

## Q1 Explain the role of Jest in testing React Applications

Jest is a testing framework created by Facebook. It has gained popularity in the React community because of its robust set of features. From my experience it is simple to use and has solid documentation. The following are some of the features that Jest offers.

- Performance - Jest runs tests in parallel processes thus minimizing test runtime.
- Mocking - Jest allows you to mock objects in your test files. It supports function mocking, manual mocking and timer mocking. You can mock specific objects or turn on automatic mocking with `automock` which will mock every component/object that the component/object test depends on.
- Snapshot testing - When using Jest to test a React or React Native application, you can write a snapshot test that will save the output of a rendered component to file and compare the component's output to the snapshot on subsequent runs. This is useful in knowing when your component changes its behaviour.
- Code coverage support - This is provided with Jest with no additional packages or configuration.
- Test isolation and sandboxing - With Jest, no two tests will ever conflict with each other, nor will there ever be a global or module local state that is going to cause trouble. Sandboxed test files and automatic global state resets for every test.
- Integrates with other testing libraries - Jest works well with other testing libraries (e.g. Enzyme, Chai).

## Q2 What are the options available for testing middleware related applications

### Mocking a store

The other approach to testing Redux Thunk involves mocking a store. A store provided by `redux-mock-store` is better suited for testing thunks in isolation.

### Mocking a dispatch

Let's imagine a case in which we have a list of purchases. We can manually change their status. It might be impossible to update the state of a purchases list just based on the information we have. One of the examples of such situation would be when the server is adding some specific information connected with a purchases state transition like assigning a parcel tracking code. What we need to do it to fetch a list of purchases again.