

Scenario:

A startup wants a simple front-end dashboard to display static information such as welcome messages and course details. The team decides to use React for building reusable UI components.

1. How would you set up a new React project using Create React App or Vite?

To set up a new React project, follow these steps:

Step 1: Install Node.js on the system.

Step 2: Open Command Prompt or Terminal.

```
npx create-react-app dashboard
```

```
cd dashboard
```

```
npm start
```

2. What is the role of package.json in a React project?

package.json is an important file in a React project.

1. Stores project details (name, version)

2. Manages dependencies like React

3. Contains scripts to run the project

4. Helps install required libraries

Without package.json, a React project cannot run properly.

3. How do you create a functional component in React?

A functional component is created using a JavaScript function that returns JSX.

Example :

```
function Welcome() {  
  return <h1>Welcome to Dashboard</h1>;  
}  
  
export default Welcome;
```

4. How are components rendered inside the main App component?

Answer

Components are rendered inside the App component by importing and using them as HTML-like tags.

```
import Welcome from './Welcome';

function App() {
  return (
    <div>
      <Welcome />
    </div>
  );
}

export default App;
```

5. What are the benefits of breaking the UI into small reusable

Components?

Breaking UI into small components:

Improves code reusability

Makes code easy to understand

Simplifies maintenance

Reduces errors

Helps

Structure:

The screenshot shows the Visual Studio Code interface. The left sidebar contains icons for File, Search, Open, Save, Undo, Redo, and a Python logo. The Explorer pane lists the project structure:

- DASHBOARD
 - node_modules
 - public
- src
 - # App.css
 - JS App.js**
 - JS App.test.js
 - JS Course.js
 - # index.css
 - JS index.js
 - logo.svg
 - JS reportWebVitals.js
 - JS setupTests.js
 - JS Welcome.js
- .gitignore
- { package-lock.json
- { package.json
- ① README.md

src > JS App.js > [●]

```
1 1 < import Welcome from './Welcome';
2 2 < import Course from './Course';
3 3
4 4 < function App() {
5 5   return (
6 6     <div>
7 7       <Welcome />
8 8     </div>
9 9   );
10 10 }
11 11 }
12 12 }
13 13 <Course />
14 14 </div>
15 15 );
16 16 }
17 17
18 18 export default App;
```

Welcome.js

```
function Welcome(props) {
  return <h1>{props.message}</h1>;
}
```

```
export default Welcome;
```

Course.js

```
function Course(props) {
  return (
    <div>
```

```
<h2>{props.title}</h2>
<p>Course Name: {props.name}</p>
<p>Duration: {props.duration}</p>
</div>
);
}
```

```
export default Course;
```

```
App.js
```

```
import Welcome from "./Welcome";
import Course from "./Course";
```

```
function App() {
  return (
    <div>
      <Welcome message="Welcome to React Dashboard" />

      <Course
        title="Course Details"
        name="React Basics"
        duration="2 hours"
      />
    </div>
  );
}


```

```
export default App;
```

```
Output:
```

