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Angular 2 interview questions

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Dear friends, below are the list of **Angular 2 interview questions** that have been designed for **Angular 2 programmers** who are preparing interviews on Angular2 interviews. Here, we have added some basic and advanced or both questions on Angular 2 that are asked in 2017 and help you to crack interview on Angular 2.
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Below are the list of Top 34 Angular 2 interview questions and answers.

1. What is Angular 2?
2. List some advantages of **Angular 2** over Angular1?
3. What are the new features of **Angular 2**?
4. How do you define the transition between two states in Angular?
5. How to declare a component in **Angular 2**?
6. What is the difference between observable and promises?
7. List the differences between **Angular 2 components** vs. directives?
8. What is **ECMAScript**?
9. What is Traceur Compiler?
10. List the modern browsers supported by Angular 2?
11. When to use Ngoninit and constructor in Angular 2?
12. How to cache an observable data?
13. List out the differences between ActivatedRoute and RouterState, with reference to Angular 2.
14. What would you have in a shared module in Angular 2?
15. What do you mean by a structural directive in Angular 2?
16. What do you understand by a template variable? How is it used?
17. Explain the concept of lazy loading in Angular 2.
18. What is the difference between constructor and ngOnlnit in Angular js?
19. What is the meaning of component life cycle in Angular 2?
20. What is the use of ngForTrackBy directive?

Q1. What is Angular 2?

Angular 2 is a completely revived component-based framework in which an application is a tree of loosely coupled components. It is a more advanced version of angularJS. It is more of an "all in one" framework so it also helps in creating a single website without getting trapped into different JS frameworks. An Angular 2 is a modular framework in which our code is divided into individual procedures that offer a similar kind of functionality, hence improving the testing, up gradation and maintenance of the application. It has a lot of useful features such as- server-side rendering, cross-platform, and supports more languages than any other framework. It is a new typescript framework built around the concept of components which is paving the way for a better and spacious development. We can even make hybrid applications using Angular 2 which gives us a sharp edge by providing us the flexibility to use the same standard codes for developing other applications.

Q2. List some advantages of Angular 2 over Angular1.

Angular 2 is a re-written version of Angular1 and not an update. The best way to compare Angular 2 and Angular 1 is by finding out the new features in Angular 2. This way we will be able to find out the advantages of Angular 2 over Angular1 precisely. So, some of the advantages of Angular 2 are:-

Angular 2	Angular1
Angular 2 is a mobile-oriented framework	Whereas Angular1 was not developed with mobile base in mind.
Angular 2 is a versatile framework, i.e. we have more choices for languages. We can use ES5, ES6, Typescript or Dart to write an Angular 2 code	Whereas an Angular1 code can written by using only ES5, ES6 and Dart. We don't have many choices of language in Angular1.
Nowadays, the controllers are replaced by components and Angular 2 is completely component based.	Whereas Angular1 was based on controllers whose scope is now over.

Angular 2 directly uses the valid HTML DOM element properties and events which reduces the usage of many available built-in directives.

Q3. What are the new features of Angular 2?

Angular 2 is a platform that encompasses a wide range of capabilities. Some new features were added in Angular 2 which includes:

- **Universal server rendering-** It is the library which is used to make building universal apps a smooth experience. It is an important feature of Angular 2.
- **A mobile toolkit-** It provides all the mobile toolkit and techniques to build high-performance mobile applications. The web applications which are developed using the mobile toolkit can be loaded on any device with or without internet connection which is a great advantage.
- **A command line interface-**it can generate components, routes, services, and pipes with the help of commands.
- **Data binding-** data binding has been improved in Angular 2. So, whatever DOM element property you need to bind, you just wrap it in square brackets. E.g.-

```
<img[src]='product.image' />
```

- **Modular-** various modules have been removed from angular's core, which has resulted in better performance.
- **Modern-** Angular 2 has been targeted as modern browsers in which various hacks that make angular harder to develop have been removed.

Q4. How do you define transition between two states in angular?

Transitions between two states take place so that we can build simple animations between two states driven by a model attribute. Transition basically means navigating from the current state to a new state. In angular, transition is an

animation-specific function which is used in angular's
animation DSL language. Transition declares the sequence of
animation steps that will be executed when entered value is
satisfied. A function is provided an argument for a transition
and it will be executed each time a state change occurs. In
this, if the function is true, then the animation will run else it
won't get executed.

These animation transitions are placed within the animation
triggers. The transition depends upon what the animation was
in the previous state and what it will become in the next state.
In other words, if a transition is defined that matches the
old/current state criteria then the associated animation will be
triggered.

Syntax: –

```
function transition (stateChangeExpr: string, steps
```

Q5. How to declare a component in Angular 2?

Components in Angular 2 are simply directives that are always
associated with a direct template. Angular 2 components have
an extremely well defined life-cycle. When working with
angular components, we can make use of interfaces which
allows us to implement functionality for different times in a
components lifecycle. A component must belong to an
NgModule in order for it to be usable by another component or
application. Components can even control their runtime
behaviour by implementing various Life-cycle hooks.

Declaration of component:-

```
@component ({selector: 'great', template: 'hello {{n

Class greet{

Name: string = 'world';

}
```

Components always have a template and only one component
can be instantiated per an element in a template. When a
component is instantiated, angular creates a change detector,
which is responsible for propagating the component's building.

Q6. What is the difference between observable and promises?

The differences between observable and promises are:-

1. Observable is a more powerful way of handling HTTP asynchronous requests. Whereas, A promise handles a single event when an asynchronous operation completes or fails.
2. An observable is like a stream which allows passing zero or more events where the callback is called for each event. Whereas, A promise eventually calls the success or failed callback even when you don't need the notification or the result it provides anymore.
3. Observable works with multiple values for a particular time. Whereas, Promises works with and even returns a single value at a time.
4. Observables can be canceled. Whereas, Promises cannot be canceled.
5. Observable supports map, filter, reduce and similar operators. Whereas, Promises have more readable codes with try/catch and async/await.
6. In observable, one operator 'retry' can be used to retry whenever needed. Whereas, Promises cannot be retried. A promise should have access to the original function that returned the promise in order to have a retry capability.

Q7. List the differences between Angular 2 components vs. directives.

Apart from components, directives are also used in Angular 2 which allows us to attach behavior to elements in DOM. There are certain differences between the components and directives in Angular 2. They are: –

1. In Angular 2, a component is a directive with a view whereas a directive is a decorator with no view. Components are the specific type of directive that allows us to utilize web component functionality throughout our application. Whereas, Directive is the mechanism by which we attach behavior to elements.
2. A component is used to break up the application into smaller components. Whereas, Directive is used to design the re-usable components.
3. Components can be used to define pipes. Whereas, We cannot define pipes using directives.
4. Components can be present per DOM element. Whereas, Directive is used to add behavior to an existing DOM element.

Q8. What is ECMAScript?

ECMAScript is a standard for scripting languages. It is a subset of **Javascript**. Languages such as ActionScript, JavaScript use ECMAScript as its core. ECMA stands for European Computer

Manufacturer's Association. Coders commonly use ECMAScript
for client-side scripting on the World Wide Web. It is also used
for server applications and services. It includes structured,
dynamic, functional, and prototype-based features. The
ECMAScript was developed by Brendan Eich of Netscape. The
ECMAScript is standardized by the ECMA international
standards organization in the ECMA-262 and ECMA-402
specifications. It is a programming language which is designed
specifically for acting on an existing entity or system. It
provides the rules, details, and guidelines that a scripting
language must observe to be considered ECMAScript
compliant.

Q9. What is Traceur Compiler?

Traceur is a compiler which takes ECMAScript and compiles it
down to regular Javascript that runs in your browser. Traceur
can be used in several ways like- typing or pasting the ES6
code into the read-eval-print-loop page, or by including traceur
in the web page and compiling ES6 code content on the fly, or
many other ways. Even traceur is written in ES6, compiled to
ES5. The main goal of a traceur compiler is to inform the
designs of Javascript features and allows us to write the code
in a better manner. Nowadays, traceur compilers are broadly
used in Angular 2 platform. It also supports transpilling and
type checking via type annotations.

Q10. List the modern browsers supported by Angular 2.

Angular supports most of the recent browsers some of which
are-

- Google Chrome
- Firefox
- Edge
- IE for versions 9-11
- Safari
- iOS 7.1
- Android 4.1
- IE Mobile

Q11. When to use Ngoninit and constructor in Angular 2?

Constructors are used for initializing class members and also
for dependency injection. NgonInit is used for the initialization
work. Both of these methods are called when the component is
created. It is really important that we should know, when to
and how to use them. These are used for providing the best
structure for your component's code. A constructor method is
a pre-defined method in the constructor class which is only

called when the class is instantiated. It is also used for properly initializing the fields. Constructor in Angular 2 is used to create a new instance of the class. NgonInit is the class we import when we implement the constructor in order to use it in a class. The method used in this case is ngOnInit(). This method helps in initializing the directive or the component after the data bound properties are displayed and the directive or components input are set.

Q12. How to cache an observable data in Angular 2?

Caching of an observable data is done with the help of "observable.cache". We can use caching in order to cache the response in the memory and then, on the next subscription, instead of requesting the remote server again. This operator is used at the end of the string. Caching is important for the performance, especially on bandwidth restricted devices and slow networks. You should have a good understanding of caching while working with promises but while translating it to observable, it is a bit difficult. Therefore, when interacting with observables, we typically set up a subscription on the consumer side and react to values coming through the pipe. We can easily add caching to the observables by adding publishReplay(1) and refCount.

Q13.List out the differences between ActivatedRoute and RouterState, with reference to Angular 2.

Here are some of the differences between ActivatedRoute and RouterState with reference to Angular 2: –

1. ActivatedRoute consists of the information about a route associated with a component loaded in an outlet. Whereas, RouterState represents the state in which the writer actually is.
2. We need ActivatedRouteSnapchat to traverse all the activated routes. Whereas, during a navigation, after redirects have been applied, the router creates a RouterStateSnapshot.
3. ActivatedRouteSnapshot has old data. When route changes, ActivateRouteSnapshot has data from previous route. Whereas, the RouterState cares about application components, or, to be more specific, about their arrangements.

Q14. What would you have in a shared module in Angular 2?

Shared module is used to import the services in both eager and lazy loaded module. We all know that lazy loaded modules

create their own branch on the dependency injection tree. Shared module consists of the services that are registered by the angular in the root app injector. For this, we need not import it in the lazy module because lazy loaded modules already have access to the services defined at the root. Components, pipes and directives are also defined in the shared module. Other modules that import the shared module can use it in their templates. This means that the modules can be imported normally in the lazy loaded module. The shared module contains the code that will be used across the applications and featured modules. It also consists of the common template components. "Dumb components" should also be present in the shared module. It typically consists of some common angular modules too. When you are importing the shared module, you will also need to import the module with its providers, because there is no app module in the test.

Q15. What do you mean by a structural directive in Angular 2?

Structural directives are used to manipulate DOM in angular. Structural directives are responsible for HTML layout. By adding, removing, or manipulating LMNs in angular, they shape or reshape the structure of DOM. This structural directive is applied to a host element with the help of other directives. The directives then do whatever it is supposed to do with that host element and its descendants. Structural directives can be easily recognized. It can also delay the instantiation of a component or an element. It can also be used for cosmetic effect or manually handling the timing of the loading of components. Structural directives are bound to a template. The two most common structural directives are "ngIf" and "ngFor". The process occurring in a structural directive is dynamic.

Q16. What do you understand by a template variable? How is it used?

A template in Angular 2 is used to instantiate embedded views. A template variable can be accessed in two ways. Either by placing a directive on an element and have the template variable for this embedded view injected into the constructor of the directive using the template variable token, or you can query for the template variable from a component or a directive via query. A template variable in Angular 2 is a reference to a DOM element or directive within a template. Template variables are used to access the values of DOM element properties. It is declared with the help of "#" and "ref-"as prefix. For example: – #myVar and ref-myVar. Template variable names cannot be made duplicate as in this way, it

might give unpredictable values. The scope of a reference variable is the entire template. It can be used anywhere inside a template. In Angular 2, a component needs to have a view and to define a view, a template variable is used. It allows us to express data and property binding, event binding and template concerns.

Q17. Explain the concept of lazy loading in Angular 2.

Lazy loading is a module which is used to decrease the start-up time. When lazy is used, then our system application does not need to load everything at once. It only needs to load what the user expects to see when the application first loads. The modules which are lazily loaded will only be loaded when the user navigates to their routes. Lazy loading improves the performance of our system applications. It keeps the initial payload small and these smaller payloads lead to faster download speeds. It helps in lowering the resource cost especially on mobile networks. If a user doesn't visit a section of the application, they won't ever download those resources. The concept of lazy loading in angular requires us to format the application in a certain way. All the assets that are to be lazy loaded should be added to its own module. Lazy loading is setup in the main routing file. Lazy loading overcomes the problem of slow loading of applications in their own way which hence improves the loading time of the application.

Lazy loading can be done only in four steps: –

1. Update your route file
2. Install angular-router-loader and add the loader to your webpack configuration file.
3. Define the lazy routes
4. Import the routes to the module.

Q18. What is the difference between constructor and ngOnlnit in Angular js?

The comprehensive comparison that taps into components initialization process is given below:-

1. ngonInit is just a method in a class which structurally is not different to any other method in a class. Whereas, a constructor is a completely different thing. It will be called when an instance of a class is created.
2. A class constructor in angular is used to inject dependencies, which is called constructor injection pattern. Whereas, when ngOnInit is called, it has finished creating a component DOM, injected all required dependencies through constructor and processed input

bindings.

3. A constructor is a default method of the class that is executed when the class is instantiated. Whereas, ngOnInit is a life cycle hook called by Angular 2 to indicate that angular is done creating the component.
4. ngOnInit relies on the binding of the component. Whereas, it is not the case when a constructor is used.

Q19. What is the meaning of component life cycle in Angular 2?

The component life cycle hooks overview the life cycle sequence and the interfaces. Angular manages the life cycle of a component. Angular creates it, renders it. It can also create and render its children. It also checks when its data bound properties change. It can even destroy it before removing it from the DOM. The life cycle hook offered by angular provides the visibility into these key life moments and the ability to act when they occur. The components go through an entire set of processes or life cycle right from its initiation to the end of the application. There are a number of life cycle hooks which are listed below: –

There are a number of life cycle hooks which are listed below: –

1. ngOnChanges
2. ngOnInit
3. ngDoCheck
4. ngAfterContentInit
5. ngAfterContentChecked
6. ngAfterViewInit
7. ngAfterViewChecked
8. ngOnDestroy

Q20. What is the use of ngForTrackBy directive?

For iterating over a collection in Angular 2, the ngFor directive is used which instantiates a template once per item from the collection. If a data needs to be changed at some point in the collection, then a problem occurs because angular cannot keep a track of items in the collection and has no knowledge of the items which were added or deleted. This results in the deletion of all the DOM elements that are associated with the data and are again created. If the collection is big, then it becomes more complicated because a lot of DOM manipulation occurs which are expensive. So, to solve this problem, a trackBy function is used which takes the index and the current item as arguments and returns the unique identifier for this item.

Q21. List the key components of Angular 2?

The Angular 2 comprises of the following key components:

- Module – This is used to break the application into the logical pieces of the program code and each piece of code or module is designed to perform a single and unique task.
- Component – This is used to bring the modules together.
- Templates – This is used to define the Views of an Angular JS application.
- Metadata – This is used to add more data to an Angular JS application.
- Service – This component is used to develop the components, which can be used to share in the entire application.

Q22. What is a template in Angular 2?

The template in Angular 2 is used to define the views of the AngularJS Application.

Q23. How will you convert a string into a percentage?

To convert a string into a percentage format, a percent filter is used.

Q24. Explain component specific hooks?

- ngafterContentinit: It initializes the component content
- ngAfterConctentChecked: It checks the binding of the external content.
- ngafterViewinit: It creates the component view.
- ngAfterviewChecked: It checks the bindings of the component's view.

Above are few component specific hooks in Angular2.

Q25. What is CLI?

CLI is the acronym of Command Line Interface, which can be used to create the Angular JS application.
Using CLI, you can also create a unit and end-to-end tests for the Angular application.

Q26. What is AOT compilation?

AOT stands for Ahead of Time.It is the compilation in which Angular compiles the components and templates to JavaScript and HTML while developing.

Q27. What are Event emitters?

An Event emitter is a class defined in core module that can be used by components and directives to emit custom events.

Q28. What is Angular @ RouteParams?

The RouteParams are used to map the given URL's based on the route URLs and they become optional parameters for that route.

Q29. Explain Angular 2 hidden property?

The hidden property in Angular 2 is a special case.

- The property is more powerful and is used to bind any property of the elements.
- It is considered the closest cousin of **ngshow** and **nghide**.
- It sets the display property "display: none".

Q30. Why are decorators used in Angular 2?

In Angular 2, decorators are used as an identifier of class or type of the object that is created by the TypeScript.The Angular 2 identifies the class below decorator call as the definition of the class and extends the decorator specific properties with the class definition.

Q31. Explain host decorator in Angular 2?

The host decorators in Angular 2 bind the properties of components with UI element values.The properties inside a component class definition which are decorated with @HostBinding are accessed in a template from the assigned property that is @HostBinding()title='Our title'(whatever the title is).

Q32. What are Pipes in Angular 2?

Pipes in Angular 2 are used in templates in order to convert them into a content that is user-friendly and readable one within the interpolation braces that is {{release| date}}, here the symbol
"|" denotes the pipe.

Q33. How can you handle errors in Angular 2 Applications?

The Angular 2 Applications provide with the option of error handling.
The errors in Angular 2 can be handled by including the ReactJS catch library and later using the catch function.

- The catch function, which is used after adding the catch library contains the link to the Error handler function.
- And in this error, handler function, the errors are sent to the error console, and also the errors are thrown back to continue the execution.
- So, whenever an error occurs it will be redirected to the error console of the web.

Q34. Can you automate porting Angular 1 code to Angular 2?

No, currently we are not provided with any such tool that ports the Angular 1 code to the Angular 2 code.

In the process of porting, the Angular 1 code to Angular 2, the side by side manual conversion of Angular 1 directives to the Angular 2 components takes place because they are two different frameworks and hence requires different approaches to solve the same problem.

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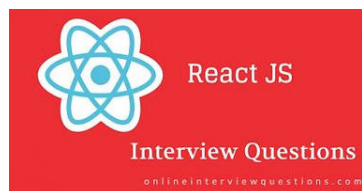**20+ Typescript Interview Questions - Javascript Interview...**

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