ITCS444 Mobile Application Development

Tutorial (4) Marks (10)

Duration: 2 Hours

Topics (Slide 03: Typescript & Angular, Slide 04: Navigation, Slide 06: Local Storage)

UI: Input, label, button, items, list, icons, alerts, accordion

In this tutorial, you will create a multipage app to display different categories and their subcategory values stored a json file. Create the following beside the home page:

```
ionic generate  page Detail

ionic generate service Data
```

In the generated Service file, define a new data type (laptop) used in tutorial 2 as follows. Add new field 'Image' to the type:

```
export interface laptop {
      Brand:    String,
      CPU:      String,
      GPU:      String,
      RAM:      Number,
      Weight:   Number,
      Screen:   Number,
      Storage:  boolean,
      OS:       boolean,
      Image:    String,
      ManuDate: Date
}
```

Create an array of the type laptop. Populate the array with values from JSON file using `http.get` **method.**

In the Home page

Display the values of the array. Display the main category as list of accordions. Expanding each accordion element displays sub elements.

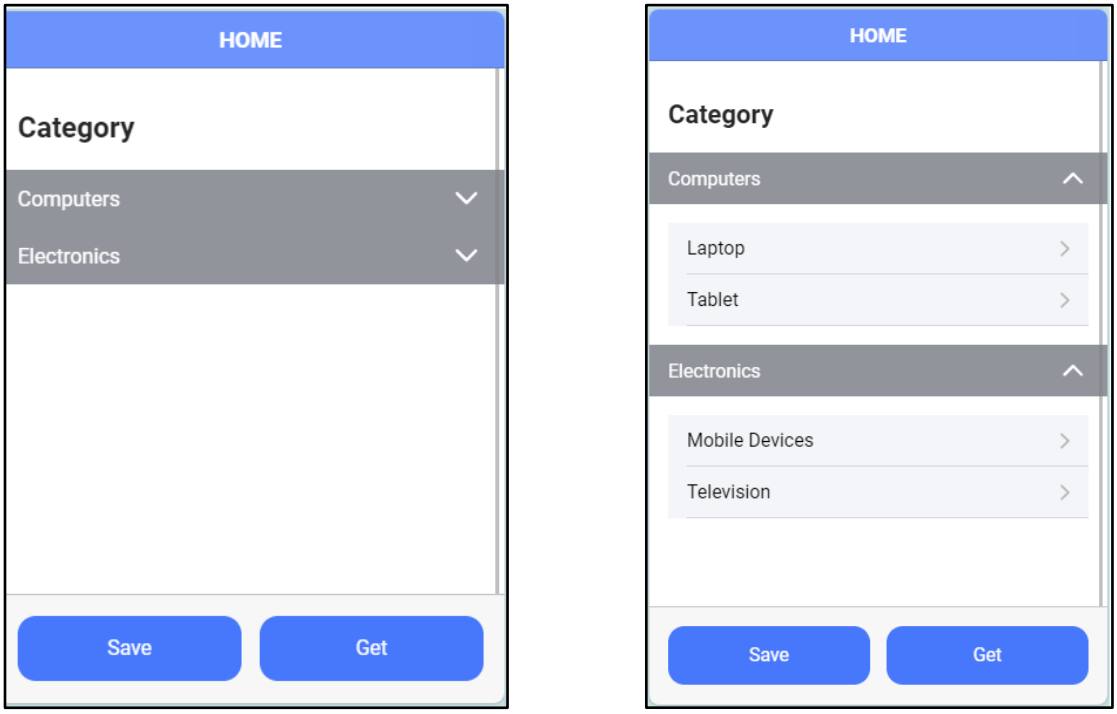

Figure 1: Home Page View

Clicking on the **subcategory** will display its details. For example clicking on **Laptops** displays: **Dell** & **HP**. The display occurs in the '**Detail'** page also as list of accordions. Expanding each accordion, displays the different configurations available as shown below.

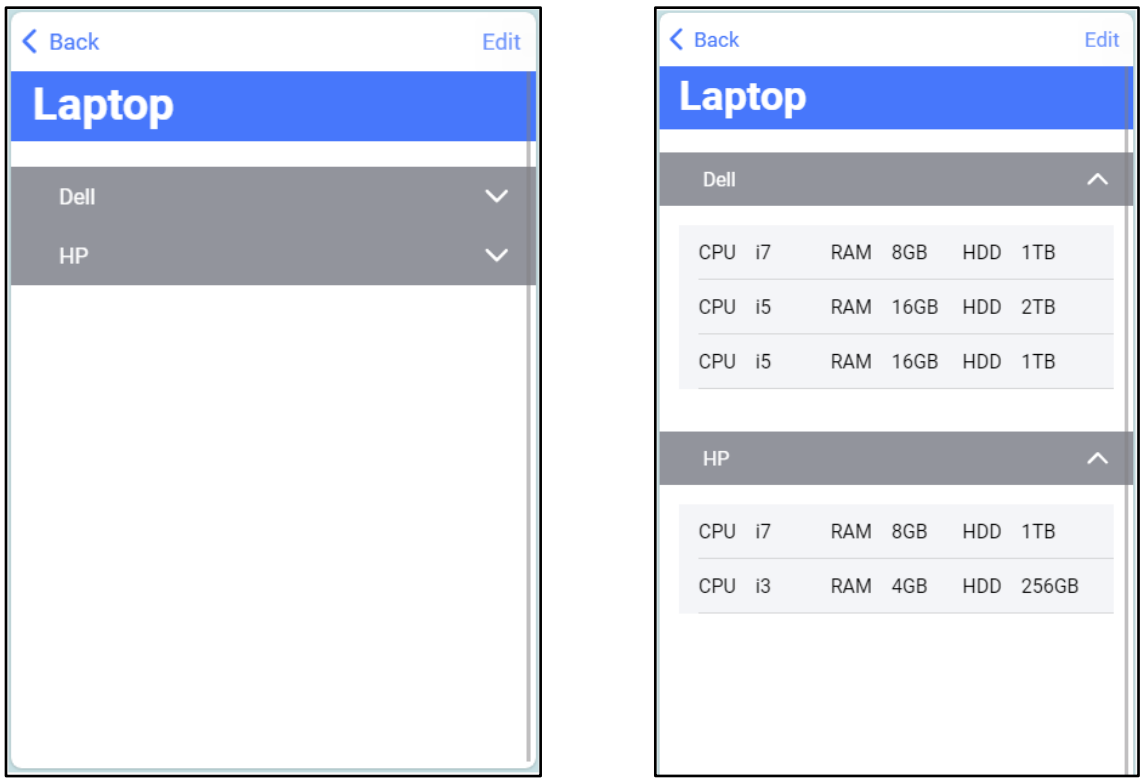

Figure 2: Detail Page View

In the Detail page:

1. Display all records in the array as shown.
2. In each list item display: **CPU** (as header), **RAM** and **STORAGE** values as shown.
3. Display a button '**Edit'** to the right of toolbar. Clicking the button, will enable the user to edit the information of **CPU**, **RAM** and **STORAGE** values in all records. The '**Edit'** button title will change to '**Save'**. Clicking the button will Save the array to local storage.

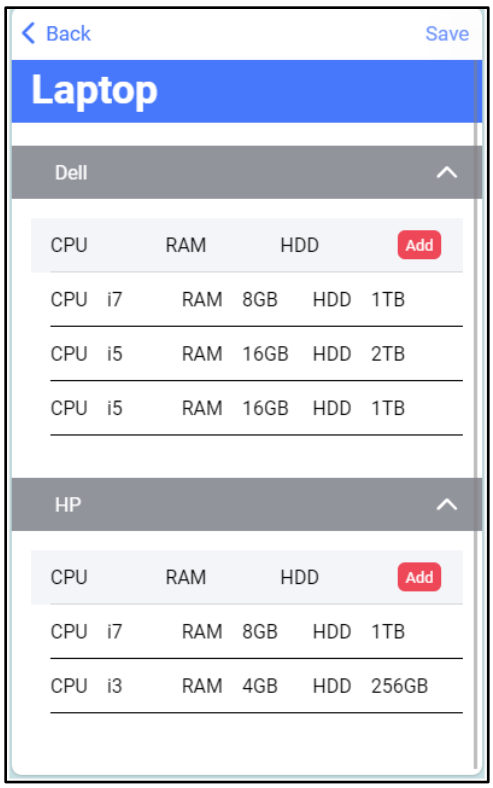

Figure 3: Detail Page View (**Edit** button Clicked)

4. In addition, display a row with the same titles and input fields: **CPU**, **RAM** and **HDD** along with a button titled '**Add'** at the top of rows. Clicking the button add, will insert new record under the same category.
5. Clicking the '**Save**' button, will save the changes and updates in the array.

In the Home page:

6. Display two buttons '**Save'** and '**Get'** in the footer.
7. Clicking the '**Save'** button, will save the array in local storage.
8. Clicking the '**Get'** button, will display a menu to select from:
    - From File: will get the saved array values from the json file and put it in the array.
    - From Storage: will get the saved array values from local storage and put it in the array.
9. On the launch of the app, retrieve stored values in local storage to populate your array. If no storage records found, then load data from json file.

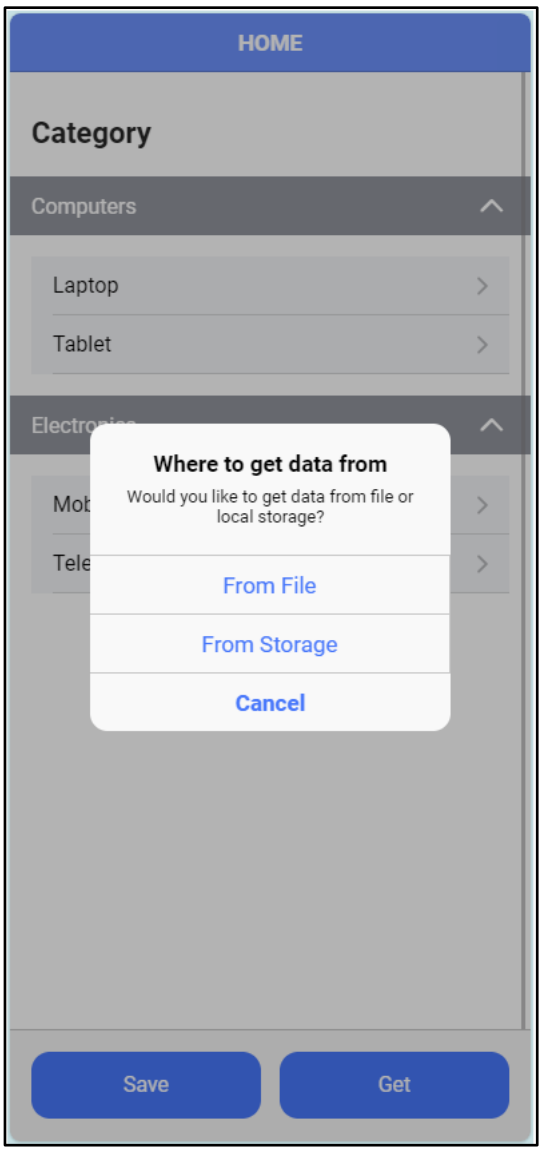

Figure 4: Home Page View with button **Get** clicked

JSON FILE:


```
[{
    "name": "Computers",
    "nav": [{
        "name": "Laptop",
        "nav": [{
            "name": "Dell",
            "nav": [
              {
                "cpu": "i7",
                "ram": "8GB",
                "storage": "1TB",
                "screen": "13inch"
              },
              {
                "cpu": "i5",
                "ram": "16GB",
                "storage": "2TB",
                "screen": "15inch"
              },
              {
                "cpu": "i5",
                "ram": "16GB",
                "storage": "1TB",
                "screen": "14inch"
              }
            ]
          },
          {
            "name": "HP",
            "nav": [
              {
                "cpu": "i7",
                "ram": "8GB",
```

```
          "storage": "1TB",
          "screen": "13inch"
        },
        {
          "cpu": "i3",
          "ram": "4GB",
          "storage": "256GB",
          "screen": "13inch"
        }
      ]
    }
  ]
},
{
  "name": "Tablet",
  "nav": [
    {
      "name": "iPad",
      "nav": [
        {
          "cpu": "A10",
          "ram": "8GB",
          "storage": "1TB",
          "screen": "10inch"
        },
        {
          "cpu": "A11",
          "ram": "8GB",
          "storage": "1TB",
          "screen": "11inch"
        }
      ]
    },
    {
      "name": "Samsung",
      "nav": [
```

```
            {
              "cpu": "Snapdragon",
              "ram": "8GB",
              "storage": "1TB",
              "screen": "8inch"
            },
            {
              "cpu": "Snapdragon",
              "ram": "16GB",
              "storage": "1TB",
              "screen": "12inch"
            }
          ]
        }
      ]
    }
  ]
},
{
  "name": "Electronics",
  "nav": [{
      "name": "Mobile Devices",
      "nav": [{
          "name": "iphone",
          "nav": [
            {
              "cpu": "A11",
              "ram": "4GB",
              "storage": "256GB",
              "screen": "6inch"
            },
            {
              "cpu": "A12",
              "ram": "6GB",
              "storage": "1TB",
              "screen": "6.5inch"
```

```
        }
      ]
    },
    {
      "name": "Samsung",
      "nav": [
        {
          "cpu": "Snapdragon",
          "ram": "8GB",
          "storage": "1TB",
          "screen": "6inch"
        },
        {
          "cpu": "Snapdragon",
          "ram": "12GB",
          "storage": "1TB",
          "screen": "7inch"
        }
      ]
    }
  ]
},
{
  "name": "Television",
  "nav": [{
      "name": "Sony",
      "nav": [
        {
          "cpu": "Exynos",
          "ram": "1GB",
          "storage": "32GB",
          "screen": "55inch"
        },
        {
          "cpu": "Exynos",
          "ram": "1GB",
```

```
            "storage": "32GB",
            "screen": "40inch"
          }
        ]
      }
    ]
  }
]
```