

1. **What is Angular?**

Angular is a platform and framework for building single-page client applications using HTML and TypeScript.

2. **What is the difference between AngularJS and Angular?**

AngularJS is the original version of the framework (version 1.x), while Angular (versions 2 and above) is a complete rewrite that uses TypeScript.

3. **What is a component in Angular?**

A component is a building block of an Angular application that encapsulates the template, styles, and logic for a view.

4. **What is a module in Angular?**

A module is a cohesive block of code dedicated to an application domain, which can contain components, directives, services, etc.

5. **What is a service in Angular?**

A service is a class that provides functionality not tied to a specific view, allowing data sharing and business logic across components.

6. **What is dependency injection in Angular?**

Dependency injection is a design pattern that allows a class to receive its dependencies from an external source rather than creating them itself.

7. **What is a directive in Angular?**

A directive is a class that adds behavior to elements in Angular applications, such as manipulating the DOM.

8. **What are pipes in Angular?**

Pipes are used to transform data for display in templates, allowing formatting, filtering, and manipulation.

9. **What is data binding in Angular?**

Data binding is the mechanism for coordinating the communication between the component and the view, allowing synchronization of data.

10. **What are the different types of data binding in Angular?**

The types of data binding include one-way data binding, two-way data binding, and event binding.

11. What is the purpose of the ngFor directive?

The ngFor directive is used to iterate over a collection and render a template for each item in the collection.

12. What is the purpose of the ngIf directive?

The ngIf directive conditionally includes or excludes a template based on the value of an expression.

13. What is the Angular CLI?

The Angular CLI (Command Line Interface) is a tool that helps automate project creation, development tasks, and deployment processes.

14. What is routing in Angular?

Routing is a mechanism that enables navigation between different views or components in a single-page application.

15. What is the purpose of the RouterModule?

The RouterModule is a module that provides the necessary services and directives for routing in Angular applications.

16. What is a guard in Angular routing?

Guards are interfaces that can control navigation to and from routes, determining if a route can be activated or deactivated.

17. What is lazy loading in Angular?

Lazy loading is a technique to load feature modules only when they are needed, improving application performance.

18. What is Angular Universal?

Angular Universal is a technology that allows server-side rendering of Angular applications for better SEO and faster initial load times.

19. What is a form in Angular?

A form is a component that enables users to input data, with built-in validation and data management.

20. What are reactive forms in Angular?

Reactive forms are a model-driven approach to handling form inputs and validation in Angular.

21. What is template-driven form in Angular?

Template-driven forms rely on directives in the template to create forms and handle validation.

22. What is the purpose of the FormBuilder service?

The FormBuilder service simplifies the creation of reactive forms by providing a more concise way to build forms and form controls.

23. What is a pipe in Angular?

A pipe is a function that takes an input value and transforms it into a desired output format for display.

24. What is the purpose of the async pipe?

The async pipe subscribes to an Observable or Promise and returns the latest value it emits, automatically handling subscriptions.

25. What is a template reference variable?

A template reference variable is a variable defined in a template that can refer to a DOM element or a component.

26. What is the ngModel directive?

The ngModel directive is used for two-way data binding in forms, synchronizing the model and the view.

27. What is a service worker?

A service worker is a script that runs in the background, allowing Angular applications to cache assets and manage offline capabilities.

28. What is the purpose of the HttpClient module?

The HttpClient module provides a simplified API for making HTTP requests and handling responses in Angular applications.

29. What is an observable in Angular?

An observable is a stream of data that can be observed and subscribed to, allowing for asynchronous data handling.

30. What is a Subject in Angular?

A Subject is a special type of observable that allows values to be multicasted to many observers, enabling both data emission and subscription.

31. What is the purpose of the ng-content directive?

The ng-content directive is used for content projection, allowing dynamic insertion of content into a component.

32. What is an interceptor in Angular?

An interceptor is a service that can modify HTTP requests and responses globally, allowing for tasks like logging, error handling, and authentication.

33. What is change detection in Angular?

Change detection is the mechanism by which Angular detects changes in the application state and updates the view accordingly.

34. What is the difference between OnPush and Default change detection strategies?

OnPush only checks for changes when input properties change, while Default checks for changes on every event.

35. What is the purpose of ngZone?

ngZone is a service that allows Angular to automatically detect changes in application state and update the UI accordingly.

36. What is the purpose of the environment files in Angular?

Environment files are used to manage different configurations (e.g., development, production) for an Angular application.

37. What is a decorator in Angular?

A decorator is a special kind of declaration that can be attached to a class or a property to modify its behavior.

38. What is the purpose of the @Input decorator?

The @Input decorator allows a parent component to pass data to a child component.

39. What is the purpose of the @Output decorator?

The @Output decorator allows a child component to emit events to the parent component.

40. What is the purpose of the ngClass directive?

The ngClass directive dynamically adds or removes CSS classes based on an expression.

41. What is the ngStyle directive?

The ngStyle directive dynamically applies inline styles to an element based on an expression.

42. What is the purpose of the ngSwitch directive?

The ngSwitch directive conditionally displays one of several possible templates based on a specific expression.

43. What is the purpose of the async pipe?

The async pipe automatically subscribes to an observable or promise and returns the latest emitted value.

44. What is a root module in Angular?

A root module is the main module that bootstraps an Angular application, usually named AppModule.

45. What is Angular Ivy?

Angular Ivy is the rendering engine for Angular that provides improved performance, smaller bundle sizes, and enhanced debugging.

46. What is the purpose of the NgModule decorator?

The NgModule decorator defines an Angular module, encapsulating components, directives, and services.

47. What is a lifecycle hook in Angular?

Lifecycle hooks are methods that allow developers to tap into key events in a component's lifecycle, such as creation and destruction.

48. What are the main lifecycle hooks in Angular?

Main lifecycle hooks include ngOnInit, ngOnChanges, ngOnDestroy, and ngAfterViewInit.

49. What is the purpose of the ngOnInit lifecycle hook?

The ngOnInit lifecycle hook is called after the component's constructor and is used for initialization tasks.

50. What is the purpose of the ngOnDestroy lifecycle hook?

The ngOnDestroy lifecycle hook is called just before Angular destroys the component, allowing cleanup tasks.

51. What is Angular Material?

Angular Material is a UI component library that provides pre-built, reusable components following Material Design guidelines.

52. What is the purpose of the Renderer2 service?

Renderer2 provides an abstraction for DOM manipulation, allowing developers to safely interact with the DOM.

53. What is a resolver in Angular routing?

A resolver is a service that pre-fetches data before navigating to a route, ensuring the component has the required data upon activation.

54. What is a component factory?

A component factory is a service that creates instances of components, allowing dynamic component generation.

55. What is a multi-provider in Angular?

A multi-provider allows a service to be injected multiple times and return an array of values, enabling flexibility in service usage.

56. What is a feature module?

A feature module is an Angular module that encapsulates a specific functionality or feature of an application.

57. What is a custom pipe?

A custom pipe is a user-defined pipe that allows for custom data transformations in templates.

58. What is the purpose of the trackBy function in ngFor?

The trackBy function is used to improve performance by identifying and tracking items in a list when rendering.

59. What is the purpose of the ng-template directive?

The ng-template directive defines a template that can be reused in the application, allowing for dynamic content rendering.

60. What is a boolean property binding?

Boolean property binding allows setting an element's property based on a condition, adding or removing attributes dynamically.

61. What is an Angular workspace?

An Angular workspace is a directory structure that contains multiple Angular applications and libraries.

62. What is the purpose of the @Injectable decorator?

The @Injectable decorator marks a class as available for dependency injection.

63. What is a change detector in Angular?

A change detector is a service that checks for changes in component properties and triggers view updates.

64. What is the purpose of the exportAs option in a directive?

The exportAs option allows a directive to be referenced in a template, making its functionality accessible to the template.

65. What is a custom event in Angular?

A custom event is an event emitted by a component that can be handled by the parent component.

66. What is the purpose of the Angular animations module?

The Angular animations module provides support for adding animations to Angular applications.

67. What is a virtual scroll in Angular?

Virtual scroll is a technique that allows efficient rendering of large lists by only displaying visible items.

68. What is the purpose of the ContentChildren decorator?

The ContentChildren decorator allows a component to access and manipulate projected content.

69. What is the difference between a promise and an observable?

A promise handles a single asynchronous value, while an observable can handle multiple values over time.

70. What is the purpose of the RouterLink directive?

The RouterLink directive is used to navigate to a different route in an Angular application.

71. What is a module federation?

Module federation is a feature that allows sharing code between multiple applications dynamically at runtime.

72. What is the purpose of the Angular service locator pattern?

The service locator pattern provides a way to access services without directly referencing them, improving modularity.

73. What is an error handler in Angular?

An error handler is a service that intercepts errors and provides centralized error handling for the application.

74. What is the purpose of the platformBrowserDynamic function?

The platformBrowserDynamic function is used to bootstrap an Angular application in the browser.

75. What is a custom validator in Angular forms?

A custom validator is a function that allows developers to implement custom validation logic for form controls.

76. What is the purpose of the ng-container element?

The ng-container element is used to group elements without adding extra nodes to the DOM.

77. What is the difference between synchronous and asynchronous validation in Angular forms?

Synchronous validation occurs immediately, while asynchronous validation may involve a delay due to external checks.

78. What is the purpose of the @ViewChild decorator?

The @ViewChild decorator allows a component to access a child component, directive, or DOM element in the template.

79. What is an observable service in Angular?

An observable service is a service that uses observables to provide data to components and allows for reactive programming.

80. What is a pipe transform method?

The transform method is a function within a pipe that defines how to transform input values into output values.

81. What is a base URL in Angular?

A base URL defines the root URL for the application, used for constructing relative URLs.

82. What is the purpose of the get and set methods in Angular services?

The get and set methods are used to retrieve and update data within a service, promoting encapsulation.

83. What is a function as a component in Angular?

A function as a component is a concept that allows using a function to define the behavior of a component instead of a class.

84. What is the purpose of the router.navigate method?

The router.navigate method programmatically navigates to a different route in an Angular application.

85. What is the purpose of the @HostListener decorator?

The @HostListener decorator allows a component to listen to events on the host element.

86. What is a nested route in Angular?

A nested route is a route defined within another route, enabling hierarchical routing structures.

87. What is the purpose of the NgModuleFactory?

The NgModuleFactory is a factory that creates an instance of an Angular module, used for lazy loading.

88. What is the purpose of the injector in Angular?

The injector is responsible for instantiating services and managing dependencies in an Angular application.

89. What is the purpose of the forRoot method in Angular modules?

The forRoot method is used to provide singleton services for the application at the root level.

90. What is a global error handler in Angular?

A global error handler is a service that catches unhandled errors throughout the application.

91. What is a trackBy function in ngFor?

The trackBy function is used to identify items in a list and optimize rendering by tracking changes.

92. What is the purpose of the ChangeDetectorRef class?

The ChangeDetectorRef class allows manual triggering of change detection in Angular components.

93. What is the purpose of the RouterOutlet directive?

The RouterOutlet directive acts as a placeholder for routing views, rendering components based on the active route.

94. What is a service worker in Angular?

A service worker is a script that runs in the background, enabling features like caching and offline support.

95. What is the purpose of the environment configuration in Angular?

Environment configuration allows defining different settings for development, staging, and production environments.

96. What is the purpose of the Angular Ivy renderer?

The Angular Ivy renderer improves rendering performance and reduces bundle size in Angular applications.

97. What is the purpose of the BrowserAnimationsModule?

The BrowserAnimationsModule provides support for animations in Angular applications.

98. What is the purpose of the ViewEncapsulation?

ViewEncapsulation controls the styles applied to a component, determining how styles are encapsulated and isolated.

99. What is the purpose of the Angular Console?

Angular Console is a GUI tool that helps manage Angular projects, providing commands for generating components and running tests.

100. What is the purpose of the Dependency Injection framework in Angular?

The Dependency Injection framework manages service instantiation and lifecycle, promoting modular design and reusability.

