React-18

**Title:** Unit Testing React Components using Jest and Enzyme

**Objective:**  
To implement unit tests in a React application using Jest and Enzyme for validating the CohortDetails component functionality.

**Learning Outcomes:**

* Understand the importance of unit testing in React applications.
* Configure and install Enzyme with the appropriate adapter.
* Write unit tests using describe() and test().
* Mount React components using Enzyme and verify outputs using matchers.
* Capture and validate component snapshots.

**Prerequisites:**

* Node.js
* NPM
* Visual Studio Code

**Scenario:**  
The Cognizant Academy team has developed a React dashboard application that displays ongoing and completed cohorts. As part of the development team, your responsibility is to implement unit testing for the CohortDetails component to ensure its correctness.

**Steps to Perform the Lab:**

1. **Project Setup:**
   * Unzip the given project archive and open it using Visual Studio Code.
   * Open the integrated terminal and execute the following command to install required node modules:
   * npm install
2. **Install Enzyme and its Adapter:**
   * Install Enzyme and the required adapter using:
   * npm install --save enzyme enzyme-adapter-react-16
3. **Configure Enzyme:**
   * Modify the setupTests.js file as shown below to configure Enzyme:
   * import { configure } from 'enzyme';
   * import Adapter from 'enzyme-adapter-react-16';
   * configure({ adapter: new Adapter() });
4. **Create Unit Test File:**
   * Create a new file CohortDetails.test.js in the same directory where CohortDetails.js exists.
   * Import necessary modules:
   * import React from 'react';
   * import { mount, shallow } from 'enzyme';
   * import CohortDetails from './CohortDetails';
   * import { CohortData } from './Cohort';
5. **Write Unit Tests:**
   * Define the test suite and implement the following tests:
   * describe("Cohort Details Component", () => {
   * test("should create the component", () => {
   * const wrapper = shallow(<CohortDetails />);
   * expect(wrapper.exists()).toBe(true);
   * });
   * test("should initialize the props", () => {
   * const cohort = CohortData[0];
   * const wrapper = mount(<CohortDetails cohort={cohort} />);
   * expect(wrapper.props().cohort).toEqual(cohort);
   * });
   * test("should display cohort code in h3", () => {
   * const cohort = CohortData[0];
   * const wrapper = mount(<CohortDetails cohort={cohort} />);
   * expect(wrapper.find('h3').text()).toContain(cohort.code);
   * });
   * test("should always render same html", () => {
   * const cohort = CohortData[0];
   * const wrapper = mount(<CohortDetails cohort={cohort} />);
   * expect(wrapper).toMatchSnapshot();
   * });
   * });
6. **Execute Tests:**
   * Run all the tests using:
   * npm test

**Estimated Time to Complete:**  
90 minutes

**Conclusion:**  
Following this lab will ensure that the CohortDetails component is properly tested for rendering, prop validation, UI output, and snapshot integrity using Jest and Enzyme.