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WEB 425 Angular with Typescript

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Discussion 3.1

Route guards in Angular are vital for controlling access to routes within an application. They act as filters, allowing or blocking navigation based on predefined conditions. By leveraging route guards, developers can enforce security measures, authenticate users, and control navigation flow, ensuring a secure and seamless user experience.

The primary purpose of route guards is to protect sensitive information and prevent unauthorized access to specific parts of an application. They are essential in implementing role-based access control (RBAC) and other authentication mechanisms.

Angular provides a few other route guard functions:

1. canActivateChild: this guard protects child routes within a parent route. It ensures that authentication or other conditions are met for related routes.
2. canDeactivate: this guard controls whether a user can leave a route. It is commonly used to prompt confirmation before discarding unsaved changes or performing necessary checks before leaving a route.
3. canLoad: this guard prevents lazy-loaded modules from loading until certain conditions are met. They enhance performance by deferring the loading of heavy modules until necessary.
4. resolve: A route guard used for data resolution before rendering a route. It allows developers to fetch data from an external source or perform asynchronous operations before displaying the route. This ensures that the necessary data is available when the route is rendered, preventing partial or empty views.

Route guards should be used in various scenarios, such as:

1. Authentication: Route guards ensure that only authenticated users can access specific routes. Unauthenticated users are redirected to a login page or denied access.
2. Authorization: Guards enforce role-based access control, allowing only users with specific roles or privileges to access certain routes.
3. Data Protection: Guards prevent unauthorized access to sensitive or confidential information. They check permissions and redirect users accordingly.
4. Navigation Control: Route guards provide the ability to control navigation flow. They can prompt for confirmation, prevent accidental navigation, or perform additional checks before loading heavy modules.

References

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