**How to use react-router**

Changes the product model from the API side are as follows firstly size and color attributes are now array as they store array of objects in each case and added new attribute inStock in Boolean.

We also need to add some path that is we need to route the components accordingly so for that we need react-router-dom library and for that we need Router- Switch—Route (this type of ancestry and for further information read the documentation).

In this unit we basically added various routes for various pages and added links to the names of categy to redirect them to category page.

**How to fetch and filter products**

Now to sort the the fetched products firstly we need to head to the product list page from where the all the products are being rendered and we need to pass the properties such as categories, color,size and price sort.

We can get the categories from the url using uselocation hook and other properties from the assign them to a state variable using the onChange method in the container.

So now if we have the required values of the filters then we can use them for filtering using useEffect.

First if any category is given the we can request the api route with the category querry and for the second useEffect we can use the filters(props) to filter the prev returned array from api request and for the last useEffect that is the price sorting we sort the array with respect to different aspect.

**How to fetch a single Product**

To fetch a single product data firstly we need link the serch icon on the products(when we hover over them) to the single product page.

So to get a product we just need it id and then we can just use the api find/:id route to get that product.

We also use some state variable to account for the quantity size color selected so there that

In this section we have also created a generic requestMethods.js file which contains public request and userRequest then created by user also had Bearer token so need to generate from login.

**Redux toolkit shopping cart**

Better understanding of redux watch it dedicated video on it its state management tool.

Now the add to shopiing cart functionality is done through redux as we want to change in state of it intantly as we click the add to cart button so for that we install @reduxjs/toolkit and react-redux.

Firstly we create a redux folder where we create a state for the cart it will have products as array and quantity , and price initial as empty and zero rept.but if there is a change in state we increase it quanity and other attributes.

Now since this is out of the way we can move on to the products page where we use another hook called useDispatch with the help of which we could change the state of the cart in the navbar.

We use useSelector in the navbar to select the specific state variable.