Router

Q.1) What is Angular Routing ?

- Routing allow you to move from one part of application to another part
- Or one view to another view.
- Used for navigations between pages, components..

Q.2) Who is Responsible for handle the Routing in Angular ?

- Angular **RouterModule** is Responsible for handle Routing.

Q.3) What is Angular Router ?

- Router is Separate Module in Angular.
- It is imported from @angular/router.

Q.4) Usage of Angular Router ?

- Navigate to a specific view by typing a URL in the address bar.
- Pass optional parameters to the view.
- Handle back and forward buttons of the browser.
- Allows you to load the view dynamically.
- Protect the routes from unauthorized users using Route Guards.

Q.5) What are the Components of Angular Router ?

- **Router :** Angular Router is a Service that enables navigations from One component to another component.

- **Route :** Route Consist of a path and a component it is mapped to. Route tells Angular Router which view to display when a user clicks on link or paste URL in browser address bar.

- **Routes :** Routes is an array of Route objects our Application support.

- **RouterOutlet :** The RouterOutlet is a Directive <router-outlet>, that serves a placeholder, where the Router should display the view.

- **RouterLink :** Is a Directive that binds the HTML element to a Route. RouterLink contain parameters to pass to routes component..

- **RouterLinkActive :** RouterLinkActive is a directive for adding or removing Classes from an HTML element that is bound to RouterLink.

  Main use is when we click on any link so that link display Should be active on browser.

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- **ActivatedRoute :** It's an object to represents currently activated route Associated with the loaded component.

- **Router State :** The current state of the router includes a tree of the **C**urrently activated routes together with convenience Methods for traversing the route tree.

- **RouterLink Parameters Array :**
  The Parameters or arguments to the Route.
  It is an array that you can bind to RouterLink directive.

Q.6) How to configure Angular Router ?

- Configure the Route
- **Define the routes**

```
20  const routes: Routes = [
21    {path: 'login', component: LoginComponent},
```

  - ✓ **Path** → Set selector reference of particular component should load.
  - ✓ **Component** → Name of that component should be loaded with Path.

  - ✓ This route tells angular to render ProductComponent when the user navigates to the URL "/product.

- **Register the Routes**
- Import the Angular Router form @angular/router library in the root module.
- Import {RouterModule} from '@angular/router';
- Then, Install the routes using the RouterModule.forRoot method, passing the routes as the argument in the import array.

```
@NgModule({
  imports: [RouterModule.forRoot(routes)],
  exports: [RouterModule]
})
```

- Map Actions to Routes → we need to bind the click event of the link, image, or button to a route. This is done using the routerlink.

```
1
2 <li><a [routerLink]="['product']">Product</a></li>
3
```

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- Short steps to configure Router
- Import AppRoutingModule in Main AppModule

  Import → import { AppRoutingModule } from '@angular/router'.

  Also Imports In Array → imports: [AppRoutingModule].
- Define the Routes
- Import RouteModule and Routes in feature Module.

  Import import { Routes, RouterModule } from '@angular/router';

  Imports @NgModule({

  imports: [RouterModule.forRoot(routes)],

  exports: [RouterModule]

  })
- Then export class AppRoutingModule

  Like this we can make relation between AppModule and NewModule.

- imports: [RouterModule.forRoot(routes)],
- **forRoot** → when we want to provide the service and also want to configure the service at the same time.
- RouterModule.forRoot → used to configure the routing module of angular application.
- Add Router Outlet
- Finally, we need to tell the angular where to display the view.
- This will done using the RouterOutlet.
- **<router-outlet></router-outlet>**

Angular Point

Angular Routing

1. Routing : Routing in Angular refers to the mechanism of navigating between Different components and views in a single-page application (SPA).

2. Route : Route Consist of a path and a component it is mapped to. Router Tells Angular Router which view to display when a user clicks on link or paste URL in browser address bar.

3. Routes : Routes represent an array of route definitions that configure how the application should navigate based on URL paths.

4. RouterModule: RouterModule is an Angular module that provides the routing functionality and is used to configure the routes of an Angular application.

5. forRoot : forRoot is a static method provided by RouterModule used in the imports array of the AppModule to set up the root-level routes. We can declare only one forRoot method in angular.

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6. RouterLink : RouterLink is a directive that creates a clickable link, enabling users to navigate to a specific route by clicking on the link.

7. RouterOutlet: RouterOutlet is a directive used in templates to mark the location where the routed component should be displayed.

8. RouterLinkActive: RouterLinkActive is a directive that adds a CSS class to the associated element when the link's route becomes active.

9. ActivatedRoute: ActivatedRoute provides information about the current route, including parameters, query parameters, and route data.

10. RouterState: RouterState represents the current state of the router, including the current URL and the activated route.

Configuring Angular Router:

11. How to configure angular router?

Ans : a) Import RouterModule in the AppModule,
b) Use RouterModule.forRoot () to set up routes,
c) And define routes using the Routes array.

12. How to define the routes?

Ans : Define routes using the Routes array within the RouterModule.forRoot() call, mapping Paths to component classes.

13. Path :
The path is a URL segment that corresponds to a route and is used to Match and navigate to the correct component.

14. Component:
A component is associated with a route and defines the view that should be displayed when the route is activated.

15. How to Register Routes?

Ans : Register routes by defining the route configurations in the Routes array when Calling RouterModule.forRoot().

16. Where we Import Routes?

Ans : Import the RouterModule and routes configuration in the imports array of the AppModule.

Mapping Actions to Routes:

17. How to map Actions to Routes?

Ans : Use the routerLink directive in templates to create links that navigate to Specific routes when clicked.

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18. How to define Default Route?

Ans : Define a route configuration with an empty path and set the redirectTo Property to specify the default route.

19. redirectTo:

The redirectTo property is used to specify the route to navigate to when a Route with an empty path is activated.

20. pathMatch='full':

The pathMatch property set to 'full' ensures that the whole URL must match to Activate the route.

Wild Card Route:

21. Wild Card Route:

Ans : A wild card route (**) is a catch-all route that matches any URL that doesn't match other defined routes.

22. Where should we need to define WildCard Route?

Ans : Define the wild card route at the end of the routes configuration to catch Unmatched URLs.

Creating Nested Route (Child Routes):

23. How to Create Nested Route? Or Child Routes?

Ans : Use the children property within a route configuration to define child routes.

24. What is children property?

Ans : The children property is used to define an array of child route configurations associated with a parent route.

25. What is for child method?

Ans : forChild method used to configure the module when use lazy loading.
We can declare only Multiple forChild method in angular.