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**Task 2**

**Phase Two: Vue Router Advanced**

**Learning Content:**

**1)Route configuration (dynamic routes/nested routes):**

Vue Router allows **static, dynamic, and nested routes**.

const routes = [

{ path: '/', component: **Home** },

// Dynamic Route: ':id' makes the route dynamic

{

path: '**/user/:id'**,

component: **UserProfile**,

children: [

{ path: **'settings'**, component: **UserSettings** } // Nested Route

]

},

];

In above example

**Dynamic Routes** : '/user/:id' allows fetching user-specific data.

**Nested Routes** : '/user/:id/settings' loads UserSettings.vue inside UserProfile.vue.

**2) Navigation guards for permission control:**

Navigation guards control access to routes based on conditions like authentication.

**3) Route lazy loading optimization:**

Vue 3 supports **lazy loading**, reducing the **initial bundle size** for better performance.

**Benefits:**

Loads routes **only when needed** (reduces initial load time).  
 Ideal for **large-scale applications**.  
 Works well with **code splitting**.

**4) Comparison with React Router differences:**

Vue Router is built-in for Vue apps whereas React Router is External package (react-router-dom)

Vue Router is Simple and declarative whereas React Router is JSX-based, requires more configuration.

Vue Router has **built-in navigation guards** for easy access control.

React Router relies on **middleware** for similar behavior.

Vue’s routing system is **more structured** with a routes array, whereas React Router is **JSX-based**.