [to query the DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=108.873) [Then we make a web request to the URL we've passed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=111.833) [using the method get with the headers that we've created.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=115.823) [Within that response is the content which is the JSON](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=118.863) [that was generated by Lambda.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=121.903) [And we're going to write that to standard out](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=124.873) [or just do write output.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=127.823) [It's already properly formatted as JSON](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=129.813) [so Terraform's going to be more than happy with it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=131.853) [Those values that it returns are going to be used](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=135.873) [in the rest of the data sources here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=137.903) [So the very first thing we have is locals](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=140.823) [and locals are, you can think of them as local variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=142.893) [that are being defined that you can reference](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=146.823) [again and again throughout the rest](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=148.853) [of the Terraform configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=149.893) [In this case we want to create a map of common tags](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=152.823) [that every resource should have.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=155.813) [So on every resource we want to know](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=157.853) [what's the environment, the billing code, project code,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=158.893) [who's the network lead and who's the application lead?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=161.873) [All that information is stored in the result](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=164.843) [from the external configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=167.823) [So we're going to reference each of those items.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=169.863) [Next thing we're going to do is use an inline template](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=172.813) [and that is to figure out what the proper IP addressing is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=174.893) [for the public and private subnets.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=180.813) [So we're taking what we know](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=183.813) [from the external configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=184.883) [we know how many subnets should exist that's the count.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=186.843) [And then we're doing an in line template, and,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=189.903) [the in line template we're taking the VPC IP address space](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=192.893) [and slicing it up and adding eight bits to it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=197.853) [to create the subnet and then using the current count](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=201.813) [to increment it to the proper subnet ID.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=203.893) [Now the values for VPC CIDR and current count](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=207.863) [are defined in the variables block](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=210.903) [so the VPC CIDR we're just going back](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=212.893) [to our external configuration and getting](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=215.843) [whatever the CIDR range is.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=218.813) [And then current count, because this is the public subnet,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=218.893) [the way that we want it to number it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=221.873) [public subnet gets the odd, so dot one,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=223.853) [dot three, dot five, and private gets the even.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=226.813) [So in this case we're multiplying the count index by two](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=230.813) [and then adding one to get the odds.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=234.863) [If we scroll down to private subnet](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=237.853) [and look at the way the current count is defined there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=238.903) [it's just count index times two](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=242.823) [so we're getting all the evens and using those](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=243.873) [to allocate private subnet.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=245.903) [So that's all of our data types that are going to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=248.873) [feed into the resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=250.843) [Looking at the resources at large](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=252.863) [there's actually not a whole lot here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=254.843) [We're still using the VPC module to spin all this stuff up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=256.883) [Naming we're going to use whatever workspace we're currently in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=262.883) [for the naming process.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=266.813) [We're going to pass it the CIDR range that we got](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=267.893) [from our external configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=269.873) [The availability zones, and availability zones that we get](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=271.893) [are based off of the number of subnets](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=275.833) [that are defined in the external configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=277.903) [So if you scroll over a little bit](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=280.863) [we'll see that we're referencing the VPC subnet count.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=281.883) [For the private subnets we're using the in line template](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=285.893) [that was defined in data sources and for public subnets](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=289.853) [we're doing the same thing.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=292.843) [And you can see since we use the count](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=293.873) [it creates multiples of that template](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=295.863) [and so by using star it actually creates a list](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=298.903) [of the template strings and passes that list](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=302.833) [to private subnets which is the data type](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=305.823) [that private subnets is expecting.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=307.833) [We're going to enable nat gateway.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=309.893) [We're not creating a database subnet group](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=311.883) [and then down in tags, you can see we're using](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=313.863) [that local variable of common tags](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=315.903) [to make sure that the VPC is tagged appropriately.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=318.823) [For the back end we are using the remote back end.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=322.843) [Not going to go through that again.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=325.813) [Variables are pretty much the same,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=326.863) [so we're not going to go through that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=328.813) [So let's go ahead and actually deploy this.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=330.833) [We'll clear the screen,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=332.813) [we'll bounce up one level and go into networking](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=334.813) [and then we're going to run our Terraform initialization.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=337.903) [So what does that look like?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=341.873) [We're passing the AWS profile of Mary Moe](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=343.813) [and the reason we're doing that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=345.883) [is rather than passing the variable file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=346.903) [which we've done before](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=349.893) [we actually want to use Mary Moe's credentials](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=351.823) [for this deployment,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=353.843) [so we're passing a variable of AWS profile equals Mary Moe](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=354.863) [to make sure that Mary Moe is the profile that's being used](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=358.853) [to actually deploy this stuff.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=360.903) [And then we're just setting it up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=362.893) [with the proper back end configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=364.893) [So what am I using for DynamoDB?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=366.893) [What bucket am I storing my config in?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=369.813) [And then what profile should I use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=371.813) [to write that back end config?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=373.863) [Which, in this case, should be Mary Moe.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=375.883) [Go ahead and run that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=377.893) [Alright, so we've download our plugins,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=379.833) [we've configured the backend.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=380.903) [That all seems pretty good.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=382.883) [So now that everything's initialized](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=384.863) [we're going to create a work space.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=386.853) [So in this case](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=389.813) [we're going to be doing a development deployment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=389.893) [so what we want to do is create a deployment work space](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=391.903) [and it's going to use that work space value](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=395.853) [as you saw in the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=397.833) [to determine what information to pull](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=399.853) [from the DynamoDB table for the deployment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=401.893) [We're now on our development work space.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=405.823) [So I just cleared the screen to make some room.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=407.893) [One of the values we're going to need in order to run plan](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=409.873) [is to actually get the output that was from Lambda.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=412.873) [So if you're not familiar with this command,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=416.813) [if you run Terraform output](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=418.813) [it will give you any of the outputs](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=420.823) [that were from a previous run of Terraform apply](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=422.813) [so in this case we have the invoke URL that we want to use.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=426.813) [So let's jump back into the networking directory](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=429.853) [now that we have that value](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=432.883) [and let's paste in the plan command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=434.873) [But as you see I don't have the URL in there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=437.863) [so let's go ahead and copy and paste that URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=440.833) [Alright, that looks good.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=443.823) [And go ahead and run it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=444.873) [Alright so that ran pretty fast.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=447.853) [Let's just scroll up and take a look at what it actually did](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=448.903) [in the earlier portion of planning.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=452.833) [So it refreshed the state from external configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=454.903) [and that's when it actually went out and grabbed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=458.853) [all that information from DynamoDB using the PowerShell](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=460.843) [and then it checked availability zones](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=464.823) [and then it used all the template file iterations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=465.883) [to generate the information for the template files.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=468.853) [And it outputted a configuration for us](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=471.883) [which if we scroll all the way down, you can see,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=475.823) [in the tags, it's got all the tagging information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=477.883) [that we wanted from locals.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=481.813) [So, what's the name of the VPC?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=482.893) [Who's the application lead?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=486.813) [What's the billing code?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=487.843) [Et cetera.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=489.823) [That all looks good so let's go ahead](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=489.903) [and run Terraform apply to create the environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=491.873) [Now obviously that's going to take a little while, right?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=495.863) [It has to spin up those nat gateways](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=498.843) [so those can take a little while.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=500.833) [Everything else generates pretty fast.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=501.893) [While that's running let's go ahead and hide that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=503.873) [and we'll move into the applications block.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=9&mode=live&start=506.893)

[**Application Configuration**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live)

[Alright so expanding applications.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=1.967) [Let's look at data sources for applications.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=5.907) [So if we scroll down to the bottom](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=8.957) [we can see the external configuration is exactly the same.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=10.907) [We're running PowerShell, we're running that script,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=13.977) [and we're querying it with the same information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=16.977) [so it's going to return all that information for us.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=18.997) [What else is in here?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=22.907) [Well we're going to want to run instances within AWS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=23.947) [for the auto scale group and the bastion host.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=28.907) [So what's the easiest way to get those AMIs](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=31.957) [that we're going to be using for the instances?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=33.977) [In this case we're using a data source called AWS AMI](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=35.997) [and we're specifying a number of different filters](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=39.957) [to make sure we're getting the AMI that we want.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=43.947) [So by specifying the owner as Amazon](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=46.987) [and then the name being Amazon-specific version of Linux,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=49.987) [making sure it's on a 64 bit architecture](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=54.997) [and matching the right virtualization and root device type.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=57.927) [So that should return pretty much a single AMI](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=61.907) [that we can use for all of these instances.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=64.957) [The other portions that we're defining here is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=67.977) [in the locals we're doing common tags again](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=70.937) [to make sure our tagging is consistent.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=72.977) [We're also defining what the work space key is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=75.927) [and the reason we're doing that is because](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=78.937) [when you're using just the default workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=81.927) [it places the remote state just in the root folder.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=83.917) [When you start using work spaces the remote state ends up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=86.967) [in an environment work space and then the remote state key.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=90.957) [In order to reference the remote state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=95.927) [for networking properly](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=97.977) [we have to make sure that it's dependent on](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=99.937) [whether we're using the default workspace or not.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=101.997) [So looking at the Terraform remote state data type](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=104.917) [this is where we're actually pulling information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=108.947) [from the networking config](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=110.937) [to inform what's being used in the application config.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=112.937) [So the back end is S3, we know that,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=116.947) [the key, we're using conditional logic](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=119.917) [to define what the key value should be.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=121.987) [So what this conditional value statement is saying](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=124.947) [is if the Terraform workspace is default](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=127.967) [then just use whatever the remote state key is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=130.977) [in the variable.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=134.917) [If it's not, reference that local value](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=135.947) [that we set up in the locals code block](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=138.987) [and use that work space key.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=140.997) [So since we know we're going to be using development](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=142.977) [it's going to use the work space key that we've defined](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=145.947) [farther up that's in the development work space.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=148.977) [And then what profile should it use?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=152.917) [So we're going to reference the AWS profile and what region.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=154.947) [Now let's take a look at what's in resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=158.937) [So what are the resources we're actually deploying](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=161.907) [for the application side?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=163.917) [The first thing that you'll see is the launch configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=164.997) [and the launch configuration is a component](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=168.907) [that's required for the auto scale group.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=170.917) [In that we're telling it what the naming prefix should be](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=173.907) [for all the instances in the auto scale group,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=176.927) [what image ID we should use, and remember,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=179.927) [we're pulling that image ID from the data source of AWS AMI](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=181.937) [scoped to a very specific image.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=185.937) [And then also the instance type](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=188.957) [and we're defining that within the configuration data](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=190.987) [that's sitting in that DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=193.987) [We're also associating it with some security groups](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=196.947) [that are defined in a separate Terraform configuration file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=199.967) [Passing it some user data for basic configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=202.947) [really just installing NGINX.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=205.997) [Associating it with a key name](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=207.997) [and so that's the SSH key that you can use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=209.957) [to log in to the instance.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=211.997) [And whether or not to give it a public IP address.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=214.967) [Further down we're going to create an elastic load balancer](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=217.947) [and if you look at the subnets that are associated with it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=219.987) [we're using the remote state from the networking](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=222.927) [to pull the list of public subnets](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=225.917) [and handing that to the elastic load balancer to set up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=227.947) [Scrolling down a little bit further](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=230.937) [can see there's a security group that's associated](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=231.977) [with a load balancer to allow port 80 inbound traffic](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=234.907) [and we're using the local common tags again.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=238.907) [Now we're actually going to create that auto scaling group.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=240.987) [In order to identify what subnets it should be in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=244.907) [for the VPC zone identifier, again,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=247.947) [we're passing it the public subnets](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=250.907) [that are an output of the networking state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=252.937) [For the min and max size of the auto scale group](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=254.977) [we're looking at what's in the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=257.987) [from the DynamoDB table and then the launch configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=260.967) [and load balancer we've already created.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=263.917) [Finally because of the way](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=265.927) [that the auto scale group resource works](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=266.977) [it doesn't allow you to merge together](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=269.907) [an existing list of tags, and then another list of tags,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=271.917) [you actually have to pass it all the tags at once](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=273.957) [because there's some additional settings in here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=277.947) [and it's mostly the propagate at launch value](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=279.987) [being set to true.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=282.937) [That value has to be set in some way](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=283.997) [and the local variable that we created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=286.907) [for the common tags doesn't have that value in it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=288.987) [so you're handing it a list of maps.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=291.987) [So in this tags configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=294.927) [we're manually listing out the common tags](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=296.937) [that we want to use.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=298.997) [It's still better than if you had to update tags](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=300.907) [updating them on every single resource](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=302.917) [now you just have to update the common tags and this one.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=303.987) [Then we set up auto scaling policies for when to scale up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=306.967) [And then we also set up policies](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=310.927) [based off of when to scale down.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=312.987) [So when should I add more capacity to the auto scale group?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=315.937) [When should I remove capacity for the auto scale group](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=318.967) [based on that max and min threshold](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=322.907) [that we've already set up?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=324.937) [Scrolling further down we set up our bastion instance.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=325.967) [The bastion instance uses the same AMI that we're using](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=329.967) [for our auto scale group and the instance size is the same](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=332.977) [as whatever's in the auto scale.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=336.927) [We could pull that out in its own configuration item.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=337.997) [It was easier to leave it this way.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=341.917) [We're also looking in the remote state of networking](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=343.927) [and grabbing the first of the two public subnets.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=345.977) [We know there's always going to be at least one subnet](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=348.957) [so we're grabbing element zero of the public subnet list.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=351.917) [There's also a security group](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=355.997) [associated with that bastion host and a key name.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=357.927) [For the common tags, in this case,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=360.987) [we can use a merge function.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=363.937) [So we're taking the common tags that already exist](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=365.957) [and merging it with a name for this particular instance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=368.927) [which we're calling DDT bastion host.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=372.957) [Then we have to give an elastic IP.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=375.957) [Then we get into the RDS configuration items.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=377.967) [So we're setting up a DB subnet group](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=380.997) [so that's a group of one or more subnets that RDS should use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=383.937) [for its instances.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=387.947) [So if you were doing a multi-availability zone RDS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=388.977) [you could hand it a private subnet](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=392.967) [in each of those availability zones.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=394.937) [You'd have the primary copy in one subnet](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=395.997) [and then read only copies in the others.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=398.967) [Then we create the actual database instance for RDS itself](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=400.957) [and so a lot of the configuration information for this](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=404.927) [like the engine, the allocated storage,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=406.967) [multi AZ, et cetera, is all stored](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=409.917) [in that configuration file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=411.927) [so it would be very easy to update.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=412.957) [Down at the bottom I have skipped final snapshot set to true](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=414.937) [and the reason it's set that way is because](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=417.927) [if you want to destroy it programmatically from Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=419.927) [you have to set that to true](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=422.987) [otherwise it'll hang up on trying to take the final snapshot](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=424.907) [before destroying.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=426.997) [In a production scenario](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=428.957) [you would probably set that to false](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=430.907) [and find another way to handle the destruction.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=432.967) [Since this is all for demonstration purposes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=435.937) [I'm less concerned about that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=437.937) [Those are all the resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=439.917) [that we're deploying in the application.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=440.937) [The security groups, I'm not going to go too deep into this,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=442.967) [it's just a list of security groups](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=445.927) [and I defined in its own file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=447.977) [so you could have a separate team](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=449.967) [like the security team hand you a list of security roles](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=452.917) [in a security groups TF and you could just integrate it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=456.977) [into your existing configuration and then reference them.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=460.947) [If they had to bless the security groups](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=462.927) [this is a way to sort of separate that out.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=464.917) [So within this file there's just a list](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=466.937) [of different security groups to associate with](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=468.907) [the bastion host, the elastic load balancer,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=469.997) [the individual instances themselves, and RDS.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=473.917) [So that all looks good.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=476.997) [Let's go ahead and run](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=478.917) [the Terraform configuration process for applications.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=10&mode=live&start=480.907)

[**Application Deployment**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live)

[Now you can see in the terminal](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=0) [that the apply of the networking resource is completed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=2.665) [and below it are a listing of outputs.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=5.645) [Because we used a module in networking](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=8.675) [the outputs from that networking module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=11.665) [are not accessible directly in remote state,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=14.655) [they're sort of obscured within that module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=17.655) [So let me just expand this out for a second](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=20.585) [within the networking outputs file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=22.585) [I actually have defined a set of outputs that I need to have](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=24.675) [from that module to feed into other components.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=28.675) [If it's a resource that's not using a module,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=32.665) [whatever outputs it has normally are directly accessible](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=35.625) [from the remote state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=38.645) [But because we're using a module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=40.645) [the outputs have to be explicitly defined from the module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=42.615) [to be exposed within the remote state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=46.645) [So since we needed this information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=49.595) [it's been listed out here in the outputs.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=51.635) [Let's go ahead and run the initialization.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=53.675) [Alright so the initialization is essentially the same](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=56.595) [as what we use for networking.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=58.665) [The main difference being the AWS profile](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=60.645) [is now set to Sally Sue instead of Mary Moe](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=62.665) [since that's who we're going to be running it as.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=66.605) [The back end config is also using Sally Sue](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=68.585) [and the bucket is now using application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=70.645) [instead of networking.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=73.635) [There we go, it's all initialized up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=75.585) [Let's clear out the screen.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=76.655) [And now we're going to create the development work space.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=78.615) [Go ahead and run that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=80.655) [Alright so it has now created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=82.625) [that empty work space for us under development.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=84.585) [Alright so the next thing we're going to do is run the plan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=85.665) [Okay so we're going to ahead and run the plan for this.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=89.585) [The plan is basically the same as](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=91.635) [what we used for networking as well.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=93.645) [Again the AWS profile of Sally Sue](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=95.585) [so go ahead and run that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=97.665) [So it is reaching out to all of its data sources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=99.645) [to get information.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=102.635) [And looks like it was very successful.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=103.665) [It found 18 resources to add.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=105.665) [Before we run that let's just go up and take a look at](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=108.635) [what it actually did from a data source perspective.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=110.655) [It went out and looked at the](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=114.635) [Terraform remote state for networking and pulled that state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=115.675) [We're running as Sally Sue so that proves that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=119.605) [Sally Sue has access to read the networking state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=121.675) [although not to write to it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=124.645) [Then we used the external configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=126.615) [to pull the configuration data from the DynamoDB table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=128.615) [and finally we pulled the AMIs for AWS Linux.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=131.605) [So now that we have all of that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=135.615) [we're ready to actually apply the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=136.665) [So let me go ahead and copy that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=140.605) [and we'll go ahead and apply it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=142.665) [So this process is probably going to take awhile](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=144.645) [because it has a lot of resources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=147.615) [it actually has to spin up,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=149.615) [it has to create all of those security groups,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=150.625) [it has to create the auto scale group that we wanted,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=152.675) [it has to create the RDS instances that we want.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=155.675) [Why don't we go ahead and jump into the AWS console](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=158.655) [so we can kind of just get an idea of what's going on](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=161.595) [and what the tagging looks like.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=163.585) [Alright so from here why don't we go into EC2.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=164.645) [And look at what's going on in instances.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=169.675) [So we have one running instance so far](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=172.625) [and we have a bunch more spinning up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=175.595) [So the bastion host has been allocated](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=177.585) [and if we look at the tags for it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=179.665) [we can see that it pulled the name tag](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=181.675) [and then merged it in with the common tag](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=184.595) [so we have our application lead, a billing code environment,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=185.675) [a network lead, all laid out appropriate.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=188.675) [Let's go and look at RDS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=191.605) [and on the RDS side of things we've got one instance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=193.625) [that's in the process of creating](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=196.635) [so we can select that and take a look at it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=198.675) [and we can see that the correct engine has been selected](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=201.625) [the correct instance class has been selected.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=204.615) [That all looks good as well.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=207.615) [Let's flip back to the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=209.585) [and we're just going to let that run until it completes.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=211.585) [Now once this application environment is complete](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=214.625) [we still haven't actually laid down the application.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=217.625) [It is possible to use provisioners within Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=219.645) [to lay down the application.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=223.595) [But while Terraform's good at handling](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=224.675) [the initial lay down of the application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=226.665) [it's not necessarily good at](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=229.595) [keeping that application up to date and configured properly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=230.595) [Generally that's handled by some other system](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=233.645) [whether it's Puppet, Chef, Ansible,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=236.645) [any of those configuration managers.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=238.665) [So in a later module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=240.655) [we're actually going to lay down the application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=242.585) [in this case, a Wordpress site.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=244.615) [We're going to use Ansible to lay down that application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=246.595) [rather than relying on Terraform to understand that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=248.665) [a small modification in the application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=252.605) [doesn't require a redeployment of the entire instance.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=254.625) [Alright, so that's all complete.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=258.595) [Go back to the console, we should be able to load](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=260.585) [the elastic load balancer and find the public DNS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=262.635) [and pull up the default site from NGINX.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=266.615) [So that's our one load balancer, this is its DNS name,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=269.615) [and go ahead and grab that and drop that into the window.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=272.655) [There we go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=277.635) [So now we have successfully deployed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=278.615) [a networking environment,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=280.645) [an application environment on top of that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=281.675) [that use the remote network state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=283.655) [and pulled all of its configuration data](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=285.645) [from a DynamoDB table using Lambda.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=287.675) [That's not a bad set up is it?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=11&mode=live&start=291.635)

[**Module Summary**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live)

[So to sum up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=0) [Templates are something that really improve code reuse.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=3.561) [You can see where I created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=6.601) [a user policy and a bucket policy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=8.531) [Those are the types of policies](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=10) [that can be re-used by multiple different configurations.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=11.581) [So to have that abstracted into its own template file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=14.591) [is really useful.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=17.581) [And also if you have a security department](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=18.611) [that likes to hand you policies](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=20.591) [you can just simply take that policy](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=22.621) [add in the interpolations you need](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=24.601) [and reference it within your Terraform configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=26.581) [Data sources are really the glue](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=29.611) [that hold configurations together.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=32.551) [I think you saw how many times we referenced](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=34.551) [other data sources to complete the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=37.561) [of both of the networking](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=40.531) [and the application configurations.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=41.591) [There was a lot of referencing back to data sources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=44.551) [They are one of the more important constructs](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=47.531) [as your configurations grow in complexity.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=49.561) [The only limit to data sources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=52.571) [is really your imagination and some of the limitations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=54.561) [of the data sources themselves](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=57.621) [which is why the Swiss Army Knife](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=59.581) [of the external data source exists.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=61.551) [If there's not a data source](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=64.561) [that already exists in Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=66.541) [that allows you to do what you want](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=67.611) [you can always go to the external data source](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=71.531) [write something in whatever your preferred](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=73.591) [scripting language is, and have that execute,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=75.561) [and as long as it returns back valid JSON formatted strings](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=77.611) [the only limit really is your imagination.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=82.571) [Coming up we're going to take](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=86.551) [the Terraform configurations that we've been working on](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=88.541) [and learn how you can integrate Terraform with Jenkins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=90.601) [Jenkins is software for continuous integration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=94.591) [and it does have a Terraform plug-in.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=98.551) [But what you're going to be learning there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=100.581) [is not necessarily how to use Jenkins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=101.601) [but really more broadly how to use Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=104.571) [in a CICD pipeline, whether that software is Jenkins,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=107.541) [or Visual Studio Team Services,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=111.581) [or any of the other CICD programs that are out there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=113.611) [That and more is all coming up in the next module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=57a974c1-ea3b-4077-8c83-829115c6fb34&clip=12&mode=live&start=117.591)

[**Adding Terraform to a CICD Pipeline**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live)

[**Introduction**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live)

[Infrastructure deployments are just part](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=2.01) [of the process.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=4.05) [Applications will be deployed on top of that infrastructure,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=5.09) [sometimes using something called](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=8.08) [a continuous integration and deployment pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=10.02) [In order to reduce friction and streamline](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=12.09) [the application deployment process,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=15.05) [it makes a lot of sense to add Terraform configurations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=17.07) [to the pipeline and source control.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=20.03) [Let's get Terraform integrated with the process.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=22.03) [Hey everyone, this is Ned Bellavance,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=24.09) [Microsoft MVP and Cloud and datacenter management.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=26.06) [In this module, you'll learn how to set up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=29.04) [a basic pipeline in Jenkins and integrate](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=31.04) [your Terraform configurations with automated deployment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=33.09) [Before we dive into the actual integration of Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=40.03) [let's first level set with terminology.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=44.06) [Personally, I come from a background of infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=47.03) [and operations, which means that some of the terminology](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=50.02) [that I'm using here was initially very unfamiliar to me.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=53.03) [But don't be scared, this is a safe space.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=56.03) [We'll talk through these terms so you can feel comfortable](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=59.03) [if you're not familiar with any of them as we move forward.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=61.09) [Once we feel comfortable with our terminology,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=65.05) [we're going to look at how automation is being used](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=68.02) [at Globomantics, and we walk through an example](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=71) [of how that deployment pipeline is set up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=73.03) [We're going to review Jenkins, Github](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=76.01) [and some of the supporting services that feedback](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=78.04) [into the automation process at Globomantics](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=81.03) [and how we're going to be setting those up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=84.06) [in the demonstration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=86.04) [And finally, we're going to go through some considerations](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=87.09) [in regards to Terraform when you're planning](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=90.05) [on automation and CICD pipelines.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=0&mode=live&start=92.09)

[**Terminology Time**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live)

[Alright, let's dive into some of that terminology.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=2.052) [Now for this module, we're going to be using](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=5.072) [Source Control Management, commonly referred to as SCM.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=8.022) [And that's going to be provided by Github,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=11.092) [which is an online SCM service.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=13.092) [If you don't already have an account with Github,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=16.062) [you can sign up for free.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=18.052) [And they have a great tutorial for getting started with SCM,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=19.092) [including how to use Git, which is one of the ways](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=23.032) [of manipulating SCM.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=26.012) [For the demos, I'm going to be using a repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=28.082) [in my public Github.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=31.012) [Now a repository is a collection of code](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=32.052) [that's specific to a project](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=35.052) [and controlled by a Git configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=37.062) [So when code is updated locally, you commit that code](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=40.042) [to your local Git instance and then push it up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=44.052) [to the repository on Github.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=46.102) [Both your local Git and Github keep a history of check ins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=48.092) [and allow you to go back to a point in time.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=53.022) [You can also create branches and fork](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=55.072) [someone else's repository and perform pull requests,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=57.102) [but that's a little outside of the scope of things here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=60.072) [The next term that we've already referred to a little bit](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=63.052) [is continuous integration and deployment,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=65.032) [commonly referred to as CICD.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=67.082) [The continuous part implies that it's an automated process](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=70.022) [that's constantly running.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=74.082) [The integration part of things is the process by which](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=76.012) [source code becomes something that's deployable.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=80.032) [Now in the context of something like a job application,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=83.062) [you might give the Java source code and then it's going to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=86.052) [compile everything into a jar file that's actually](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=88.082) [executable and usable in an environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=92.012) [Along the way, you might perform some level of testing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=94.072) [to verify that the application works as intended](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=96.102) [and doesn't have any obvious bugs within it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=100.082) [The deployment side of that is how do you get that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=102.102) [newly built application out to a particular environment?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=105.052) [In a lot of cases, the continuous deployment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=109.072) [happens to lower environments like development, QA](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=112.052) [or maybe even staging.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=116.072) [Very rarely does the continuous deployment happen](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=118.022) [directly in production.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=120.062) [Oftentimes, there's some sort of manual gate in the way](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=121.082) [where someone has to give the approval](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=125.012) [before that deployment process actually pushes stuff](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=127.052) [out to production.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=130.042) [Now that continuous integration and deployment process](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=131.052) [is held within a pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=134.102) [We're going to be using Jenkins to build our pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=137.012) [Jenkins is continuous integration software](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=139.092) [that is capable of compiling code,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=142.042) [deploying infrastructure or really](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=144.092) [whatever else you want to do.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=146.072) [The power Jenkins is the ecosystem](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=148.022) [of plugins that surround it,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=150.032) [and they provide integration into a ton](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=152.042) [of different languages, communication systems](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=154.042) [and build services.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=156.082) [So with Jenkins, we're going to create a pipeline](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=157.092) [using Jenkins Declarative syntax,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=161.012) [which is similar to Groovy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=163.062) [If you don't know what Groovy is, neither did I](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=164.102) [till I started using Jenkins!](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=167.052) [Suffice to say it's not that different in nature](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=168.092) [from the HashiCorp configuration language.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=171.012) [So if you've become comfortable with that,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=173.042) [you'll probably be fine with the Jenkins syntax.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=1&mode=live&start=175.082)

[**Automation at Globomantics**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live)

[Let's consider how automation is approached at Globomantics.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=1.875) [You are Mary Moe and you're part of the operations group](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=5.885) [in charge of deploying networking,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=8.865) [and you're also working with Sally Sue](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=10.845) [and her team of developers.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=12.845) [The process of automation starts with](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=14.855) [the creation of source code.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=18.825) [And when I say source code, I'm talking about](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=19.915) [the Terraform configurations, as well as the applications](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=22.845) [that are going to be deployed on top of the infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=25.865) [deployed by Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=28.825) [That's added into source code and uploaded to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=29.905) [a source code repository.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=32.855) [In this case, we're using a Github repository.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=34.845) [The source code that's been uploaded](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=36.915) [to the Github repository will be pulled down](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=38.865) [by the Jenkins pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=41.885) [Included in the repository is the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=43.845) [of the pipeline itself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=46.825) [And in that way, Jenkins knows how to perform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=47.875) [the proper actions to deploy the desired infrastructure.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=50.855) [Now that's just the instruction set.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=53.875) [Jenkins also needs to pull down configuration information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=55.855) [about each environment, and that is where](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=58.855) [it reaches out to DynamoDB in the same way](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=60.895) [that we've been doing before,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=63.875) [through the external provider for Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=64.895) [It's going to pull down that information from DynamoDB](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=68.835) [and integrate it with the steps that are in the pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=71.855) [The completed integration is going to be](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=74.855) [deployed against AWS, and we're going to have](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=76.845) [two separate pipelines.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=79.875) [The first pipeline is networking, and that pipeline](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=81.855) [is going to build the networking stack.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=83.905) [And then a secondary pipeline is going to be](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=86.855) [the application pipeline, which lays down](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=88.905) [the application components on top of the networking stack.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=91.835) [The goal is that once the pipeline is run,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=95.845) [there will be base infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=97.845) [ready for an application to be deployed upon.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=99.875) [In order for the whole automation process to work,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=103.845) [there has to be some supporting services.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=106.825) [The first one is Lambda and API gateway.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=109.855) [Those two components are going to serve the same function](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=112.855) [they did in a previous module, which is provide](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=115.825) [accessibility to the DynamoDB](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=117.875) [through the external provider and Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=119.895) [There's also going to be the DynamoDB.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=121.905) [Within DynamoDB, we're going to have two tables.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=123.915) [One is for the statelock, and the other serves](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=127.845) [as the datasource for configuration information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=130.855) [for each environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=133.825) [Different than before,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=134.835) [within the AWS Identity Access management,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=135.885) [we're going to be creating a service account](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=138.915) [for both networking and application.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=141.845) [Jenkins is going to use those service accounts](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=143.855) [as opposed to using Mary Moe or Sally Sue's credentials](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=145.855) [to deploy the infrastructure.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=148.895) [And finally, we're going to be using S3 buckets to store](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=150.855) [the remote state for both the networking](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=153.905) [and application pipelines.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=2&mode=live&start=156.855)

[**Setting up Remote State**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live)

[So before we move any farther,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=2.277) [let's deploy the supporting services](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=4.257) [that we'll need for the rest of the demonstration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=6.287) [Now in order to do that, we're going to examine](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=9.257) [some of the Terraform set up file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=10.327) [deploy the configuration and review the results](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=13.247) [to make sure everything deploys the way that we want it to.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=16.257) [If you like to play along, you're going to need an AWS account,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=19.237) [you're going to need the Terraform software,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=23.247) [you're going to need the demo files](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=25.247) [and you're going to need a Github account](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=26.297) [if you want to do this entire demonstration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=29.237) [To set up the supporting services,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=31.277) [you don't need that Github account.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=32.327) [But as we move further along the demo,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=34.257) [you're going to be pulling the source code](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=36.307) [from a Github location.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=38.247) [And while you can use my public repository,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=40.247) [it might make more sense to create](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=42.317) [your own public repository and copy the code into it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=44.257) [so you can get more familiar with that concept.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=47.247) [The last thing you're going to need](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=49.307) [is either the Jenkins software or to have Docker installed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=51.317) [so you can spin up a Jenkins container.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=53.317) [Now again, that isn't part of this particular demo,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=56.277) [but as we move further through the module,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=59.237) [that is going to be a requirement.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=61.267) [All right, back in Visual Studio code.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=64.257) [If you look in the left pane,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=66.267) [you'll see that we're in module5.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=67.327) [And in the remotestate subfolder,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=70.247) [I've got the remotestate.tf file open.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=72.257) [This is pretty much exactly the same as it has been](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=75.267) [in previous modules.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=78.257) [There's a couple key differences that I wanted to point out.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=79.317) [The first one, if we scroll all the way down](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=82.327) [to the users section, we are creating an application user](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=85.317) [and a networking user.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=90.247) [And those are exactly the same as the Sally Sue](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=91.307) [and Mary Moe users that were there before.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=94.317) [Really, just the naming has changed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=97.307) [The other thing that's different is if we scroll](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=100.287) [all the way down, we're no longer creating](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=103.237) [a local AWS credentials file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=105.317) [that has the user accounts in it,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=108.277) [and that's because we're not going to be running](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=110.287) [plan and apply locally, so what we really need](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=112.267) [is in the output right here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=115.247) [We need the application access and secret key](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=116.307) [and the networking access and secret key as output.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=119.287) [Those are the credentials that are going to be used](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=122.287) [by the Jenkins pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=124.257) [So let's go ahead and deploy this.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=125.287) [All right, so we're already in the remote state folder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=127.297) [so let's go ahead and run the initialization command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=130.317) [And that's going to download the necessary plugins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=135.257) [There we go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=138.267) [That was pretty easy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=139.247) [And now let's run terraform plan](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=139.327) [and that can set up all the resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=141.327) [Clear the screen and we'll run terraform apply](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=145.247) [with the plan file that we just generated,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=148.277) [and this should go relatively quickly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=150.277) [It's really only creating some access keys,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=151.327) [the DynamoDB and a few other resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=154.317) [All right, so that completed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=159.237) [And in the output, we got the application access](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=160.237) [and secret key and the networking access and secret key](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=162.317) [that we'll use with the Jenkins pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=3&mode=live&start=165.237)

[**Setting up Lambda**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live)

[So now let's deploy the lambda configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=1.818) [So we'll bounce up to, go into lambda,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=3.868) [and we're going to go ahead and run the initialization.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=7.828) [Should run pretty fast, there we go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=11.778) [Screen, run the terraform plan,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=12.838) [it should be relatively swift as well.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=15.838) [And finally, we can run the terraform apply.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=18.828) [Now in case you're wondering, really nothing has changed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=21.788) [at all within the lambda file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=23.858) [so I didn't feel necessary to review it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=25.828) [If you like to, you can go back to the previous module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=28.778) [where I review the files that make up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=30.788) [the lambda configuration in fairly exhaustive detail.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=32.808) [Now the key output for that is the invoke URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=35.868) [So that's the URL that we're going to give](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=38.808) [to the Jenkins configuration so that it can pull](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=40.798) [the configuration information down from the DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=43.778) [Speaking of that DynamoDB table,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=47.808) [we're going to put some information in there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=49.848) [So in the left pane, we're going to expand out](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=51.818) [the scripts file and open up the development dynamodb.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=53.788) [Let me hide the command line.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=57.858) [And so this is the configuration information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=59.858) [for the development environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=62.798) [We're going to copy that and go over to the DynamoDB console.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=64.828) [We should now have a table in there for the datasource.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=68.778) [Let me go into items and create a new item](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=71.848) [and just paste that information in here and save it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=74.778) [So now we have our development environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=79.838) [Let's jump back.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=81.798) [There is also a production environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=83.798) [I'm going to copy that and create an item for that as well.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=85.818) [There we go, paste that in, save.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=90.788) [All right, so now we have our production](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=93.778) [and our development environments ready to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=94.828) [go in the DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=4&mode=live&start=97.798)

[**Deploying the Jenkins Container**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live)

[Now we're ready to set up Jenkins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=1.631) [and there's a few different ways that you can go about](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=3.611) [setting up Jenkins, and the first is installing Jenkins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=6.571) [as a traditional application.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=9.601) [So just downloading the zip or the executable,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=10.631) [running it and installing it locally on your workstation.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=13.631) [That's one way to do it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=16.611) [I'd like to go with a more fun version,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=18.601) [and that's deploying Jenkins in a container.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=20.631) [Why would we do that?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=22.591) [Well, the first reason is because Docker is fun.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=24.581) [And if you haven't exposed yourself to containers already,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=27.541) [here's a relatively easy way to do that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=29.561) [so you can get some of the concepts](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=31.601) [and ideas behind containers.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=34.561) [The other reason is deploying a container](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=35.561) [from a Jenkins image is really easy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=37.541) [We can have it up and running in less than a minute.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=39.601) [So that's kind of a nice benefit.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=42.591) [The last deployment model](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=44.561) [is deploying Jenkins in the cloud,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=45.571) [whether you deploy a machine in the cloud](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=46.621) [and install Jenkins on it, or if you deploy a container](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=48.611) [to some sort of container hosting environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=51.601) [like ECS on AWS.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=53.621) [In order to successfully deploy Jenkins in a container,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=56.601) [you're first going to need to install Docker.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=59.581) [If you're like me and you're on Windows,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=61.631) [you can go to store.docker.com,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=63.631) [the link that's shown in the path,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=66.561) [and install the Community Edition for Windows.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=68.541) [That's probably the most straightforward and easy way](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=71.541) [to get Docker installed on Windows.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=73.571) [If you're running on Mac or Linux,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=75.621) [there's a process for getting Docker installed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=77.561) [on the both of those.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=79.551) [If you want to know more about that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=80.571) [or just more about Docker in general,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=81.601) [I recommend checking out Docker Getting Started course](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=83.571) [that's on Pluralsight.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=85.621) [That course provides not only insight on how to install](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=86.631) [Docker on all these different operating systems](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=89.611) [but also some of the basic concepts](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=92.541) [and terminology behind Docker.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=93.621) [Now in my case, I've already installed Docker on Windows](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=96.561) [and I've included a Docker setup text file in the scripts](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=98.621) [to walk you through the steps that are going to be necessary](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=102.561) [to get Jenkins up and running.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=104.581) [So let's go ahead and clear the screen](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=105.621) [and I'll drop this down a little bit](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=108.591) [so we can see the instructions.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=109.581) [The first thing is to either open an admin PowerShell](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=111.591) [or launch VS Code as an admin.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=114.551) [In order to properly make some of the networking changes,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=116.631) [admin access is required so we can manipulate](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=119.571) [the Hyper-V virtual switch and some of the firewall ports.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=122.601) [Now in the world of Docker, you first start](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=125.611) [with what's called an image.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=127.581) [And you can think of an image in the same way as an AMI.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=128.621) [It's a package resource that you can use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=132.551) [to deploy containers, or in the case of an AMI,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=133.621) [that you can use to deploy EC2 instances.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=136.601) [So the two are very similar in nature.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=139.581) [Docker images are hosted on repositories,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=141.611) [and Docker itself hosts one called Docker Hub,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=144.601) [and that's where we're pulling this image from.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=147.571) [So the command is docker pull](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=149.611) [and then the name of the image that we want to pull down.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=151.601) [We're using the lts tag to say that we want](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=154.581) [the long-term servicing version of the container.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=157.541) [So I'm going to go ahead and run that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=159.591) [An image is actually made up of multiple different layers,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=161.581) [and those layers include all the components](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=164.631) [that make up the actual image itself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=167.581) [The nice thing is that once you pull a layer down,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=169.631) [you don't have to pull it down again.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=172.541) [So if there's an updated version of this image,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=173.611) [when I download that updated version of the image,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=176.591) [it's only going to pull the layers that have changed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=178.621) [since the last time.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=181.541) [All right, so we've now successfully pulled down the image](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=182.541) [and that obviously didn't take very long.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=185.561) [So the next thing to do is to do a Docker run.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=187.561) [I'm going to give myself a little more space here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=189.621) [and we're going to copy this command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=191.631) [and we'll drop it here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=194.611) [The Docker run command takes an image](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=196.551) [and spins up a container based on it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=198.551) [The -p in this case is used to expose ports](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=200.551) [from the container to the container host.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=203.601) [The container itself runs behind a NAT switch](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=206.621) [and so there has to be a port translation](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=209.631) [from what's behind the NAT switch](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=212.571) [to what's on the container host itself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=213.631) [In this case, we're exposing port 8080 to port 8080](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=216.591) [on the host machine, and port 50,000 to port 50,000](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=220.541) [on the host machine.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=223.611) [The -v creates what's called a Docker volume,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=225.551) [and this is a persistent volume that lives on](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=227.581) [even after you may have deleted the container.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=230.571) [So what we're doing is creating a volume](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=232.581) [called jenkins\_home that'll be stored in a local file system](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=233.611) [and then it's going to map into the container](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=237.551) [at the path var/jenkins\_home.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=239.621) [And that's where Jenkins puts](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=242.561) [all its configuration information.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=243.601) [So if you needed to delete the container](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=245.581) [and then spin up a new Jenkins container](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=247.601) [with the same config, that information is stored](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=249.601) [on your local file system in that volume.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=252.581) [Then the last thing is referencing the image](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=254.611) [that we want to use to create the container,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=257.571) [which is jenkins/jenkins lts.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=259.551) [Let's go ahead and run that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=261.621) [And as I said before, the process of spinning up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=263.551) [a container is very fast.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=265.621) [So it's already booted and it's going through](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=267.611) [its configuration process.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=269.611) [And we're done, that's it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=271.611) [We now have Jenkins up and running](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=273.581) [using port 8080 on the localhost.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=5&mode=live&start=275.631)

[**Initial Setup of Jenkins**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live)

[One of the things that was included in the output](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=1.568) [is this string right here,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=4.528) [and that string is the admin password that it generated](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=6.498) [for this instance of Jenkins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=9.508) [So we're going to need that in order to log in the first time.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=11.558) [So let's swap over to a browser](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=14.558) [and we're going to go to http 127.0.0.1,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=16.578) [which is the loopback address,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=22.518) [and then 8080, which is the port that we're using.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=24.518) [And there we go, Jenkins is up and running](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=26.528) [and it's prompting us for that password.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=28.538) [Let's go ahead and paste that in here and click Continue.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=30.538) [All right, so it logged us in and the first thing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=33.578) [it asked us to do is determine what plugins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=35.558) [we want to install.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=38.508) [Now I find the easiest thing to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=39.518) [is just install suggested plugins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=40.528) [That's going to include some of the plugins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=42.518) [we're going to use and some that we might not use,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=43.568) [but you could potentially use in the future.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=46.488) [As I mentioned before, one of the things that makes Jenkins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=48.498) [so powerful is the number of plugins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=50.568) [that are available for it that let it talk](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=53.568) [to a whole bunch of different sources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=55.548) [and perform a lot of different actions.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=57.528) [Once the plugins are finished installing,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=59.578) [we're actually going to go and add an additional plugin](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=62.508) [that will be used for Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=65.508) [Now let's create an admin user and I'm going to keep it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=67.528) [real simple here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=70.488) [Go and ned@globomantics.com.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=71.508) [Now it's not going to be using that email address for anything](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=76.578) [so that should be fine.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=78.548) [All right, Jenkins is ready, let's start using it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=80.518) [Let's get some basic configuration out of the way.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=83.488) [The first thing we're going to do, as I mentioned,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=86.528) [is go into Manage Jenkins,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=88.518) [and we're going to add that plugin.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=90.498) [So let's go to Manage Plugins,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=92.538) [go to the Available tab and search for Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=95.498) [And there's one hit, so that's easy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=98.568) [And now we're going to install that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=100.568) [And this doesn't require a restart](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=102.518) [so we can just click Install without restart.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=104.498) [It only takes a few seconds for the plugin to install.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=106.568) [There we go, the plugin is now ready to go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=110.528) [Click up here and we're going to go back into Manage Jenkins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=113.528) [So we installed the Terraform plugin](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=117.518) [but we didn't configure it in any way.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=119.548) [So we need to go into the Global Tool Configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=121.518) [and scroll down to Terraform and we're going to add](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=123.578) [a Terraform installation for it to use.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=127.488) [The name of the plugin in this case](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=130.488) [is Terraform- version number.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=133.488) [The reason I have the version number in there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=135.518) [is to make sure that it's consistent with the version](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=137.558) [that's referenced within the Jenkins file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=140.538) [In this case, I used 11.1 to develop the Jenkins pipeline](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=143.488) [so I'm not ready to move to a newer version](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=147.488) [or use an older version.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=148.568) [So once we have the name,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=150.538) [we have to choose which installation we want to use.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=151.558) [The container is a Linux-based container](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=154.498) [so we want a 64-bit Linux version of Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=156.498) [We have all that, so we're going to go ahead and click Apply.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=159.578) [All right, so we applied and saved it,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=163.508) [that's all set and ready to go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=165.528) [The next thing we do is create some credentials](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=168.488) [for Jenkins to use.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=170.528) [Let's go into credentials and into the global store](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=171.578) [of credentials, and there is a button](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=174.568) [over here to add credentials.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=177.518) [The credential kind we're going to be adding](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=180.498) [is secret text, and the credentials we're going to be adding](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=182.508) [are the AWS secret and access keys](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=185.528) [for application and networking.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=188.528) [So if we go back to VS Code, we're going to heav to start](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=190.508) [a new terminal window since this Docker is still running](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=193.488) [in this terminal window.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=195.548) [So I'll just add a new terminal window,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=196.548) [go into module5, go into the remotestate](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=198.558) [and we're going to run terraform output to get the outputs.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=203.548) [And the first one is application access key,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=207.558) [so that's going to be the ID,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=211.508) [and that's referenced by the Jenkins file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=213.498) [And then we need the secret.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=215.488) [So I'll drop it in here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=217.558) [All right, so we have our access key.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=220.498) [And we're going to repeat the process](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=223.528) [for the additional secrets that are in here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=225.528) [The reason we're using secret text here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=228.568) [is so when the pipeline process runs,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=231.498) [there's going to be a console log that's associated with it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=234.498) [and we don't want these secretly stored credentials](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=237.548) [to be exposed in clear text in the console log.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=239.578) [By setting them as secret text, it can use the credentials](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=243.538) [but in the console log, they'll just appear as starred out.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=247.508) [So if someone was monitoring the console log,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=250.498) [they would be able to grab your AWS access and secret keys](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=252.498) [that you're using for Jenkins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=255.528) [All right, so now we have all the access keys set up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=257.528) [Now let's talk a little bit about the implications](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=260.548) [of running Terraform in automation,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=262.548) [and then we'll review the Jenkins files](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=264.518) [that have been created for the pipelines.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=6&mode=live&start=266.508)

[**Running Terraform in Automation**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live)

[So when you're running automation in Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=2.262) [there's something that you need to be aware of.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=4.282) [The first is your plugins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=7.232) [Where are you getting your plugins from,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=9.252) [and do you care about source controlling them?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=10.312) [And do you want to download them every single time](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=13.242) [you run a new configuration in the new workspace,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=16.272) [that whole initialization process?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=19.242) [Maybe you do, maybe you don't.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=21.312) [Terraform provides the capability to reference](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=23.272) [a local directory that holds all of your plugins,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=26.292) [which means that you can make sure you're always using](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=29.302) [the correct version of the plugin,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=32.232) [even if a new one is released](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=33.292) [and so you don't have to download multiple copies](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=35.262) [of that plugin as you create new pipelines](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=37.292) [within your build platform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=40.312) [The next thing to think about is workspace usage.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=42.312) [Workspaces are highly encouraged when you're creating](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=45.322) [these types of pipelines.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=49.242) [You're probably going to be using the pipeline](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=50.322) [to deploy to different environments,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=52.312) [and workspaces are the perfect way of dealing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=54.292) [with those different environments.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=58.242) [Workspaces let you separate out state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=59.322) [They allow you to reference that environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=62.312) [within the context of the build pipeline](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=64.282) [And then it can also impact](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=66.292) [how each configuration is rolled out.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=68.292) [Will it be rolled out automatically,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=71.242) [or is there a manual step that has to happen](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=73.232) [because it's going to production?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=75.252) [In terms of state control,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=76.282) [really the only option here is remote state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=78.242) [Could you do it with a local state on the build server?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=80.302) [Possibly, but I really encourage against](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=84.292) [doing that sort of thing because you want that state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=88.242) [to be available if you replace that build server](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=90.282) [or if something else needs to reference that state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=93.262) [So generally speaking, you're going to be using remote state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=96.272) [The only question here is how do you initialize](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=99.272) [that remote state within the context of the build pipeline?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=101.312) [Another thing to think about his output control.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=104.322) [Terraform can be pretty chatty.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=107.232) [As I'm sure you've noticed as we've run plan and apply](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=108.312) [and initialization, it produces a decent amount of output.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=112.262) [And for the most part, that's okay;](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=115.262) [but sometimes that can mess up automation pipelines,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=116.302) [so there's an environment variable](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=119.282) [called tf\_in\_automation, and if that environmental variable](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=121.242) [has any value, Terraform will turn down](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=126.252) [the level of its chattiness to be more in line](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=129.272) [with what you'd expect from an automated process.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=132.282) [Another thing to think about](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=135.292) [is what's the deployment pattern to follow](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=136.282) [when you're using automation?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=140.252) [And our pattern has mostly been initialize, plan and apply.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=141.282) [There's a couple of things to consider](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=145.292) [when it comes automation.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=147.242) [Once the plan is generated, do you want someone](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=148.322) [to manually review that plan before it's applied](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=150.322) [to a target environment?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=153.312) [In production, you probably do.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=156.232) [In deployment, you might not.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=157.272) [So you have to make that decision about](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=159.242) [how each task folds into the next one.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=161.232) [Another thing to deal with is the fact that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=163.322) [it's an automated process so there's no user](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=165.312) [to prompt for input if you missed a variable.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=168.262) [And so if a variable is missing,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=171.262) [what you really want Terraform to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=173.302) [is throw an error as opposed to wait forever](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=175.242) [for someone to supply a variable](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=178.242) [when there's no user there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=179.322) [And that leads us into the last part,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=181.272) [which is error handling.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=182.312) [When something goes wrong in the pipeline,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=184.232) [how do you handle that event?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=186.242) [The way that Terraform works especially when it's applying](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=187.312) [a configuration, is if parts of a configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=190.252) [fail to apply, it's not going to roll back the things](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=192.322) [it's already done.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=195.322) [So the question you have to answer](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=196.312) [as someone who's developing the pipeline is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=199.232) [do I try to roll back the changes that have already](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=200.302) [been made and go back to a known good state,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=203.252) [or do I leave it in the state that it's currently in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=205.292) [and notify someone?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=207.312) [What's the best process for handling errors](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=209.262) [that might happen in the pipeline?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=211.322) [Now we've gotten that stuff out of the way,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=214.242) [let's take a look at the folder pattern](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=215.292) [and the Jenkins file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=7&mode=live&start=217.232)

[**Exploring the Jenkinsfile**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live)

[All right, so we're back in VS Code,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=1.593) [I'm going to hide the terminal for a second](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=3.603) [and let's go and look in the networking folder.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=5.593) [For the most part, the networking configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=7.653) [hasn't changed in any way.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=9.663) [The main thing that's new here is this Jenkins file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=11.623) [The Jenkins file is a Declarative pipeline](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=14.643) [in the same way that Terraform is Declarative configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=17.633) [It says how things should be.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=20.633) [At the top of the pipeline, the first thing that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=22.653) [we're telling it is any agent that's available,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=24.633) [and that's an agent that's available to run a pipeline](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=26.663) [so you can have a Jenkins server and then multiple agents;](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=29.643) [so any agent that's available can run this.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=32.643) [The next thing is we're setting up some tools](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=35.573) [that should be used by the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=37.593) [In this case, we're referencing the Terraform installation](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=39.603) [and we're referencing it by name.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=42.623) [So that corresponds back to the name](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=44.623) [that we gave the installation](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=46.633) [when we configured that plugin.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=48.583) [The next thing are some parameters](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=49.633) [that need to be given to the pipeline](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=51.603) [in order for it to run.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=53.603) [It's stuff that you might not know ahead of time.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=54.643) [So the first is the LAMBDA URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=57.593) [The LAMBDA URL is going to be different for each person](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=58.653) [so I made sure to include that in the parameters](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=61.573) [rather than hard coding it into the Jenkins file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=63.663) [Next is the workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=67.583) [So we don't know what environment this is being deployed to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=68.633) [so we don't know which workspace it should reference.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=70.653) [I gave it a default value of development](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=73.583) [for simplicity's sake, but you may](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=75.573) [or may not want to do that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=76.623) [The next thing is to set up some environment variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=78.583) [in the context of the pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=80.603) [So the first thing is to tell Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=81.663) [where to find its executable and then setting](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=84.613) [that automation environment variable to true](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=86.613) [so that it'll make Terraform a little less chatty.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=89.653) [Then we're going to add TF HOME to the general path variable](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=92.593) [so when you call Terraform, it includes TF HOME](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=95.573) [within the path it looks for, for executables.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=98.613) [The next two are where we want to store the state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=101.573) [and which bucket we want to use.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=103.633) [I could have put those in parameters,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=105.653) [but for me those are pretty static so I just](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=107.583) [left them in here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=109.613) [You may need to manually change these](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=110.623) [depending on what you end up naming your buckets.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=112.623) [The last two are the access and secret key,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=114.653) [and that's pulling from credentials that are available,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=118.613) [so we're using the credentials function](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=120.593) [to extract those from the global credentials.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=122.623) [Then we get into the stages of the pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=125.623) [So a pipeline is made up of multiple stages,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=128.603) [and each stage is made up of steps.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=131.573) [The first stage in this follows the initialization](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=133.643) [plan and apply pattern.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=136.653) [So we have a network initialization stage.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=137.663) [And within that, we're taking a few steps.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=140.653) [The first is to output the Terraform version,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=143.583) [just so we know what version of Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=145.593) [is being used when you look in the console logs.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=147.603) [Then we're invoking Terraform initialization,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=149.623) [and there's a couple additional commands here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=152.583) [So let me scroll over a little bit so you can see it all.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=154.593) [We're setting input to false, which tells Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=156.643) [if you need input and it is not provided](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=159.613) [in this command line, fail the command,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=162.583) [don't go any further, don't wait for a user](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=164.593) [to provide input because there's no user available.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=167.603) [The next is specifying a plugin directory.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=170.593) [In this case, we're specifying](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=173.573) [var, jenkins home, terraform plugins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=174.633) [We haven't actually configured that yet](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=176.663) [so we're going to have to do that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=178.613) [before we run the pipeline, but the premise here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=179.613) [is to download the necessary plugins ahead of time](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=182.643) [so that you don't have to download it every time](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=185.573) [a new pipeline is created.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=187.643) [The rest of it is pretty straightforward,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=189.633) [we're just specifying the various backend configurations.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=191.593) [So the DynamoDB table to use, the bucket to use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=194.603) [and then the access and secret keys to use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=197.583) [to configure the backend.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=199.623) [Finally, there's some extra commands in there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=201.583) [just for informational purposes within the console log](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=203.573) [in case you had to do troubleshooting later.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=205.663) [Then we move into the stage of network planning.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=207.643) [In this, we've got a single step,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=209.653) [and that single step is executed within the context](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=211.643) [of module5 networking.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=214.643) [So we have to tell it, what's the path](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=216.613) [that we want to run this information under?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=218.573) [And the first thing it's going to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=220.643) [is try to create a new workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=222.643) [Now if we have to run this pipeline multiple times,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=224.613) [it's going to create the workspace the very first time](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=227.593) [and then that workspace is going to keep existing.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=229.603) [So we try to create the workspace and if it throws an error](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=231.653) [saying, hey that workspace already exist,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=234.643) [then we just try to select the workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=237.573) [So that's why that's in there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=239.573) [And then we use the terraform plan command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=240.583) [And overall, this command is very straightforward,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=242.643) [we're giving it the access and secret key](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=244.613) [and the LAMBDA URL that it needs to use.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=246.613) [So that covers all the variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=248.633) [that Terraform is expecting.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=250.583) [We're outputting the plan to terraform networking tfplan](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=252.593) [and we're also echoing it to status](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=255.593) [so it knows whether or not this plan was successfully run.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=257.623) [Then we're using this command called stash](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=260.613) [and what stash does is it takes any files or values](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=262.583) [that were generated by a particular step](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=265.633) [and puts them in a stash so that they can be referenced](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=268.573) [later on in your other stages.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=270.633) [The next stage is network apply.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=273.623) [And here, we're giving a choice.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=275.633) [So if we've gotten this far,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=277.613) [we've got a Terraform plan generated.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=278.643) [The question is do we want to actually apply it?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=281.643) [So we set apply to false,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=284.613) [then an input message is being generated](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=286.593) [in the console log asking whether or not](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=288.623) [to apply the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=290.653) [If you click apply config, it moves forward,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=293.603) [setting apply to true.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=296.573) [If you click cancel, then it will set the apply to false.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=297.603) [What does it do if the apply is selected as false?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=301.643) [Well, I made a choice here and this is actually](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=304.643) [just for my own convenience when I needed to clean up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=306.633) [after a demonstration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=309.593) [I'm telling it if I cancel the apply,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=310.623) [destroy the whole environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=313.623) [So in the context of module5 networking,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=315.573) [run terraform destroy with the keys and run a force.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=317.633) [And it will destroy the entire configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=321.583) [That's probably not something you would do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=323.613) [in a real-world situation,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=324.643) [but when you're done with this demonstration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=326.583) [you're probably going to want to clean up everything as well](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=327.623) [so you stop getting charged for it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=329.653) [In order to do that, you can run the pipeline again,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=331.623) [select cancel and it'll destroy everything for you.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=333.613) [That's an easier way of going about it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=336.593) [If I do click apply config, it goes down to apply,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=338.653) [and then within the context of the module5](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=342.593) [networking directory, it unstashes the networking plan file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=344.613) [and then runs terraform apply with that tfplan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=349.573) [So that's the entirety of the networking Jenkins file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=352.603) [Now let's take a look at applications.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=356.573) [Let me expand out applications.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=358.593) [And again, for the most part,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=360.603) [applications is basically the same.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=361.663) [I did make one tweak between this and previous modules,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=363.663) [and that's in the datasources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=367.643) [So for datasources, previously we were using the AWS Linux.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=369.613) [In this case, I switched it to Ubuntu.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=373.633) [And the reason is the next module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=375.663) [where we actually use Ansible to deploy an application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=377.613) [works a lot better with Ubuntu.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=380.603) [So just to be completely transparent,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=381.653) [that's why this change is in here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=383.613) [Now let's look at the Jenkins file for the applications.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=385.593) [And for the most part, they're very, very similar.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=388.583) [The main things to call out is first of all,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=390.663) [we're using the application bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=394.573) [and we're using the application access and secret key](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=395.663) [for obvious reasons.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=398.643) [The actual flow of the stages falls the exact same process.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=400.623) [So we're initializing the application,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=405.603) [passing it essentially the same values that we did](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=407.633) [for the networking config,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=409.643) [except in this case, we're passing it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=411.573) [the application bucket, the application access key](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=412.613) [and secret key.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=415.583) [For the application plan section,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=415.663) [we do the same thing that we did with workspace,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=418.573) [we run essentially the same plan that we used](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=420.623) [for the networking configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=423.573) [and then stash the plan file that's generated](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=424.653) [under Terraform application plan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=427.653) [Finally, we have the same process for the application apply.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=430.613) [First, we prompt to see whether or not](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=433.633) [we want to apply that config in the console log.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=436.653) [If we don't want to apply it, we destroy anything](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=439.653) [that's in the applications configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=441.663) [If we do want to apply it, then it runs the plan file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=444.603) [that's been generated.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=8&mode=live&start=447.623)

[**Preparing for the Pipeline**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live)

[All right, now that we've gone through those files,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=1.982) [let's scroll down to scripts real quick.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=4.962) [And what I've got in here is a PowerShell script.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=7.012) [And what this script does is take the list of plugins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=9.952) [that we want and download those plugins from HashiCorp](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=12.932) [to a local folder.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=15.952) [Those plugins are zipped up so what we have to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=17.002) [is unzip them within the folder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=19.962) [and then remove the zip files because we don't](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=21.982) [need them anymore.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=24.002) [So that's essentially what this script is doing.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=25.002) [I'm not going to walk through the whole thing.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=26.992) [It's relatively straightforward,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=28.972) [it just loops through the plugins and then loops through](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=30.002) [the plugin files to unzip them in the directory.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=32.952) [Now let me pull up the command prompt,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=35.922) [we're going to go into module5 and into the scripts folder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=37.942) [and go ahead and run this PowerShell script.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=41.992) [That's going to go and pull those files down](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=45.942) [into the Terraform plugins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=47.962) [So if we going into terraform plugins,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=50.012) [you can see there are the four plugins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=52.922) [that are required for this entire configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=55.932) [Go ahead and clear the screen.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=57.972) [Now what we want to do is copy those plugins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=59.982) [into the container.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=61.982) [In order to do that, first we need to know](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=63.942) [the name of the Jenkins container that we spun up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=64.992) [So we're going to run docker ps.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=67.952) [Docker ps tells you any of the running containers](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=69.992) [that you have.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=72.962) [If I go back to Docker set up,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=74.942) [I've got a command in here called docker cp.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=75.982) [Let's make sure I'm in the right directory.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=78.992) [And what docker cp does is it can copy files](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=80.992) [either from a container to the local file system](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=83.962) [or from the local file system to a container.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=86.942) [In this case, that's what we want to do.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=90.932) [We want to copy the contents of the Terraform plugins folder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=92.932) [to this container and drop it in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=94.972) [the var jenkins home directory.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=97.942) [When you spin up a container,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=99.962) [Docker will give it a random name.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=100.992) [In this case, it was festive swanson.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=102.992) [Why not?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=105.932) [You can choose to give the container a specific name](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=106.962) [if you want, or you can just accept](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=109.012) [whatever strange name Docker comes up with.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=111.012) [I find it kind of amusing so I'd just go ahead](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=113.942) [and let it generate whatever it would like in this case.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=115.962) [Let's copy those files over to the container.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=118.012) [That's complete.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=121.012) [And then there's one other thing we have to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=122.952) [within the context of the container itself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=124.002) [Well, let's go ahead and copy this command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=126.992) [called docker exec.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=129.922) [So what docker exec does is it runs a command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=130.992) [within the container.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=134.962) [And by passing it the -it,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=136.002) [I'm telling it i want it to run the command interactively.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=139.962) [So switch me over to the container.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=141.992) [And I want to be logged in as the user root.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=144.002) [And I want you to run the command bin/bash.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=146.992) [So this will give me a bash shell.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=149.962) [All right, so now I'm in the container running as root.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=151.922) [I need to actually install an application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=153.962) [that wasn't included as part of the Docker image,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=155.942) [so first i have to run an apt get update](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=158.002) [and then I'm going to install this tiny application called jq.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=160.002) [Jq is an application that is used to manipulate](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=164.932) [JSON input and output.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=168.922) [The reason I need that is because](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=170.952) [of this getenvironment.sh.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=172.952) [So before when we were using the external data source,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=174.982) [we were using a PowerShell command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=177.992) [to pull the information from lambda.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=180.002) [Problem with that is that this is a Linux-based container.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=181.992) [And while it's possible to run PowerShell Core](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=184.012) [on a Linux container,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=186.992) [that's getting a little bit too difficult.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=188.932) [So in order to simplify things,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=190.932) [I rewrote the get environment script](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=192.942) [to use shell scripting instead.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=195.002) [And so in order to properly evaluate the JSON](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=197.942) [that's passed from the external data provider,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=200.952) [we're using the jq application to interpret](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=202.982) [what's being passed from standard in.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=206.012) [And then we're using curl with a header](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=208.932) [to get the information from lambda.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=210.922) [Now the information being output from lambda](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=212.952) [is already in correct JSON so I didn't have to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=214.992) [anything with that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=217.002) [It just goes straight to standard out](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=218.922) [and is consumed by the external data provider.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=220.012) [Long story short, that's why we had to include](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=222.972) [the jq application on the container itself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=224.962) [So now we've all the prerequisites out of the way](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=228.002) [and we understand how the Jenkins file works.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=230.942) [The last piece of the puzzle is creating the pipelines.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=9&mode=live&start=232.952)

[**Networking Pipeline**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live)

[So I've jumped back over to Jenkins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=1.357) [and now what we're going to do is create a new item.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=4.327) [The first item we're going to create](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=7.277) [is the networking pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=9.277) [So let's name it networking,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=10.277) [and the type of project we're creating](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=11.317) [is a pipeline project.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=13.357) [All right now it's taken us to the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=15.307) [of the pipeline, but we can ignore most of this stuff](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=17.287) [that's up here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=19.337) [What we're actually interested in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=20.347) [is down in the pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=22.267) [You can define the pipeline within a script directly,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=23.287) [but in this case we're going to be pulling our pipeline](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=26.277) [from source control.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=28.347) [Which source control are we using?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=30.287) [We're using Git as our source control management type,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=32.317) [and then we have to point it out a repository.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=36.287) [In this case, we are using this repository.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=39.297) [This is my repository for the Deep Dive Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=42.337) [Now you can pull from this yourself,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=45.317) [or you can fork this repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=48.317) [into your own Github account](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=51.297) [and reference that directly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=52.337) [What we really want here is this clone link,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=54.307) [and that's the link to the repository itself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=56.327) [So once we've copied that,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=59.357) [we go back into here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=61.317) [And since this is a public repository,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=63.297) [you don't have to give it any kind of credentials.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=65.327) [We can just tab out of there,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=67.347) [scroll down a little bit.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=69.317) [The last thing we have to tell it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=70.347) [is where is the Jenkins file that I want to use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=71.357) [for this networking build pipeline?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=74.337) [And the location of that is module5/networking/Jenkinsfile.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=76.337) [So this tells the pipeline the location of the Jenkins file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=82.267) [We're going to apply that and save it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=85.287) [And now I've got my pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=87.267) [Now since it's pulling from source control,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=89.267) [it doesn't know any of the parameters](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=91.287) [because Jenkins has never looked at the pipeline script](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=93.267) [since it's pulling it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=95.347) [So the first thing we do is tell it to go ahead and build.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=96.357) [It will schedule the build and then down here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=99.317) [in the build history, we should see it appear.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=101.337) [If you click on the gray button,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=104.287) [that takes you directly to console output.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=106.357) [This build should fail.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=109.267) [If it's successful, I would be extremely surprised.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=111.307) [All right, so it ended up in failure.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=114.297) [Why did it end up in failure?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=115.357) [Well, if we go to look at the terraform plan](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=117.317) [it tried to run, since I didn't give it a URL parameter,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=121.277) [it has no idea what URL to pull.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=124.357) [And so when it tries to pull that external configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=127.337) [it fails, throws an error and so the whole process stops.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=131.297) [So let's go back to the pipeline itself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=135.357) [We can see that it failed during the network plan stage](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=138.337) [and now you can see that the build](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=141.327) [now has changed to build with parameters.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=143.337) [If we click on that, now it's prompting me](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=146.337) [for a workspace name and a LAMBDA URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=149.277) [Let's switch back to VS code and get that LAMBDA URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=152.307) [So exit out of the container](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=156.307) [and we're going to go up one and then to the lambda directory](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=158.297) [and run terraform output.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=162.317) [And now it's giving us the URL that we need to snap in.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=165.297) [Let's copy that, drop it in here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=169.277) [and we're going to go ahead and run build again.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=170.357) [So now it's started the new build pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=173.327) [When we click on it to see the console process,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=175.357) [it tried to create the new workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=178.327) [but the workspace already existed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=180.347) [So it just selected that workspace instead.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=182.317) [Now it's running the plan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=185.287) [It successfully ran the plan,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=186.297) [so it was able to reach up and get all the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=188.277) [from lambda this time because it had a LAMBDA URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=191.297) [And now it's asking me do I want to move to the apply stage](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=193.357) [or do I want to abort the whole thing?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=197.337) [If I click abort, it's going to try to destroy,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=199.317) [but of course there's nothing to destroy yet.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=201.337) [But we want to apply, so click apply config](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=203.297) [and now it's going to move to the next step,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=205.347) [and it also puts a little note in there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=208.267) [saying that this choice was approved by me.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=209.357) [I said it's okay, which is a really great feature.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=213.277) [Because people have to log into the Jenkins interface,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=216.287) [it's always logged who made the decision to apply,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=218.357) [so if someone does mess something up,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=221.277) [you now have a teaching opportunity to let them know](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=223.287) [why they might not want to do that in the future.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=226.297) [All right, so the pipeline finished](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=229.277) [and it finished successfully.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=230.337) [That's very exciting.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=232.317) [If we go back to the pipeline view,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=233.307) [we can see everything is green on the different stages](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=236.297) [and it tells you how long it took to run each stage.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=239.267) [So the whole thing overall took about two minutes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=242.307) [to run the build process.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=244.337) [That's not bad.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=10&mode=live&start=246.357)

[**Application Pipeline**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live)

[Now that we successfully deployed our networking pipeline,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=1.371) [let's go and deploy our application pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=4.361) [So we're going to create a new item again](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=8.301) [and call this one applications.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=10.321) [And it's a pipeline, click OK.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=13.281) [It takes us back here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=15.291) [Once again, the thing that we're actually interested in is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=17.291) [the pipeline definition.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=20.351) [Select pipeline script from SCM.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=22.311) [The SCM type again is Git,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=25.341) [and we need that repository URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=27.341) [Grab that and drop it in here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=30.311) [And then once again, we have to tell it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=33.311) [what the script path is going to be.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=35.291) [So the script path in this case is actually going to be](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=36.361) [in the applications folder because we want](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=39.281) [the applications pipeline to be built](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=41.371) [and not the networking pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=42.361) [That all looks good, we'll go ahead and Apply and Save.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=44.341) [All right, so now we have this pipeline ready.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=48.311) [We have the same issue that we did before,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=50.331) [that it doesn't know about the parameters](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=52.351) [so we're going to have to run that first build](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=54.311) [for it to understand there's parameters.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=56.321) [It should fail at the same stage when it tries](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=58.321) [to grab that URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=60.311) [So it failed and once again, it's because the URL is empty](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=62.291) [so the error is right there, it says no URL specified.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=65.341) [Go back to VS Code, we'll grab that URL again](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=69.311) [and go back to the applications](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=73.341) [and now we can build with parameters,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=75.301) [which is what we wanted.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=77.351) [And we're going to drop that in the LAMBDA URL](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=78.341) [and select build.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=81.341) [And now the build pipeline is running again!](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=82.341) [This time hopefully it will be successful, right?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=85.331) [All right, so it's moved into](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=88.321) [the application apply section relatively swiftly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=89.351) [For whatever reason, it's not showing the bubble](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=93.341) [on the left, and sometimes it's just a matter](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=96.301) [of the page not refreshing properly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=98.311) [But we can just click here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=100.321) [and we can see it's now prompting for whether or not](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=102.371) [to apply the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=105.351) [So you don't actually have to go into the console log,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=107.341) [it kind of bubbles it up from here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=109.351) [So we'll click Apply Config and it should start](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=112.331) [the actual application of the apply.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=114.371) [Another way of getting that to update](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=117.361) [is click on status and there we go,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=119.341) [it finally popped it up with the console output.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=121.341) [All right, so it's in the midst of deploying](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=124.281) [all the different resources.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=125.371) [So it's going to create the RDS instance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=127.281) [and the auto scaling group.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=129.291) [Obviously it was able to correctly pull the network state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=130.351) [from the networking configuration that we did before.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=134.281) [It's all stored in that S3 bucket.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=136.351) [And since we use development as the workspace for both,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=138.351) [the path it has to use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=141.361) [to find the networking state matches up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=142.371) [So while this is running, just to talk a little bit](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=145.371) [about Github and the repository that's on here,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=148.301) [this is my repository for Deep Dive Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=150.331) [it has the modules in here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=152.361) [You can use this repository,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=154.301) [there's nothing in here that's not reusable.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=155.351) [But a better idea would be to fork the repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=158.281) [by clicking on the Fork button.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=161.331) [And you have to be signed in to do that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=163.281) [What forking a repository does is essentially create](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=164.341) [a linked copy of this repository in your own account](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=167.341) [so then you can reference it directly and make changes.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=171.341) [It is possible to issue what's called a pull request](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=174.321) [which says I want to merge my changes that I've made](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=177.281) [back into your master copy of the repository.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=179.371) [You wouldn't do that in this case,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=183.301) [you'd just make your changes and go along your merry way](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=184.361) [unless you find an issue in which case,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=186.371) [it'd be awesome to let me know](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=189.281) [that there's an issue with the code](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=191.301) [and I'm more than happy to update what's in the repository.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=193.301) [If you do sign up for a Github account,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=196.291) [you can just find this repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=198.321) [net1313 Deep Dive Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=200.301) [and go ahead and fork it or use it directly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=202.281) [Looks like we're still waiting on the webapp](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=205.341) [autoscale group to be created.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=207.341) [All right, so that took a while and oh,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=210.331) [we ended with failure.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=213.311) [Well, the good news is failure is always an option](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=214.371) [and I actually knew this was coming.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=218.311) [So remember when I mentioned before that I switched](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=219.361) [from AWS Linux to Ubuntu?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=222.321) [It turns out that Ubuntu required you to accept a EULA now](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=224.351) [if you want to deploy that image](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=229.281) [either programmatically or through the portal.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=230.351) [Sadly this has broken a lot of deployment scripts](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=233.281) [that use the Ubuntu image until they go in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=236.311) [and actually accept the EULA.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=238.361) [So the reason I left this in is in case this happens to you,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=240.371) [I want to just show you a, that failure happens,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=243.371) [it's not a big deal; and b, how to fix this issue.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=247.301) [So just grab the URL,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=250.331) [go into the AWS console and paste it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=252.331) [This should take you to the marketplace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=254.371) [Click Continue to Subscribe.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=257.301) [Now you don't want to actually launch it with the one click,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=259.281) [so just go to manual launch and accepts software terms.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=261.301) [That's all you have to do.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=264.331) [So if you get this error, that's all you have to do.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=266.281) [Go back into applications,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=268.301) [we're going to build with parameters again](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=271.291) [and just build one more time.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=273.281) [And this should be relatively quick.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=274.351) [It's already deployed almost everything,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=276.361) [it just is waiting on the approval](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=278.361) [for you to accept the EULA](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=281.351) [before it'll actually deploy autoscale group.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=282.371) [So here we go, it's gotten up to the point](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=285.371) [where it wants me to determine](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=287.341) [whether it has to apply or not.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=289.351) [There's only six new things to add](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=291.301) [so it did really get through most of the things already.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=293.361) [So I'll click Apply and it should go through](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=296.281) [the process of adding the last couple components it couldn't](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=298.361) [because I hadn't accepted the EULA yet.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=302.291) [All right, there we go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=304.331) [So really, that's all you have to do.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=305.321) [It added those additional six resources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=307.341) [they should all be in the process of spinning up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=310.281) [So now we should have a web autoscale group](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=312.281) [behind an elastic load balancer,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=314.331) [and all the instances are running nginx.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=316.291) [In the EC2 dashboard, we have three running instances.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=319.351) [The first one is the bastion host,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=324.301) [and the other two are webapp autoscale groups.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=325.361) [Because we set the minimum to two,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=328.341) [it spins up two by default.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=330.311) [Now those are front ended by a load balancer.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=332.321) [Let's scroll down and click on the load balancer area.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=335.301) [We've got one elastic load balancer](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=338.341) [and it has a public DNS record.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=340.361) [So I'm going to go ahead and copy that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=342.371) [and drop it in a browser, paste that in and there we go,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=344.331) [welcome to nginx.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=348.311) [Both of the instances are running nginx,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=349.341) [and the load balancer, as you refresh the page,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=351.351) [will just flip flop between the two.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=354.311) [There's nothing laid down yet,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=356.321) [but this sets up the next module wherein we will be looking](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=358.291) [at configuration management and how we can use that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=361.281) [to lay down an application now that we have](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=363.301) [the application infrastructure ready to go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=11&mode=live&start=365.331)

[**Module Summary**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live)

[Alright, in summary,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=1.751) [the first thing to realize about automation is that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=3.731) [automation is challenging.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=6.761) [If you really want to learn the ins and outs](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=8.751) [of your application and infrastructure,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=11.691) [try automating the deployment of it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=13.721) [You're going to learn all the assumptions that you've made](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=15.731) [about your infrastructure very quickly](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=18.691) [the first time you run that script and it breaks.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=20.701) [Plan to fail early and fail often](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=22.761) [when you undertake an automation challenge.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=25.741) [The good news is automation is also rewarding.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=27.781) [You never have to do that thing again once it's automated.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=31.771) [Sure you have to maintain the automation](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=35.761) [to a certain degree, but those menial tasks](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=38.701) [or those individual things that you had to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=41.721) [before manually are now automated in some way,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=43.721) [and that includes deploying infrastructure using Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=46.761) [Automation reward you in the sense that you will truly](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=49.781) [understand your environment and its components,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=52.751) [which means when you need to troubleshoot your environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=55.731) [because something's gone wrong, your background](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=58.701) [of automating that process is going to give you](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=60.721) [in-depth knowledge of the inner workings](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=62.771) [of all the different components](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=65.721) [and how they all mesh together.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=66.741) [And that way, automation is one of the most](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=68.701) [rewarding tasks that you can undertake.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=69.771) [The final thing to remember is although we used](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=72.731) [a lot of different tools within the module,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=76.711) [it's more important to focus on the concepts.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=78.731) [So we used Docker to deploy Jenkins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=81.761) [And more important is to understand](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=84.701) [where containers fit in your life](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=86.751) [rather than knowing exactly how to use Docker.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=88.771) [We used Ansible to set up a pipeline,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=91.731) [but it's more important to understand](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=94.721) [the conceptual framework of a CICD pipeline](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=95.771) [and the work that goes into automation](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=99.691) [than knowing how to use Jenkins and plugins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=101.721) [And lastly, we used Terraform and I know this whole course](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=103.771) [is about using Terraform, but Terraform is another tool](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=106.741) [in your toolbox.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=109.781) [And the more important thing behind it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=111.701) [is understanding how to declaratively](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=113.711) [define your environment and create it in a way](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=116.721) [that's dynamic and automated.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=119.761) [Those are the concepts that we're learning.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=121.741) [And while the tools may change,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=123.721) [the concepts are relatively static.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=125.721) [Coming up in the next module, we're going to look at](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=127.761) [implementing configuration management.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=130.751) [Although Terraform is great at a lot of things,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=132.781) [it's not good at everything.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=135.701) [It's one of many tools in toolbox](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=136.761) [if we can go back to that metaphor.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=138.761) [So configuration management is yet another tool](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=140.741) [in the toolbox that Terraform can hand tasks off to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=143.711) [when it's completed its portion of things.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=146.731) [The specific tool we're going to use](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=148.781) [in a configuration management is Ansible.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=150.751) [We're going to be using Ansible to deploy a configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=152.761) [on top of what Terraform has already created.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=155.781) [All that and more coming up in the next module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=d4ab1191-dc79-4b22-8ce1-ade4660edc38&clip=12&mode=live&start=159.731)

[**Integrating with Configuration Managers**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live)

[**Introduction**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live)

[Terraform excels at deploying infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=2.05) [but when its job is done,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=4.05) [you might want a configuration management application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=6.02) [to take over and prepare the resource](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=8.07) [for code deployment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=11) [Working in tandem, Terraform and a config manager](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=12.08) [like Chef, Ansible or Salt](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=15.04) [can get the resource configured precisely](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=17.04) [as it should be and control configuration drift over time.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=19.06) [Having an automated hand off and configuration process](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=24.04) [also removes the possibility of manual configuration error](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=27.07) [and ensures consistent configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=31.06) [across all environments.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=33.09) [In this module you will learn how to add](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=35.06) [a configuration manager, Ansible](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=37.05) [in this case to your Terraform configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=39.05) [Hello, this is Ned Bellavance,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=42.01) [Microsoft MVP, cloud and data center management](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=43.06) [and this is Integrating with Configuration Managers.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=46.04) [Since, we're going to be using configuration managers,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=51.07) [it would probably be useful](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=54) [to define what a configuration manager does,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=55.06) [what its functionality is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=59) [and how it sort of integrates with other things.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=60.04) [You could think of Terraform as a tool](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=63.02) [in a larger tool set](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=65.02) [and while it does many things very well,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=66.05) [there are some things that it's better to hand off](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=69.01) [to another tool to handle and configuration management](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=71.06) [if often one of those things.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=74.09) [We're going to look at different deployment patterns](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=76.03) [and how the hand off might happen between Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=78.02) [and a configuration management application.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=80.08) [Then we'll look at how Globomantics](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=83) [is integrating Terraform and Ansible](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=84.07) [into their deployment process](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=86.09) [to get the application laid down on the infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=88.04) [that has been provisioned.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=0&mode=live&start=91.04)

[**Configuration Management and Deployment Options**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live)

[There's a lot of different configuration management tools](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=1.495) [out there but they should all have](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=4.475) [some common elements among them.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=6.465) [The first is identification.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=8.475) [How does a configuration management piece of software](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=11.445) [identify what components will be managed?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=14.475) [Usually that's defined somewhere in a configuration file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=17.475) [or in an inventory file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=20.435) [I've got this list of servers](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=22.425) [and they're all supposed to be web servers](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=23.505) [and this is the configuration that I want applied to them.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=25.485) [The next major thing is control.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=29.485) [In order to apply proper configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=31.475) [to a resource, the configuration management software](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=34.435) [has to be able to control that resource,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=37.455) [so the determination needs to be made](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=39.485) [how that resource is going to be managed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=41.455) [The third component is accounting.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=44.495) [I know I want a particular configuration applied](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=47.425) [to a resource but first I need to know](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=49.495) [the current state of that resource](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=51.495) [before I make any changes.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=53.465) [The accounting portion of configuration management software](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=55.455) [gets the current state of the resource](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=58.455) [and once it's applied a configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=60.485) [it can get the resultant state of that resource](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=63.435) [and make sure it matches up with what the desired state was.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=66.435) [The last thing is verification.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=69.505) [You've pulled the current state,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=71.495) [you know what you want the state to be,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=73.435) [now you need a way to verify](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=75.505) [that the desired configuration matches](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=77.495) [the actual configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=80.445) [and that's the verification portion](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=81.495) [of configuration management.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=83.465) [There's a bunch of tools out there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=84.505) [that do configuration management](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=87.425) [and all of them should share these components in common.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=88.515) [Now that you have a high-level understanding](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=92.455) [of what configuration management software should do,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=94.445) [let's look at some of the options to consider](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=96.515) [when you're deploying configuration management.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=99.435) [The first is how does Terraform pass](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=101.455) [to configuration management?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=104.455) [In the case of something like Chef or Salt,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=106.425) [there's actually a provisioner that already exists](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=108.505) [in Terraform that you can take advantage of](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=111.455) [to do that hand off.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=113.505) [Other things like Puppet and Ansible](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=115.485) [you're going to have to use some sort of shell script](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=117.475) [or something similar to do that hand off from Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=119.515) [to the desired configuration management software.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=123.475) [The next deployment question](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=127.445) [is do you push the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=128.505) [or do you pull the configuration?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=131.435) [When I say push the configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=133.435) [that means there's some sort of centralized server](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=135.425) [that has the desired configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=138.425) [and it has an inventory of nodes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=140.435) [to apply that configuration to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=142.435) [and it goes out and pushes that against each node,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=144.425) [so Ansible is a good example](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=147.445) [of that deployment methodology.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=149.425) [When you run Ansible, you run it on a local box](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=150.505) [and you give it a list of remote hosts](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=153.505) [that you want a configuration applied to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=156.425) [and then using something like SSH](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=158.435) [or WinRM it goes out and pushes that configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=160.435) [to each of those nodes.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=163.475) [A pull configuration is a little bit different.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=165.515) [In a pull configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=168.495) [you have a centralized repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=169.515) [that has the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=172.425) [but each individual node is responsible](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=173.455) [for pulling that configuration down](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=176.455) [and applying it locally.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=178.465) [Often that's done through some sort of agent,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=180.425) [so for instance, Puppet has an agent](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=182.445) [that you install locally and then you set that agent](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=184.425) [to run on specific intervals](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=186.475) [and pull the current configuration from a Puppet server.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=188.455) [The last thing to think about is sort of related](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=191.505) [to that and that's whether to go with a centralized](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=193.515) [or a distributed configuration management model.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=196.475) [So, a centralized model would mean](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=199.515) [that there's a centralized inventory](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=201.495) [and configuration server](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=204.445) [that holds all of that information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=206.435) [and often that works in tandem](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=208.435) [with a sort of push configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=209.505) [though it can really work with either.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=212.445) [Alternatively you could have a decentralized](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=214.435) [or distributed configuration management deployment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=216.475) [In that case the configuration could be stored](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=220.425) [in some sort of shared repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=222.425) [but it's a distributed repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=223.515) [and there's no centralized server](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=225.495) [that is forcing configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=228.465) [to happen on a certain cadence.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=230.465) [In the case of a distributed configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=232.475) [that scales much easier because you don't have to reply](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=235.435) [on a bottleneck of a centralized server,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=238.435) [however, you are giving up some of the control](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=240.475) [of having a centralized server](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=243.435) [that can do things like auditing and logging.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=1&mode=live&start=244.515)

[**Deployment Patterns**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live)

[Now that we've gone through some of the deployment options,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=2.439) [let's talk about deployment patterns.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=4.499) [What are some ways that Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=6.479) [and configuration management can work in tandem](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=8.479) [to deploy a configuration to a target environment?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=11.519) [In traditional provisioning](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=15.529) [you typically would create an image or use an existing image](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=17.469) [and you can think of that image](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=20.529) [as either an AMI in AWS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=22.509) [or a template that exists](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=25.459) [in something like VMware.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=27.459) [Whether that image was created for you](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=28.489) [by somebody else or you created it yourself](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=30.519) [is kind of irrelevant](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=33.439) [but you have a base image to work off of](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=34.519) [and from that you deploy an instance.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=37.449) [That instance is just going to be the basic configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=39.519) [probably just the operating system](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=43.459) [patched up to a certain level.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=44.529) [On top of that instance,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=46.519) [you're going to provision the application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=48.439) [and you're either going to do that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=50.499) [through Terraform, you could use the provisioners](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=51.509) [that exist in there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=53.529) [or you could hand off the deployment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=55.449) [of that application to a configuration management piece](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=57.449) [of software that would do that initial provision](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=59.529) [of the application and then continue](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=62.479) [to manage the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=64.479) [of the application going forward.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=65.529) [So, that's a fairly traditional provisioning pipeline.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=67.519) [I did want to bring up an alternative version](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=72.499) [of that provisioning pipeline](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=75.439) [that may or may not include configuration manager](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=76.489) [and that's called immutable deployment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=79.469) [which implies that once something is deployed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=81.469) [it doesn't change, you don't make any changes to it.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=83.509) [The pipeline for immutable deployments](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=87.439) [starts out very similar.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=88.529) [You create an image](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=90.469) [and then you deploy an instance from that image.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=92.439) [The main difference about that image](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=94.489) [is in an immutable deployment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=96.489) [you create images that already have](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=98.489) [the operating system patched up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=100.489) [and have the prerequisites](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=102.499) [for the application installed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=103.519) [and the application itself already installed,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=105.469) [all it needs is a little bit of configuration information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=107.509) [to know where it fits into your infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=109.529) [but basically that instance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=112.489) [is ready to go when it fires up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=114.509) [and that's very similar to a container-type deployment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=117.439) [Now, you already have the application installed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=119.529) [with some configuration information,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=121.529) [so if you're deploying this with something like Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=123.479) [you don't need to hand off to a configuration manager](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=126.449) [although you could for that initial configuration phase](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=129.499) [where some data is pulled from somewhere else,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=132.489) [so the instance knows how it should integrate](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=135.439) [with the environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=137.439) [When it comes time to patch or update that application,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=138.459) [you don't patch or update the instance.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=141.499) [Instead, you update the image.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=143.509) [That image is the immutable truth](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=145.519) [of how the deployment should be.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=148.449) [The whole point of an immutable deployment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=149.519) [is that you never alter the instance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=152.449) [once it's been spun up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=154.469) [Instead, you go back and update the image,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=155.529) [once the image is updated, then you re-deploy](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=158.459) [the instance with the update](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=161.529) [and typically what you would do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=163.529) [is sort of a rolling upgrade](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=165.469) [where you take instance out of service,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=166.509) [destroy it and then create a new version of that instance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=169.459) [from the updated image.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=172.509) [So, those are two different deployment pipeline patterns.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=174.489) [The immutable deployment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=178.439) [is becoming more common](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=179.459) [because of containers and the way](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=180.479) [that they're deployed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=182.439) [but the same principles could be applied back to VMs.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=2&mode=live&start=183.459)

[**Automation at Globomantics**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live)

[So, how's automation happening at Globomantics?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=2.026) [Once again, you're Mary Moe](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=5.026) [and you're working with Sally Sue](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=6.056) [and her team of developers](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=8.016) [and what you've been working on together](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=9.986) [is deploying infrastructure code.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=11.076) [Once that code is ready,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=14.066) [you send it up to AWS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=16.036) [and create your environments.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=18.006) [In this case, we're creating an environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=20.046) [that has an auto scale group in it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=22.036) [and that auto scale group has a launch configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=24.066) [The point of a launch configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=27.996) [is to determine how and when to deploy](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=29.046) [additional instances or pull instances back,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=32.046) [so within that launch configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=35.036) [is user data information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=37.016) [and that's the set of instructions](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=38.986) [that AWS runs on the instance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=40.056) [to get it provisioned and ready to go](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=42.066) [when the launch configuration calls](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=45.006) [for another instance to be deployed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=46.986) [So, the question becomes where does that user data live](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=49.026) [and how is it generated?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=52.996) [On the other side of Globomantics,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=54.046) [we've got the application team.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=55.996) [They're creating application code](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=57.076) [and they're taking that code](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=60.016) [and uploading it to a GitHub repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=61.066) [in the form of Ansible playbooks.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=64.036) [So, the thing that ties the launch configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=66.076) [and the GitHub repository together](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=69.006) [is the Ansible playbook.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=71.016) [So, the launch configuration is going to run](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=73.056) [an Ansible playbook command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=76.016) [when it comes up and that Ansible playbook](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=77.986) [is going to be running playbook information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=80.036) [that's been pulled from the GitHub repository.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=82.036) [Ansible, just like Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=85.046) [is item potent, so it can run that playbook over and over](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=86.986) [and as long as the current configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=89.986) [matches the desired configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=92.996) [Ansible won't change anything,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=94.076) [so this is how we're going to get some code deployed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=97.056) [from a GitHub repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=100.026) [onto the instances dynamically.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=102.016) [Let's take a look at what the environment itself looks like.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=104.046) [So, this environment should be pretty familiar.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=107.046) [This is the same environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=110.036) [we've been deploying with the previous modules.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=111.056) [We've got an auto scaling group](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=114.006) [that's spanning two public subnets](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=115.076) [with an elastic load balancer in front of it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=118.006) [and then we have an RDS backend](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=120.036) [that's living in a database subnet group](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=122.026) [that's composed of the two private subnets.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=124.056) [For this demonstration, we're going to be pulling](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=127.056) [an Ansible playbook from a GitHub repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=129.056) [and applying it to the instances](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=132.036) [that are in the auto scale group](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=134.016) [through the user data metadata.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=136.006) [Now, in order to get all this stuff set up,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=138.066) [once again we have some supporting services](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=140.066) [that need to be configured](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=142.986) [and there shouldn't be any surprises here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=144.046) [Once again, we're using lambda and the API gateway](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=146.046) [to grab configuration information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=149.036) [and that configuration information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=151.996) [is living in a DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=153.046) [We're also using DynamoDB to hold the state lock](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=155.986) [for the remote state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=158.996) [We're going to create two service account users,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=160.046) [one for networking and one for application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=162.986) [in identify access management](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=165.006) [and finally, we're going to create two buckets,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=167.026) [one for networking and one for application](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=169.986) [that will hold the remote state.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=3&mode=live&start=171.996)

[**Setting up Remote State and Lambda**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live)

[So, let's go ahead and get all that set up now.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=2.271) [The first thing we'll do is examine](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=5.231) [the Terraform setup file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=6.261) [then we'll deploy the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=8.221) [and then review the results.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=9.251) [In order to play along,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=11.241) [you're going to need an AWS account as usual,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=12.261) [the Terraform software,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=15.281) [the demo files that are included](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=17.221) [as part of this module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=19.211) [and then possibly a GitHub account.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=20.211) [That's actually optional.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=22.241) [The repository I'm going to use in the demo](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=23.301) [for the Ansible playbook is publicly accessible.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=26.211) [You could just use that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=28.251) [but I really recommend creating your GitHub account,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=30.211) [forking my repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=32.251) [and using your own when going through the demo.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=34.231) [The reason I say that is it allows you](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=36.281) [to tweak and experiment with the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=38.251) [after the demonstration's over](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=40.301) [to learn a little bit more about the moving components](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=42.271) [that make up Ansible.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=44.291) [All right, we're in VS Code](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=47.231) [and I've got the remotestate file open in module six](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=48.291) [and for the most part, remotestate hasn't changed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=52.221) [since the last module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=54.261) [We did add a few things back in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=56.221) [and the first is there's now the variable user\_home\_path](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=57.271) [back in there and that is where it will write](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=61.231) [the credentials file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=63.301) [If we scroll down a little bit,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=65.211) [under the user creation](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=66.271) [we're creating the service accounts now](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=67.301) [instead of the named accounts,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=70.221) [so we've got an application user](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=71.231) [and a networking user.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=72.291) [And scrolling down a little but farther,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=74.231) [at the end of the configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=77.221) [we're spitting out a local file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=78.271) [and that local file includes all the credentials](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=80.241) [that have been configured.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=83.211) [In the previous module we removed the local file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=84.231) [and that is because we were using the CICD pipeline](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=87.211) [and storing the credentials directly in Jenkins.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=90.241) [Since we're not using the CICD pipeline in this example,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=93.241) [we need that local file again.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=96.241) [That's the only change to the remotestate,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=98.231) [so let's go ahead and spin up the remotestate items.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=100.231) [So, at the command prompt](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=103.221) [we're going to do our initialization,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=104.291) [clear the screen and we'll run our plan](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=106.291) [and I'm including that user\_home\_path](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=109.301) [for my local directory.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=111.291) [All right, that ran pretty cleanly,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=114.251) [let's clear the screen and go ahead](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=116.291) [and run Terraform apply](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=119.211) [and that should run relatively quickly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=120.301) [All right, so it wrote out the file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=123.261) [with the AWS credentials](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=124.291) [and it also displayed them on the screen.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=126.231) [We've got the remote state going,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=128.211) [so that created the S3 buckets,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=129.281) [the DynamoDB table to hold the state](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=131.221) [and also the users.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=133.301) [Now, we're going to create the lambda function.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=135.271) [Go ahead and run the initialization for that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=137.261) [All right, looks good](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=140.231) [and we'll run the plan for that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=142.241) [and that looks good as well.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=144.251) [Go ahead and deploy that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=146.221) [and that's going to create the lambda function,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=148.221) [the API gateway and then also the DynamoDB table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=150.211) [that's going to store the configuration information.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=153.211) [Once it's done creating all that,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=155.291) [we're going to have to take the development configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=157.261) [and drop it in the DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=160.271) [So, the output there has the lambda URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=163.221) [You're probably going to want to copy that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=165.271) [and leave it aside because you're going to need it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=167.231) [further on in the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=169.231) [Now that that DynamoDB table exists,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=171.241) [let's grab the development information,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=173.301) [so that would be this here,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=176.261) [I'm going to copy that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=177.301) [Here we are in DynamoDB,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=179.221) [we'll go to the Tables,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=180.281) [we'll go to the datasource table that was created,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=182.221) [go to Items, Create a New Item,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=184.281) [switch to text and paste in that information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=187.231) [for the development environment, click Save.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=190.241) [All right, so now we have the development environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=193.221) [defined in the DynamoDB table.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=195.211) [I'm not going to copy the production one in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=197.221) [but you certainly could if you wanted to.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=198.291) [Let's go back to VS Code.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=200.291) [At this point, all of the supporting services](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=202.231) [have been configured.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=204.251) [We're ready to deploy the networking configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=4&mode=live&start=205.281)

[**Deploying Networking and Examining the Application Files**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live)

[Before I deploy the networking configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=1.563) [I just want to point out one thing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=4.513) [that has changed since the previous module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=5.553) [If we go into datasources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=8.523) [and this is already scrolled down to the bottom.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=9.593) [The external configuration is now using](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=12.513) [the PowerShell script again.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=14.533) [I'm back on a Windows box](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=15.593) [so I want to use PowerShell](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=17.553) [to pull the external configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=19.513) [If you're running on a Linux box,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=21.533) [you could go ahead and switch that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=22.573) [to the bash script instead](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=23.603) [as long as you have the jQueue application installed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=25.573) [and run that instead.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=27.603) [Either of them will work.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=29.553) [That's the only major change,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=30.563) [so let's go into the networking folder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=32.513) [and we're going to run the initialization](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=35.533) [for the networking folder,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=37.573) [so we're using the AWS profile](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=38.603) [that's for networking,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=41.523) [assigning it the correct DynamoDB table](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=42.593) [and networking bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=45.523) [and then using the networking profile](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=46.573) [to configure that backend.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=48.593) [All right, we're all initialized, ready to go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=51.513) [Now that the initialization is complete,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=53.583) [we're going to create a workspace for development](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=55.603) [and the reason we're doing that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=58.513) [is because the configuration script](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=59.563) [uses what workspace you're in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=61.533) [to pull the information out of DynamoDB,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=63.533) [so if you're just working in the default workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=65.583) [it's going to throw an error.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=67.573) [All right, so now we're switched](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=68.603) [to the development workspace.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=69.593) [We're going to run the plan for networking.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=71.543) [All right, there we go, that's the plan command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=73.523) [The only thing that's missing is the URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=75.553) [That refers to the lambda URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=77.523) [I copied that out earlier,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=79.543) [so I'm going to grab that and paste it in.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=80.573) [There we go, we have our lambda URL, run that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=83.573) [All right, it looks like we got some things to deploy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=86.603) [We're going to run the Terraform apply for that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=89.543) [Now, this is going to take a few moments](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=91.593) [to spin up all the networking things,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=93.533) [so while that is running,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=94.593) [we can take a look at the applications portion](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=97.533) [of the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=99.603) [I'm going to hide this for a second,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=101.523) [expand out applications](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=102.573) [and the first thing I want to look at](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=104.523) [is the resources deployment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=105.553) [So, new to the resources deployment in this module](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=107.553) [is this template file configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=110.583) [This template file data source](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=112.603) [creates the user data which is then handed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=114.603) [to the launch configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=117.563) [So, it uses a template file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=119.543) [that's stored in the templates directory](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=120.573) [called userdata.sh](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=122.573) [and we're passing it a number of different variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=124.593) [that it's going to then in turn pass to the Ansible playbook](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=127.563) [to do the actual configuration of the application,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=131.583) [in this case, we're deploying WordPress.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=134.563) [So, the first thing it's handing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=136.573) [is the RDS endpoint that's created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=137.573) [further down in the configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=139.583) [The RDS endpoint is used by the instances](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=141.543) [to connect to the MySQL database](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=144.513) [that's running in RDS](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=145.603) [and that's dynamically created.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=147.563) [The next thing is the name of the database.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=149.573) [In this case we're using the Terraform workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=151.573) [we're currently in](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=153.573) [combined with the rds\_db name that's specified](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=154.583) [in the external configuration from DynamoDB.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=157.593) [As part of the variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=160.543) [we're passing it an RDS username](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=161.573) [and an RDS password and that's passed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=163.573) [into this template file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=165.563) [and then finally, the name of the playbook repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=167.523) [where the playbook files can be found,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=170.543) [so that's going to be a GitHub repo](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=172.583) [and that will be passed as part of the Terraform plan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=174.573) [So, let's take a look at that userdata.sh file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=177.553) [All right, so within the userdata.sh](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=180.553) [we're telling the instance to perform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=182.603) [a number of action.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=185.533) [The first thing is to install some stuff](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=186.513) [that we need to run Ansible.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=187.593) [So, we're going to run apt-get update](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=189.553) [and then apt-get install](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=191.513) [and install git](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=192.603) [so we can pull things from a Git repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=194.523) [and Ansible so we can run Ansible.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=196.553) [Once that's finished installing,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=198.593) [we're going to create a directory](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=200.523) [to hold the Ansible playbook](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=201.553) [and that's going in /var/ansible\_playbooks.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=203.513) [Then we're going to clone this repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=206.553) [using the variable](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=208.523) [that's handed into this template file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=209.513) [and clone to /var/ansible\_playbooks.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=210.573) [Finally, we're going to run the Ansible playbook command.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=214.553) [The Ansible playbook takes a playbook YAML file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=217.543) [and then runs it against specified hosts,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=220.603) [so we're pulling down the information](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=223.533) [from the repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=225.553) [and in that will be this playbook.yml file.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=226.563) [There's also going to be a file called hosts](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=230.523) [in the repository.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=232.523) [So, we're using the -i to tell Ansible playbook](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=233.593) [here's a list of hosts I want you to run](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=236.593) [the playbook against](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=238.603) [and then we're also passing Ansible](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=240.523) [some additional variables at runtime.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=242.533) [Let me scroll over.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=244.583) [Those additional variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=245.583) [are the host name of the WordPress database server](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=246.603) [which translates to the RDS endpoint,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=250.563) [the name of the database in which to install WordPress,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=253.533) [the database user to use to access that database](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=257.573) [and then finally, the password](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=261.533) [that corresponds to that database user.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=262.553) [When the template data source is run](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=264.563) [it will generate this as a string](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=266.533) [and if we go back to our resources,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=268.563) [and scroll down to the launch configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=270.563) [under the user\_data category](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=273.593) [we're referencing the rendered string](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=275.553) [that comes out of that template file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=277.563) [which should be the completed user data](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=279.533) [with all the fields filled out.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=281.533) [Hopefully at this point the networking stuff](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=283.523) [has been provisioned.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=284.583) [Looks like it provisioned just fine.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=5&mode=live&start=286.543)

[**Deploying the Application**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live)

[Let's go ahead and clear that out](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=1.639) [and then we're going to deploy the application.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=3.609) [We'll go up to the application folder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=6.629) [and we're going to run the initialization](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=11.649) [so we're using the AWS application profile,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=13.619) [the correct DynamoDB table for lock state,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=16.649) [the correct bucket](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=19.649) [and the correct profile for the backend config.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=20.649) [Run that, hooray.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=23.679) [Now that it's been initialized,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=25.679) [we'll clear the screen](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=27.589) [and we'll create the development workspace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=28.619) [and finally, we'll run the plan,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=31.639) [paste that in and the only thing I don't have](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=33.649) [in there once again is the lambda URL,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=35.669) [grab that and drop that in,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=39.619) [so the plan command, we're giving it](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=41.659) [the AWS profile application.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=43.629) [We're also specifying the playbook repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=46.589) [to pull the playbook from](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=48.629) [and in this case I'm using my public GitHub,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=49.669) [the ansible-playbook-wordpress-ngingX.git repository](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=52.599) [and then also passing it the lambda URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=57.679) [Go ahead and run that plan.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=60.629) [Great, so that ran successfully.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=62.649) [The last thing to do is apply that plan,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=64.639) [go ahead and do that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=67.609) [All right, let that rock and roll.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=69.609) [Now, this is going to take a few moments obviously](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=72.639) [because it has to spin up that RDS instance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=74.629) [and then the bastion instance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=76.659) [and then also the two web instances](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=78.639) [and run the launch config for those instances,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=80.679) [so all of that will take a while.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=83.639) [When this is done spinning up,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=86.599) [and we go to the elastic load balancer,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=87.659) [it's going to show the two instances](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=89.649) [as being down and the reason is](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=91.639) [because this is the first time](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=93.659) [we're installing WordPress,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=95.599) [so it's not initialized.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=96.619) [So, if you try to go to the root](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=97.659) [of the web directory,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=99.649) [it redirects you to the admin page](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=100.679) [so that you can do that initial configuration of WordPress.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=104.649) [A redirect response is different than a 200 response](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=107.629) [which is what the load balancer is expecting](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=110.649) [when it's testing to see if the instances are ready,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=113.629) [so it puts them in a not ready mode.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=116.599) [What we have to do is go directly](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=118.629) [to the public IP address of one of those instances,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=119.679) [run through the WordPress config](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=123.609) [and then once the initialization is done,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=124.679) [that root will start returning a 200 response](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=127.629) [and the load balancer will show both instances as available.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=130.599) [All right, sweet, the whole thing has been configured](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=133.609) [and the output includes the elastic load balancer DNS entry.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=135.659) [So, even the instances are up,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=139.609) [they're probably still running the Ansible playbook](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=140.679) [and not quite ready yet,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=143.589) [so we can go to this URL.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=144.659) [In all likelihood it's going to load nothing.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=147.609) [Go ahead and drop that in the web page](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=149.599) [and it's going to time out eventually](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=152.629) [and that's fine.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=155.589) [If we go into the EC2 console](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=156.589) [and look at Instances,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=157.629) [you can see we've got the two web apps](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=158.649) [and the bastion host up and running.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=160.639) [Those instances are probably still running](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=163.589) [through their initialization process,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=165.589) [so if we scroll down and look at the elastic load balancer,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=167.669) [and if we look at the instances,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=171.639) [it says they're both in service, they're not in service.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=172.659) [There's still nothing loading here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=176.669) [and that's fine.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=178.619) [Like I said before, we're going to have to go directly](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=179.629) [to one of those public IP addresses once it's done.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=181.619) [Rather than do that,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=183.679) [let's let those instances finish their configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=185.599) [In the meantime, let's look at the Ansible playbook.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=6&mode=live&start=187.639)

[**Examining the Ansible Configuration**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live)

[So, we're back in VS Code,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=1.232) [let's open the Ansible playbook.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=3.142) [So, this is the Ansible playbook that's being pulled down](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=5.142) [from the public GitHub.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=8.152) [In the root directory,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=9.182) [there's the playbook.yml file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=11.152) [and this is kind of where it all starts.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=12.202) [Let me hide the command prompt.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=14.212) [So, in the playbook,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=15.212) [the first thing you have to do is specify](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=16.222) [hosts and then a tag to associate with those hosts,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=18.212) [so in this case we're referencing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=21.162) [all hosts that have the tag webservers](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=23.162) [and then we're telling Ansible](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=25.222) [what roles we want installed on those hosts,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=26.222) [in this case we're asking it to install nginx,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=29.202) [WordPress, PHP, and postfix.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=32.172) [Now, where do those hosts come from?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=35.152) [If you remember in the userdata,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=36.212) [we used the -i command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=38.172) [and manually specified a host file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=39.222) [and this is that host file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=42.152) [and in the host file we're creating the tag webservers](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=43.212) [and then putting one server in there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=46.192) [which is localhost.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=48.152) [Typically Ansible uses SSH to connect to remote hosts](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=49.172) [but since this is a localhost,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=53.152) [it doesn't need to do that,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=54.192) [so we've manually specified that the Ansible connection](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=55.232) [for this host should be local as opposed to SSH.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=58.222) [Going back to the playbook,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=62.172) [where are these roles coming from,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=63.192) [where are they defined?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=64.222) [If you look in the folder structure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=65.232) [there's two folders, a group variables and roles.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=67.192) [Let's look at the group variables first.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=70.192) [So, in the group variables, we have a file called all](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=72.202) [and this has all of the variable settings](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=75.232) [that the playbook is going to use.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=78.162) [You can manually override](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=80.182) [any of these variable settings](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=82.142) [by passing variables in line with the command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=83.202) [which we do using the extra vars option](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=86.162) [but in here we're defining some variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=90.152) [and their default value,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=92.142) [so we have all the WordPress database settings up top,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=93.192) [we have some MySQL settings which would be used](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=96.192) [if we were installing MySQL locally](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=98.232) [which in this case we're not.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=101.152) [We're also defining the server name](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=103.162) [as globomantics.com,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=104.202) [so that's going to be used to name the nginx instance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=106.162) [and then finally, we're defining a WordPress version](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=109.182) [and check sum.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=112.182) [So, that's all the variables](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=113.192) [that are being defined.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=114.232) [If we go over and look at roles,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=116.142) [here are the four roles being defined](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=117.172) [and the two of the most interest](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=119.222) [are nginx and WordPress.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=121.162) [So, for nginx we've got three folders in there,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=123.152) [handlers, tasks and templates.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=125.222) [So, tasks are how do I install nginx.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=127.202) [What do I need to do?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=130.232) [Templates provides some template files as needed](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=132.182) [and handlers are ways for other roles](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=135.172) [to call back to the nginx role](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=137.192) [when it needs it to do something,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=139.192) [so after you install WordPress](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=141.142) [you want to restart nginx.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=142.232) [There's a handler in the nginx folder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=144.202) [that tells Ansible how to properly restart nginx.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=146.182) [So, the main thing we want to look at probably is tasks.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=150.162) [So, here are all the tasks for installing nginx.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=153.162) [So, it's pretty straightforward.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=156.162) [We update the apt cache, install nginx,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=157.222) [start it and then we're going to copy the nginx configs](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=161.152) [from the template folder,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=164.172) [so we have this template folder over here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=165.222) [and it's got a default site configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=167.212) [and then the WordPress configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=169.222) [If you look in the path of the template,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=172.142) [we're using the server\_hostname variable](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=174.202) [and the way that you use variables in Ansible](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=176.222) [is to use the double curly brace](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=179.192) [and that lets Ansible know that it needs to interpolate that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=181.222) [into a value in the same way](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=185.162) [that you use the dollar sign curly brace in Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=187.162) [to interpolate a value there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=190.192) [Once the configuration files are copied,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=192.162) [we enable the site at nginx for the server host name](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=194.162) [and then remove the default site](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=197.232) [so it doesn't conflict with this new site](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=199.202) [because they would be using the same port.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=202.152) [That's the nginx role.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=203.222) [The other interesting one is the WordPress role](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=205.162) [and so, we have another task in here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=207.172) [that creates the WordPress installation,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=209.142) [so the first thing you do is create a webroot.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=211.182) [It then creates the server\_hostname path](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=213.202) [for the WordPress directory](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=216.222) [and downloads WordPress to a temporary folder](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=218.172) [using the WordPress version](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=221.192) [that was specified in the variables.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=223.142) [Once it downloads the WordPress files,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=225.182) [it extracts those WordPress files](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=227.192) [to a temporary directory](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=229.182) [and then it moves the WordPress install files](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=230.232) [to the directory that was created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=233.192) [under the server\_hostname that was handed to the variables.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=235.212) [Then we grab some random salts from the WordPress config](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=238.202) [and copy the WordPress config](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=241.162) [from the templates folder into the destination folder.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=244.162) [Once that template is copied over,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=247.232) [we're going to make sure that all the correct values](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=249.212) [are there for the database connection](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=251.202) [and so, that's this last piece](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=253.142) [is it goes line by line](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=255.172) [and uses regular expressions](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=256.212) [to do a substitution of database name, user,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=258.192) [password and host](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=262.172) [and that's how WordPress gets configured](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=263.202) [with its database backend,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=265.202) [so that's a really quick overview](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=267.182) [of how the Ansible playbook is laid out.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=269.182) [There's obviously a lot more in here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=271.182) [I would highly recommend either going to Ansible's site](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=273.202) [and going through some of their tutorials,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=275.212) [or there are several Ansible-based courses on Pluralsight](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=277.172) [that are definitely worth going through](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=281.162) [if you want to know more about how Ansible works.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=7&mode=live&start=283.152)

[**Configuring WordPress and Running the Ansible Playbook**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live)

[That should have been plenty of time](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=1.374) [for the Ansible playbook to run on the instances.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=2.374) [Let's go back to the EC2 console](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=5.304) [and now if you look in the instances](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=7.324) [for the load balancer you can see](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=10.304) [they're both out of service](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=11.314) [because we haven't configured WordPress yet,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=12.324) [so let' go to one of the instances,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=14.334) [we'll pick this one](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=16.324) [and we're going to grab the public IP for that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=18.284) [and go to that public IP directly](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=21.294) [and that will redirect us to the WordPress install site](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=24.344) [and we'll continue through that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=28.324) [and we'll just do a quick config,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=29.304) [call the site Globomantics,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=30.374) [username, NedAdmin,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=33.314) [password, copy that, that's fine,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=35.364) [do the email, ned@globomantics.com](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=38.374) [and Install WordPress.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=44.354) [All right, it's been successfully installed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=47.294) [You can go ahead and log in with NedAdmin](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=49.314) [and the password that it generated for us](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=52.284) [and there we go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=54.364) [Now that that first instance is configured,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=55.364) [WordPress is running on the root](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=58.294) [and so, if we refresh the load balancer,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=60.344) [there we go, we've got the Globomantics WordPress site,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=63.294) [so now we've taken a Terraform configuration,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=65.374) [we've handed it off to Ansible,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=68.314) [Ansible has successfully installed WordPress](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=69.374) [and we're ready to go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=72.354) [Now, in case you're curious](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=74.324) [about the Ansible playbook itself,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=75.334) [let's SSH into one of the instances](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=77.354) [and see what that looks like,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=79.354) [so first, we'll go in the EC2 console](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=80.344) [and go down to the Launch Configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=83.314) [and we've got one launch configuration in there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=87.314) [and what I want to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=89.334) [is look at the user data](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=90.344) [that was generated.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=93.334) [This is the user data that was created](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=94.354) [using that template file](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=96.364) [and down at the bottom we have that Ansible playbook command](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=98.304) [so I'm going to open PuTTY](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=101.334) [and we're going to grab this IP address here,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=103.284) [drop it in here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=107.284) [and my Pluralsight key, there we go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=108.304) [Okay, we're going to log into the stance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=111.354) [and the username is ubuntu, I spelled it right, yip.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=114.354) [It will authenticate.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=119.294) [Okay, and we're just going to switch to root](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=120.284) [because it's easier, there we go.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=122.284) [Let me go ahead and grab that Ansible playbook command,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=124.304) [jump over to here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=127.324) [and drop that command in here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=128.334) [and it's going to run the Ansible playbook again.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=129.364) [Like I said, Ansible's item potent,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=132.284) [so you can run it over and over](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=133.364) [and as long as nothing is different on that server,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=135.334) [it's not going to make any changes.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=137.374) [Now, in this case it make two changes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=140.284) [and the reason is because there's an instruction here](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=141.374) [to update the salts](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=144.324) [and because it fetches random salts every time](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=146.314) [and replaces them,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=149.314) [it has to update the WordPress config](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=150.324) [with those new salts,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=152.314) [so that actually is a change technically](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=153.334) [but everything else stay the same.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=155.334) [The instance is configured as expected.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=157.314) [If you invoke instance,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=159.344) [it's going to use the same configuration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=161.304) [and use the same database backend](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=163.334) [so you can just add more capacity](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=165.304) [to your WordPress configuration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=166.374) [That will wrap it up for the demonstration.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=8&mode=live&start=169.304)

[**Module Summary**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live)

[So to sum up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=1.697) [Terraform doesn't do everything](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=3.667) [and neither should you expect it to.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=5.647) [There are some things that Terraform does really well,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=7.657) [namely deploying infrastructure based off of configurations.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=10.637) [What it doesn't do so well is handling changes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=14.637) [to the internal configuration of an instance](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=16.707) [or resource after it's been provisioned.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=19.677) [That's best left up to something](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=22.687) [like configuration management](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=24.667) [but it's also important to remember](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=26.677) [that configuration management is another tool](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=28.617) [in the toolbox and also not the end all and be all,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=30.677) [so I guess the main takeaway from all this](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=33.667) [is to pick the best tool the job.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=35.647) [Look at what you're trying to do,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=37.687) [look at your requirements](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=39.667) [and then look at the capabilities](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=40.677) [of the tools you have around you](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=42.637) [and determine which one will accomplish the desired effect](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=43.707) [the most elegantly.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=47.667) [Coming up in the next module,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=48.707) [we're going to do a course wrap up.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=50.667) [No demos, just want to talk a little bit](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=51.697) [about what you've learned in the course,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=53.667) [then we're going to talk about next steps,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=55.657) [where can you go from here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=57.617) [Whether it's diving deeper into Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=58.677) [or some of the ancillary items that we've covered](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=61.687) [such as Docker and Ansible](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=64.677) [we'll walk through some of the options](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=66.657) [so you can get a feel for what to do](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=68.617) [with all this new-found knowledge.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=69.707) [All that and more coming up in the final module.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=37175af2-99c5-4503-af06-39e0f68dc285&clip=9&mode=live&start=72.617)

[**Recap and Next Steps**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live)

[**Introduction**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live)

[You absorbed a lot of content](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=2.01) [in the previous modules, so let's take a pause](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=4.01) [at the end of this course and try to put](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=6.06) [everything in context.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=8.07) [There's a bigger picture here,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=9.09) [namely the expansion of Terraform from your desktop](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=11.07) [to the larger organization, and the integration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=14.07) [of Terraform within a culture of DevOps.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=17.05) [You're now armed to start that integration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=20.07) [based on what you've learned in this course.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=22.08) [We've also encountered some new technologies](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=25) [and concepts that you might want to become](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=26.08) [more familiar with, including Ansible, Jenkins,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=28.04) [Docker and DevOps.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=31.07) [Hey, this is Ned Bellavance, Microsoft MVP](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=33.03) [and Cloud and Datacenter Management,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=35.08) [and this is the course Recap and Next Steps for you.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=37.02) [So as I said, you've learned a lot in this course,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=42.02) [and absorbed a lot of information,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=44.04) [but that's not the end of the journey.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=46.03) [You can certainly go deeper](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=48.05) [down the rabbit hole of Terraforms.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=50.01) [So we'll talk a little bit about that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=52) [There's also some integrations with Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=54.05) [in the larger enterprise,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=57.06) [so we can talk a little bit about that,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=58.09) [and how you might go about integrating Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=60.07) [in the enterprise.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=63.08) [We'll also talk about the larger ecosystem at play here.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=65.01) [There's a lot of tools and toolsets out there](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=67.09) [beyond just Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=70.01) [And finally, where to go next.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=71.08) [What's the next step in your journey?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=0&mode=live&start=73.06)

[**Deeper Down the Rabbit Hole with HashiCorp**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live)

[So going deeper down the rabbit hole,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=2.097) [what are some topics that you could explore](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=4.097) [within the context of Terraform?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=6.097) [Well, the first is debugging Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=7.187) [Because of the nature of this course](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=10.107) [and the getting started course that came before it,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=11.147) [you didn't see a whole lot of errors.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=13.147) [Maybe you did when you running through the demos](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=15.147) [on your own, but in the videos you at least](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=17.137) [didn't see a whole lot of errors,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=20.117) [and that's because I deliberately made sure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=21.177) [there weren't errors, because I wanted the demonstration](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=24.107) [to go well.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=26.127) [But in real life, you run into issues.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=27.107) [Debugging Terraform could probably be a course](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=29.167) [all by itself.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=32.137) [It's not as easy as it might sound.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=33.177) [So if you want to go deeper debugging Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=36.097) [is one option.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=38.167) [Another thing to look into is resource graphs](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=39.157) [and state files.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=42.107) [Generally speaking, we've looked at the state file,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=43.127) [but we haven't actually manipulated it in any way,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=45.117) [and we didn't really dive into resource graphs](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=47.157) [all that deeply.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=50.097) [The resource graph is how it determines dependencies](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=51.107) [and what to spin up when.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=53.147) [You can go down that rabbit hole, as well.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=55.117) [There's also additional providers.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=57.107) [We looked at AWS only for this course.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=59.157) [And that's because AWS, first of all,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=62.147) [is publicly available.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=64.157) [So if you wanted to play along,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=65.147) [it was pretty straightforward to play along.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=66.167) [You didn't need a giant lab](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=68.167) [with a whole bunch of equipment to play along.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=70.097) [The second reason is that if you have a free account](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=72.137) [with AWS, almost everything that we spun up](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=74.157) [is covered under that free account.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=77.157) [So it almost cost you nothing](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=79.107) [to use the AWS provider for this.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=81.107) [But there are a ton of other providers out there,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=83.187) [and I highly recommend going out](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=86.127) [and checking out especially the new VMware provider,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=88.137) [which has been completely re-written from the ground up,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=91.147) [and now supports a whole bunch of features](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=93.187) [and functionality that didn't exist before.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=96.107) [If you're a developer, and you're interested](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=98.187) [in that side of things, you can write your own](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=100.147) [custom plugins for Terraform to get it to do things](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=102.167) [that it doesn't do today, or integrate with](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=105.117) [components that it doesn't already.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=107.107) [And finally, Terraform is open source.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=108.187) [You're more than welcome to go and develop](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=111.147) [directly against Terraform and try to add features](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=113.187) [or fix bugs that you find within Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=116.147) [You know it's an open source project,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=119.147) [so you're more than welcome to do that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=121.107) [In that same vein, there are a lot of other](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=123.147) [HashiCorp Products that are related in some way](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=126.147) [to Terraform that you could splinter off to](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=129.107) [now that you've gone through this course.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=131.147) [The first is Packer.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=133.187) [And in a previous module we talked a little bit](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=135.137) [about creating your own custom images.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=137.157) [Packer's a great tool for that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=139.187) [That's essentially what it's for.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=141.117) [When you want to create a customized OS image,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=143.097) [you use Packer to declaratively define](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=145.147) [what that image should look like](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=148.147) [in the same way that you were using Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=149.177) [You can also dive into Sentinel.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=152.137) [Sentinel is only available](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=154.167) [in the Terraform Enterprise version.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=156.127) [Sentinel is a policy engine and language](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=158.177) [to enforce compliance, which makes a lot of sense](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=162.107) [in the context of Terraform, When you want things](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=165.147) [to comply with certain regulations or rules.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=167.137) [Then there's Vault.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=170.157) [Vault is a way of storing secrets which could be](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=172.117) [used and consumed by Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=175.127) [And finally, there's Nomad.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=177.127) [And Nomad is their orchestration engine](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=179.127) [for containers and other applications.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=181.157) [So if you're interested in the HashiCorp family](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=183.187) [of products, that's another angle to pursue.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=1&mode=live&start=186.137)

[**Enterprise Integration and Expansion**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live)

[Let's talk about things that you could look at](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=1.273) [within the larger enterprise environment.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=3.263) [We'll talk about the Globomantics environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=5.253) [in this particular case.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=7.253) [In your enterprise environment, you could start](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=9.183) [importing things from the existing environment](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=11.203) [into Terraform.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=13.223) [That's something that would probably take you a while](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=14.243) [and be a great exercise in learning how to write](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=16.223) [different types of configurations for resources](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=18.263) [that already exist.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=21.273) [You could go and try to integrate your processes](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=23.273) [for deploying infrastructure with an existing DevOps team.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=26.253) [You know, if you've go at DevOps team at work,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=30.253) [or you want to start a DevOps process,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=32.263) [Terraform's a great tool to have in the tool belt](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=35.213) [to do that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=37.233) [You can try to get other teams onboard.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=38.223) [In a lot of the examples, we talked about teams outside](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=40.183) [of infrastructure getting involved in Globomantics,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=42.243) [and that included stuff like the security team,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=45.263) [the compliance team and the application development team.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=48.203) [Getting those teams onboard with Terraform](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=51.203) [and some of the other tools,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=53.273) [could be a really worthwhile endeavor.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=55.213) [And finally, you can explore Terraform Enterprise.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=57.193) [Terraform Enterprise is the paid-for version of Terraform,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=59.243) [which includes a GUI and some role-based access control](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=63.183) [and that Sentinel engine that I talked about earlier.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=66.233) [It's pretty interesting.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=69.233) [You have to request an evaluation of it,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=70.223) [but if your organization is really thinking about](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=73.193) [heavily adopting Terraform, it's probably worthwhile](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=75.193) [checking it out.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=77.243) [Outside the world of HashiCorp, during this course](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=79.183) [you learned about some additional elements,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=81.203) [some more tools to put in the toolbox.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=83.193) [The first is source control management.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=85.223) [We looked at GIT and GIT Hub a little bit.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=87.193) [And if that whetted your appetite,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=89.243) [I definitely recommend doing a course in GIT](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=91.193) [to better understand source control management](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=93.263) [and how it works.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=96.193) [We also talked about continuous integration and deployment,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=97.273) [and we really just scratched the surface on that](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=100.233) [and the things that you could do with Jenkins](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=102.263) [or with another CICD piece of software.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=104.253) [Logging and security are a big portion of deployments,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=107.263) [but they're often forgotten about until they're needed.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=110.213) [So investigating some of the logging and security](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=113.183) [tools that exist out there and how they integrate](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=115.253) [with some of the tools you already have in your toolbox](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=117.273) [could put you a step ahead of the competition.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=120.213) [While we didn't talk about it too much in the CIDC portion,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=122.273) [there is a decent amount of automated testing out there,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=126.183) [and the whole idea behind that is once you deploy](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=129.183) [your infrastructure and application,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=131.233) [how do you validate that it's working properly,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=133.203) [without having someone manually going around](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=136.193) [and clicking around a site or an application.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=138.193) [And that's where the automated testing stuff kicks in.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=140.193) [So that could be another area to look into a little bit.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=142.253) [And finally, we touched on containers briefly](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=145.243) [and operating system packaging,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=147.263) [but didn't get too deep into that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=149.243) [If you're interested in immutable infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=150.273) [and moving down that road,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=153.223) [getting into toolsets that deal with containers](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=155.203) [and OS packaging, could really help accelerate that process.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=157.223) [So what's something you could do right now](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=161.273) [if you're hungry for the next course?](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=163.233) [Well, you could explore ancillary topics.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=165.213) [We talked about Ansible, we talked about Docker.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=167.233) [We talked about Lambda, which is part of Serverless,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=170.263) [which is a very cool way of developing infrastructure](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=172.273) [and application, and we also touched on Node.js,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=175.233) [which was the language we used within Lambda.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=178.223) [There are courses on Pluralsight](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=181.183) [dealing with all these different topics,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=182.273) [and I highly recommend checking out at least one of them](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=184.253) [to see if it tickles your fancy.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=187.213) [Also, check out immutable infrastructure.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=189.183) [I think that's going to end up being a really big part](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=190.273) [of deployment models moving forward.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=193.263) [So it doesn't hurt to get a headstart on that.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=195.243) [And finally, if you're really looking for something to do,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=197.273) [send me feedback.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=200.223) [I'd love to know what you liked about the course,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=201.213) [what you didn't like about the course,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=203.233) [what things you would like to see changed in the future,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=205.183) [and what topics you'd like me to cover in the next](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=207.273) [iteration of this course, or the Getting Started course.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=2&mode=live&start=210.273)

[**Module and Course Summary**](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live)

[To sum up, from a high level,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=2.379) [Terraform is part of a larger ecosystem.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=4.389) [No application is an island unto itself,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=8.369) [and Terraform is no exception.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=11.389) [You, as a practitioner of IT are part](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=13.409) [of a larger organization, no admin is an island.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=16.369) [So it behooves you to figure out how to work](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=20.349) [with a larger team and organization within your company.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=22.349) [Something that I mentioned in several modules,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=26.369) [and I really want to bring home,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=28.399) [that you should tackle concepts first and then toolsets.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=30.349) [It's most important to understand the fundamental](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=34.369) [concepts that lay behind infrastructurous code](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=37.329) [or continuous deployment or any type of automation.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=39.399) [Understanding those fundamentals,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=43.339) [not only makes it easier to use a tool,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=44.419) [but it helps to extract those ideas](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=48.329) [when you need to learn the next tool that's out there.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=49.409) [And finally, have fun.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=52.379) [There's so much cool technology out there,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=54.329) [Terraform is one of many things that I find](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=56.329) [highly interesting.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=58.399) [So go with what interests you,](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=59.419) [and build something awesome.](https://app.pluralsight.com/player?course=deep-dive-terraform&author=edward-bellavance&name=69688519-6c16-4166-a76a-546d35c6ba60&clip=3&mode=live&start=62.349)