Angular Interview Questions and Answers

Q 1. What is Angular?

Google created Angular, and it is possible to define it as an open-source framework for web app development. Developers use Angular to develop single-page, front-end applications running on JavaScript. It is an end-to-end framework that can tackle HTTP requests, reactivity, layouts, routing, validation, forms, and other aspects of the front-end web application.

Q 2. Which technologies are used in Angular?

Angular uses several advanced technologies across applications to complete diverse tasks efficiently. It also creates a better development experience for developers using this framework. Angular uses TypeScript, a JavaScript superscript. This means a valid JavaScript segment is a valid TypeScript. Additionally, TypeScript enables you to write JavaScript as a strong language and develop personal types, making it easier to detect bugs in applications. Angular also uses RxJS to allow developers to deal with anomalous operations more easily

Q 3. What are the differences between Angular and AngularJS?

Feature	Angular	AngularJS
Language	TypeScript	JavaScript
Architecture	Directives and components	Model-View-Controller design
Mobile support	Supports every leading mobile browser	Not supported on mobile browsers

Dependency Injection	Will support	Won't support
Routing	Uses @Route configuration to define routing data	Uses @routeProvider to define routing data
Management	A more effective structure that helps in creating and managing bigger applications	Gets harder to manage with increasing source code sizes

Q 4. What is TypeScript?

JavaScript is a subset of TypeScript. TypeScript is highly recommended for its excellent consistency. It offers syntactic sugar that makes the base code easy to maintain and comfortable to interpret. Additionally, TypeScript code can be compiled into JavaScript which then runs efficiently in any given environment.

Q 5. Why were client-side frameworks like Angular created in the first place?

Before any client-side framework existed, dynamic websites used pure HTML code templates. These templates came with empty spaces so that content and data could be fed into them. Usually, developers take this data from an existing database. By combining the data with the template, developers used to serve this HTML content to users who would click on the website link or visit the page. This was a complicated process, as clear from above, and generally required a high level of processing.

To eliminate these problems, IT specialists and developers developed a new approach to web app development. In this approach, the necessary data was sent to render pages from existing web servers to web browsers. The JavaScript would then combine this data with an existing template. Today, even mobile

devices have the power to complete this type of processing. So, web servers can send data to clients directly using a valid format like XML or JSON. This significantly reduces the need for processing on the web servers and enhances performance.

Q 6. What is a SPA (Single Page Application)?

A single-page application is a web app which loads completely in one go. The new features that come on are mere additions to the UI. No new HTML pages load to display the content of a new page, rather the content gets generated dynamically. This can be done using JavaScript's functionality that manipulates DOM elements on the given page. Using a SPA means faster loading and lesser wait time, which ensures the user experience is always seamless.

Q 7. What is a decorator in Angular?

A decorator is a design function or pattern that defines how Angular features work. Decorators help in making prior adjustments to classes, filters or services. In Angular, there are four types of decorators:

- Class
- Method
- Property

Q 8. What are the key benefits of using Angular as a framework?

Angular has simplified web app development in many ways. Some of its most significant advantages are:

- Angular is created using TypeScript, through which developers can transpile strongly-typed code into JavaScript. There are several benefits of strongly typed code, such as it is easier to read and maintain and is less likely to see errors. It also ensures better tooling with code completion and type hints.

- Angular allows you to separate the code into sections or modules. These can then help in completing a wide range of functionalities related to tasks like data validation, HTTP communication, and routing.

- Angular is compatible with a large network of libraries, tools, frameworks, and plugins designed to create a more efficient and enjoyable development experience. This includes RxJS, Angular CLI, and NgRx.

Q 9. What do you understand by Data Binding?

Data binding is one of the most powerful and essential features used to establish communication between a component and DOM. It simplifies the interactive application creation process so that developers don't need to worry about data pulling or pushing between components and templates. Data binding can be divided into four categories in Angular:

- Property binding

- Event binding

- Two-way data binding

- String interpolation

Q 10. List some Disadvantages of Angular.

While there are several benefits of Angular, it also has a few drawbacks that developers must be prepared for.

- It's harder to get better SEO rankings on Angular applications without proper configuration.

- Angular is loaded with features and functions. Understanding how to use all of them effectively is quite challenging if you don't have proper Angular training and knowledge.

- Angular can add a significant load to JavaScript bundles. This makes Angular an inefficient choice for smaller projects and can significantly increase the size of the load.

Q 11. What do you mean by String Interpolation?

In Angular, string interpolation is also called the Moustache syntax and allows exclusively one-way data binding. String interpolation is a unique syntax that uses {{}} double curly brackets to display component data. Inside these brackets is contained every JavaScript expression Angular must execute to retrieve results. These can further get integrated with the existing HTML code. These JavaScript expressions are also consistently stored and updated as they are parts of the digest cycle.

Q 12. What are the Differences between Angular Annotation and Decorator?

In Angular, a decorator is a design pattern that helps in modifying or decorating respective and relevant classes without changing the original source code. In contrast, Angular uses annotations to build annotation arrays. Annotations are a metadata set of a given class and utilize the Reflective Metadata library.

Q 13. What is an AOT compilation in Angular?

The ahead-of-time (AOT) compiler in Angular can convert TypeScript and Angular HTML code into JavaScript while in the building phase. This makes for a much faster rendering process. AOT compilation as a process is necessary because Angular uses HTML and TypeScript code. The AOT compiler will convert code to JavaScript, allowing the browser running the app to use it effectively.

Q 14. What are components in Angular?

A component is a foundational element that builds up Angular's user interface. Every component is made up of CSS, JavaScript, and HTML for specific sections of a user interface. Think of these as customized HTML elements that only Angular understands. Components are isolated in nature, which means the code and styles from one cannot affect the code and styles of other components as the compiler namespaces them. Each component is then combined by Angular to create the UI that the web browser will ultimately render.

Q 15. What are modules in Angular?

A module is a logical application boundary. Modules help encapsulate code that deals with several aspects of an application like HTTP, routing, and validation. The fundamental reason that makes modules important is that they enhance app composability. For instance, consider you want to implement a validation logic through multiple libraries. In such a situation, for the one that you already have implemented, you can create new validation modules and replace the existing ones with the new ones. Your application will continue working the same way. In

Angular, developers create modules using the NgModule decorator.

Q 16. What is Document Object Model?

Document Object Model, shortened to DOM, helps represent a web page's contents and changes in application architecture. In this model, every object is organized as a tree. It simplifies the modification and manipulation of documents and only allows access using an API.

Q 17. What does Angular Material mean?

Angular Material refers to a UI component library designed to allow a professional to develop attractive, consistent, and fully functional web pages, websites, and applications. It can do so by sticking to modern web designing principles like browser probability and graceful degradation.

Over the years, Angular interview questions for experienced professionals and entry-level candidates have evolved, been added, and removed. But these continue to be the most commonly asked questions. If you familiarise yourself with them, you have a stronger foundation and a higher chance of clearing the interview.

Q 18. What are services in the Angular framework?

In Angular, a service is a term that encompasses broad functionality categories. A service can be any function, feature or value that your application needs. It generally functions to accomplish narrow purposes like HTTP communication, decoding text, sending data to cloud platforms or validating data. A single service performs only a single task and does it perfectly. Services

are different from components as they are not linked to HTML or presentation logic in any form. Generally, one component uses several services to achieve various tasks.

Q 19. What is a template in Angular?

A template in Angular is written in HTML and contains attributes and elements that are specific to Angular. Combined with data from the model and controller, it further gets rendered and provides a dynamic view to the end user.

Q 20. What is an annotation in Angular?

In Angular, annotations help create annotation arrays. An Annotation is a metadata set in a class that reflects the metadata library.

Q 21. What are Directives in Angular?

A Directive in an Angular attribute that enables users to use the new HTML syntax relevant to their application. Directives execute whenever they are found by the Angular compiler in the DOM. There are three types of directives in Angular:

- Attribute Directives
- Component Directives
- Structural Directives

Q 22. What do you know about AOT compilations? What are its benefits?

The AOT (Ahead-of-time) compiler is used to convert TypeScript and Angular HTML code into JavaScript in the building phase before the browser can download and run the code. There are several advantages of using AOT compilers, including:

- Faster rendering
- Smaller download size of the Angular framework
- Less asynchronous requests
- Faster template error detection
- Improved security

Q 23. What are Pipes in the Angular context?

Pipes in Angular are simple functions that were created to accept input values, process them and return an output, which is a transformed value with greater technical understanding. Angular supports multiple inbuilt pipes, but users can also create customised pipes to meet their unique requirements. Some fundamental features of pipes include:

- A pipe is defined using the | symbol.
- It can be chained or linked to other pipes
- It can be given arguments, expressed using the : sign.

Q 24. What are Pure Pipes?

Pure pipes are unique pipes that use only pure functions. Consequently, a pure pipe doesn't use an internal state, while the output stays the same till the parameters that have been established remain the same. In Angular, a pipe is called a Pure pipe only when it detects changes in the parameters that are

passed. A singular instance of a pure pipe is used across all the components.

Q 25. What are filters in Angular? Can you give a few examples?

Filters in Angular help in formatting expressions and presenting them to users. You can use a filter in controllers, services or templates. Some examples of inbuilt filters and their functions are:

- Filter - selects a subset of items from a given array
- Date - formats dates to match the specified format
- Json - Formats the object to a JSON string
- limitTo - Limits a string or array to a specific volume of characters or elements
- Lowercase - Formats the selected string to lowercase

Q 26. What is view encapsulation in Angular?

In Angular, view encapsulation dictates whether a component's styles and template will affect the entire application or will it be the other way. There are three view encapsulation strategies in Angular that are popularly used:

- Emulated: the main HTML styles propagate to a component.
- Native: the main HTML styles don't propagate to a component.
- None: The styles defined within the component propagate back to an HTML, thus being visible to every component given on the web page.

Q 27. What are controllers?

Controllers in Angular restrict application data used by the Angular framework. A controller is a regular JavaScript object defined by the ng-controller directive.

These Angular interview questions are the most commonly encountered ones that candidates face in Angular job interviews. Preparing for these questions will help you understand what to expect from the interview format and how you should answer them. Stick to the facts instead of beating around the bush. It's important to remember that interviewers go through several candidates and always know when a candidate knows something or doesn't. Besides Angular, familiarise yourself with other frontend frameworks and languages like ReactJS and CSS before the interview.

If you want to nail the interview, it also helps to enrol in an before you give the interview. You get sufficient help preparing for the interview, brush up on your strengths and fundamentals, and work on your weaker areas.