1. How to create project plan and product backlog for project and User story creation.

- Open browser, search for Jira Login.
- Continue with your Gmail account or login to Jira.
- Click on Jira software and select project from top menu bar then select create project from dropdown Menu.
- Select Scrum click on template and click on create.
- Give a name to your project and Give a Description if you want .
- Click on create.
- Select issues from top menu bar and select issue type .This will be default setting.
- Give a summary to your project.
- Now write a user story in Description box.
- Your story will then go into the backlog to be Assigned and auctioned by the project manager, product owner or other relevant stakeholders and click on start sprint
- Click on Board and select Insights
- Click on Insights and click “Sprint burn down”
- And click on Learn more.

2. Create and manage product backlog using appropriate tool like Jira

Summary: Customer registration functionality

Description

AS A customer

I WANT to have registration functionality

SO THAT I can successfully resist

Scope

- build a registration page
- customer validation
- customer should be able to change the phone number
- it should work in all the browser
- it should also work in mobile

Pre condition

- customer should have email and phone number

Acceptance criteria

Scenario 1: customer can successfully resister

- "Given" I am on registration page
- "And" I give valid customer name and phone number
- "And" I check on sing in
- "Then" I will successfully resister

Scenario 2: customer cannot successfully resister

- "Given" I am on registration page
- "And" I give invalid customer name and phone number
- "Then" I will get a error message as "registration failed incorrect customer name"

Summary: Customer checking availability

Description

AS A customer

I WANT to have checking available of hall

SO THAT i can check the available halls

Scope

- build a available checking page
- it should be only inside the Karnataka
- customer should be able to check the available halls in their particular location

pre condition

- customer should have nearest halls in their location

Acceptance criteria

Scenario 1: Customers can successful check availability of hall in their location

- "Given " I am on check available of hall page
- "And" I give particular location and date

Scenario 2: customer can't successfully check availability of hall in their location

- "Given " I am on check available of hall page
- "And" I give wrong location
- "Then" I will get the error message as in valid location

Summary: Customer booking hall

Description

AS A customer

I WANT to booking hall

SO THAT i can book the hall

Scope

- build a booking hall page
- customer should be able to change the date and location

Pre condition

- customer should be able to book the hall in their particular date

Acceptance criteria

Scenario 1: customer can successfully booking hall

- "Given" I am on booking page
- "And" I give available date time
- "And" I will book the hall

- "Then" I successfully booked the hall

Scenario 2: customer can't successfully booking hall

- "Given" I am on booking page
- "And" I give invalid date and time
- "Then "I will get the error messages as their hall is already booked

Summary: Customer booking details

Description:

AS A customer

I WANT to block the hall

SO THAT I can get the booking details

Scope

- build a booking details page
- it should be able to see after the booking also
- customer should be able to change details if their want

Pre condition

- customer have to fill the every information given in the booking details

Acceptance criteria

Scenario 1: customer can successfully get the booking details

- "Given" I am on the booing details page
- "And" I fill the details
- "And" I have also blocked the hall
- "Then" I will successfully get the booing details

Scenario 2: customer will not get the booking details

- "Given" I am on the booking details page
- "And" I will fill the details without blocking hall
- "Then" I will get a error message as the hall is not blocked yet

3. Create Sprint 1 with required user stories

Note: Create user story for required topic and follow the steps below.

- Give a summary to your project.
- Now write a user story in Description box.
- Your story will then go into the backlog to be Assigned and auctioned by the project manager, product owner or other relevant stakeholders and click on start sprint
- Click on Board and select Insights
- Click on Insights and click “Sprint burn down” And click on Learn more.

4. Create UI/UX design - for created user stories (wire framing).

- Continue with your Gmail account or login to Figma.
- First create design file
- And adding elements to over design file from figma community
- Click on**" # "** button on the tool menu at the (Top left)
- Depends on which size you want to use choose the screen size from the right sidebar.
- Add background color to the frame by clicking it and add color from the "Fill" section in the (right panel).
- Create text button (click on "T" text button from the (Top left)
- Click on rectangle**"☐ "** button to select image from the popup menu at the (Top left)

5. Create repository – named mini project-1 Push and pull operation in GitHub.

- Browse to the official Git website: https://git-scm.com/downloads
- Click the download link for Windows and allow the download to complete.
- Double-click the file to extract and launch the installer.

Git operations

- **Creating a repository**
- Open browser, search for GitHub Login.
- Sign in with your username and password
- In the upper-right corner, use the drop-down menu, and select **New repository**.
- Give a name for your repository. For example, "hello-world".
- Add a description of your repository. For example, "Mini Project I"
- Click **Create repository**.

Push Operation:

- Go to add files and select upload files.
- Choose your files then select a file or folder click on open.
- Click on commit changes.

Clone or pull operation:

- Click on code dropdown button
- Click on Download Zip

6. Create a form like registration form or feedback form, after submit hide create form and enable the display section using java script.

Registration.html

```
<html>
<head>
      <title> Registration Form</title>
      <script>
         function passvalues()
         {
                  var name = document.getElementById("name").value;
                    var email = document.getElementById("email").value;
                    var address = document.getElementById("address").value;
                    localStorage.setItem("name",name);
                    localStorage.setItem("email",email);
                    localStorage.setItem("address",address);
                    return;
         }
      </script>
   </head>
   <body>
<h1>Registrtion Form</h1>
      <form action="Details.html">
<fieldset>
   <legend>Registration</legend>
 <label> Name </label>
      <input type="text" id="name"/><br><br>
 <label> Email ID </label>
      <input type="email" id="email"/><br><br>

 <label> Address </label>
      <input type="address" id="address"/><br><br>
      <input type="submit" value="submit" onclick="passvalues()"/>
</fieldset>
      </form>
   </body>
</html>
```

Details.html

```
<html>
   <head>
      <title> Details</title>
   </head>
   <body>
<form>
   Your Name is:<p id="name"></p><br>
      Your email is:<p id="email"></p><br>
      Your address is:<p id="address"></p>
<script>
     document.getElementById("name").innerHTML = localStorage.getItem("name");
     document.getElementById("email").innerHTML = localStorage.getItem("email");
     document.getElementById("address").innerHTML = localStorage.getItem("address");
      </script>
</form>
   </body>
</html>
```

7. Create form validation using JavaScript

Index.html

```
<html>
<body>
<script>
function validateform(){
var name=document.myform.name.value;
var password=document.myform.password.value;
if (name==null || name=="")
{
  alert("Name can't be blank");
  return false;
}
else if(password.length<6)
{
  alert("Password must be at least 6 characters long.");
  return false;
  }
}
</script>
<body>
<form name="myform" method="post" action="valid.html" onsubmit="return
validateform()" >
Name: <input type="text" name="name"><br/>
Password: <input type="password" name="password"><br/>
<input type="submit" value="register">
</form>
</body>
</html>
```

valid.html

```
<html>
<body>
 <h1>Validation Successfull</h1>
</body>
</html>
```

8. Create and run simple program in TypeScript

Install TypeScript using Node.js Package Manager (npm)

Step-1 Install Node.js. It is used to setup TypeScript on our local computer.

To install Node.js on Windows, go to the following link: **https://www.javatpoint.com/install-nodejs**

Step-2 Install TypeScript. To install TypeScript, enter the following command in the Terminal Window.

- npm install typescript --save-dev //As dev dependency
- npm install typescript -g //Install as a global module

  or
- npm install -g typescript
- npm install typescript@latest -g //Install latest if you have an older version

Step-3 To verify the installation was successful, enter the command **$ tsc -v** in the Terminal Window.

Install Live server

npm install -g live-server

Create and run first program in TypeScript

- open command prompt
- go to d: drive(any drive)
- d:\>mkdir typescript
- d:\>cd typescript
- d:\typescript> npm install typescript --save-dev
- open visual studio code
- file-open folder-choose typescript folder from d:
- create new file- save it as types.ts(any name.ts)
- Write the below code and save it

- console.log("Hello World");
- go to command prompt and compile the program
- tsc types.ts
- run the program
- node types.js
- Observe the output

9. Forms - Use of HTML tags in forms like select, input, file, textarea, etc.

```
<html>
<head>
<title>Form Elements</title>
</head>
<body>
<form>
<lable>Text Box</lable>
<input type="text" id="t1" name="name" value=""/><br><br>

Radio Button: <br>
<input type="radio" id="r1" name="" value=""/>Male<br> <br>
<input type="radio" id="r1" name="" value=""/>FeMale<br><br>
Check Box:<input type="checkbox" id="c1" name="" value=""/><br><br>
File:<input type="file" id="e1" name="file" value=""/><br><br>

Select:<br>
<label>Sem</label>
<select name="sem" id="sem">
  <option value="1">1 Sem</option>
  <option value="2">2 Sem</option>
</select><br><br>

Text Area:<br>
<textarea id="ta1" name="textarea" rows="4" cols="50">
At w3schools.com you will learn how to make a website.
</textarea><br><br>


<fieldset>
    <legend>Personal Details:</legend>
    <label>First name:</label>
    <input type="text" id="fname" name="fname"><br><br>
    <label>Last name:</label>
    <input type="text" id="lname" name="lname"><br><br>
  </fieldset><br><br>
Button:<input type="button" id="t1" name="" value="Submit"/><br>
</form>
</body>
</html>
```

10. Build a basic application on cloud

Create a web application

Use the 10th program code (Forms – Use of HTML tags in forms select, input, file, etc.)

Deployment on cloud

1. Open web browser and search for free cloud service (000webhost.com).
2. Proceed sign in process through the Google account.
3. Host free website and click on Manage Website.
4. Towards left column, tools>>file manager and select upload files.
5. Select public_html and upload the existing html file.
6. After uploading, right click on the file and open.
7. Make sure the file has been uploaded.
8. Finally, we can perform the following operations
    - View the output of the webpageapplication
    - Download the webpage application
    - Share the webpage application through the given below
        - Webhost_link + file_name.extension
    - We can move from one directory to another
    - Either we can copy the content of the file or by copying the whole file

11. Testing single page application (Registration form) using React.

Note: Add Home.js file in index.js file

Index.js

```
<Home />
```

Home.js

```
import { useState } from 'react';
import './App.css';
export default function Form()
{
// States for registration
const [name, setName] = useState('');
const [email, setEmail] = useState('');
const [password, setPassword] = useState('');
const [submitted, setSubmitted] = useState(false);

const handleName = (e) => {
   setName(e.target.value);
};

const handleEmail = (e) => {
   setEmail(e.target.value);
};

const handlePassword = (e) => {
   setPassword(e.target.value);
};

const handleSubmit = (e) => {
   e.preventDefault();
   if (name === '' || email === '' || password === '') {
   alert("Please enter all the fields");
   } else {
   setSubmitted(true);
   }
};
```

```
// Showing success message
const successMessage = () => {
   if(submitted)
   return (
   <div className="success" >
      <h1>User {name} successfully registered!!</h1>
   </div>
   );
};
return (
   <div className="form">
   <div>
      <h1>User Registration</h1>
   </div>
   {/* Calling to the methods */}
   <div className="messages">
      {successMessage()}
   </div>

   <form>
   <fieldset>
      {/* Labels and inputs for form data */}
      <label className="label">Name</label>
      <input onChange={handleName} className="input" value={name} type="text"
/><br></br>
      <label className="label">Email</label>
      <input onChange={handleEmail} className="input" value={email} type="email"
/><br></br>
      <label className="label">Password</label>
      <input onChange={handlePassword} className="input" value={password}
type="password" /><br></br>
      <button onClick={handleSubmit} className="btn" type="submit">
      Submit
      </button>
      </fieldset>
   </form>
   </div>
);
}
```

App.css

```
.input {
  width: 30%;
  padding: 12px 20px;
  margin: 8px 0;
  display: inline-block;
  border: 1px solid #ccc;
  border-radius: 4px;
  box-sizing: border-box;
}
```

12. Implement navigation using react router

Add React Router

- To add React Router in your application, run this in the terminal from the root directory of the application:

```
npm i -D react-router-dom
```

Index.js

```
import ReactDOM from "react-dom/client";
import { BrowserRouter, Routes, Route } from "react-router-dom";
import Layout from "./pages/Layout";
import Home from "./pages/Home";
import Blogs from "./pages/Blogs";
import Contact from "./pages/Contact";
import NoPage from "./pages/NoPage";
export default function App() {
  return (
    <BrowserRouter>
      <Routes>
        <Route path="/" element={<Layout />}>
          <Route index element={<Home />} />
          <Route path="blogs" element={<Blogs />} />
          <Route path="contact" element={<Contact />} />
          <Route path="*" element={<NoPage />} />
        </Route>
      </Routes>
    </BrowserRouter>
  );
}
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(<App />);
```

Create a folder name called pages. Within a pages create following files.

Blogs.js

```
const Blogs = () => {
   return <h1>Blog Articles</h1>;
  };
   export default Blogs;
```

Contact.js

```
const Contact = () => {
   return <h1>Contact Me</h1>;
  };
  export default Contact;
```

Home.js

```
const Home = () => {
   return <h1>Home</h1>;
  };
  export default Home;
```

Layout.js

```
import { Outlet, Link } from "react-router-dom";
const Layout = () => {
  return (
    <>
      <nav>
        <ul>
          <li>
            <Link to="/">Home</Link>
          </li>
          <li>
            <Link to="/blogs">Blogs</Link>
          </li>
          <li>
            <Link to="/contact">Contact</Link>
          </li>
        </ul>
      </nav>
      <Outlet />
    </>
  )
};export default Layout;
```

NoPage.js

```
const NoPage = () => {
   return <h1>404</h1>;
  };
   export default NoPage;
```

App.css

```
ul {
  list-style-type: none;
  margin: 0;
  padding: 0;
  overflow: hidden;
  background-color: #04AA6D;
}

li {
  float: left;
  border-right:1px solid #bbb;
}

li a {
  display: block;
  color: white;
  text-align: center;
  padding: 14px 16px;
  text-decoration: none;
}

li a:hover:not(.active) {
  background-color: #111;
}
```

13. Build single page application (Add Product to Product List)

App.js

```
import { useState } from "react";
import "./App.css";
function App() {
 const [list, setList] = useState([]);
 const [value, setValue] = useState("");
 const addToList = () => {
  let tempArr = list;
  tempArr.push(value);
  setList(tempArr);
  setValue("");
 };
 const deleteItem = (index) => {
 let temp = list.filter((item, i) => i !== index);
  setList(temp);
 };
 return (
  <div className="App">
     <fieldset>
     <h>Add Product to List</h><br></br>
  <input type="text" value={value} onChange={(e) => setValue(e.target.value)}/>
  <button onClick={addToList}> Click to Add </button><br></br><br></br>
  <h>Product Catalog</h><br></br>
  <ol>
     {list.map((item, i) => <li onClick={() => deleteItem(i)}>{item} </li>)}
  </ol>
  <h>Click on Product to Delete</h><br></br>
  </fieldset></div>
 );
}export default App;
```

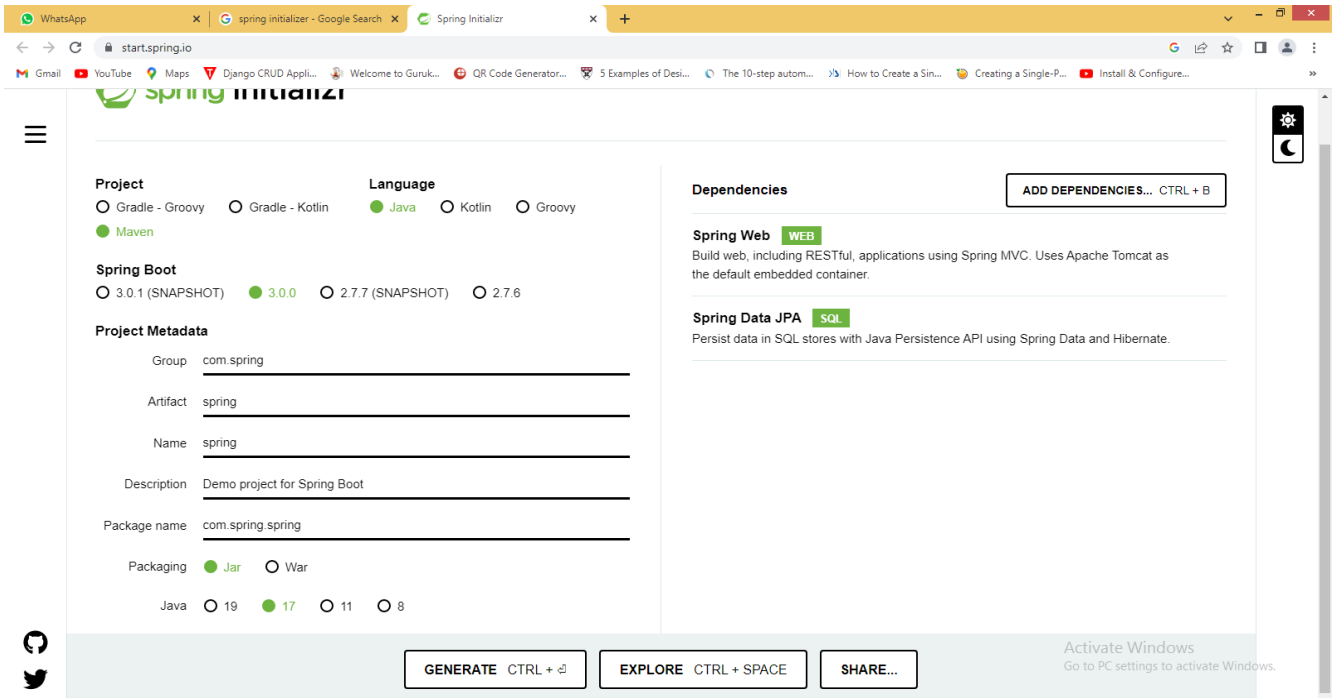
index.js

```
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import App from './App';
import reportWebVitals from './reportWebVitals';
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
    <App/>
  </React.StrictMode>
);
```

14. Create Spring application with Spring Initializer using dependencies like SpringWeb, Spring Data JPA

Step1: goto google and search for spring initialize. Visit https://start.spring.io/ website

Step2: Choose project, language, spring Boot version. Add project metadata and dependencies as shown below



Step3: click on generate→goto downloan and extract the zip file.

Step4: Open Eclipse →file→import→maven→existing maven project→next-→browse the extracted file→next→finish

Step5: Goto main Method→Add

System.out.println("Welcome to Spring Boot Application");

Right Click and Run as Spring Boot App

15. Create REST controller for CRUD operations

Step 1: Go to Eclipse→Help→Eclipse Marketplace→Find/Search for STS4(Spring Tool Suite4) and Install

Step 2: Click on **File -> New ->Project-> Spring Starter Project**

Name: Springboot-first-app

Dependencies: Spring Web, Spring Data JPA, MySQL Driver

Step3: Create 3 Packages with the following names entity, controller and repository

Step4: Create User.java class under entity package, Usercontroller.java under controller package and UserRepository.java **interface under repository package**

Step4: Write the following Code

User.java

```
package com.example.demo.entity;
// Import required packages and dependencies
@Entity
@Table(name="user")
public class User {
        @Id
        @GeneratedValue(strategy=GenerationType.AUTO)
        private Long id;
        private String firstname;
        private String lasttname;
//Add Getter & Setter
//Add Default and parameter constructor
Note: Right click → source → select getter& setter
}
```

UserRepository.java

```
// Import required packages and dependencies

@Repository
public interface UserRepository extends JpaRepository<User,Long>
{
}
```

Usercontroller.java

```
package com.example.demo.controller;
// Import required packages and dependencies

@RestController
@RequestMapping("/users")
public class Usercontroller {
@Autowired
private UserRepository userRepository;

@GetMapping
public List<User> getAllUser()
{
        return this.userRepository.findAll();
}

@GetMapping("/{id}")
public User getUserById(@PathVariable(value="id") long userId) {
        return this.userRepository.findById(userId).orElseThrow();
}
```

```
@PostMapping
public User createUser(@RequestBody User user)
{
        return this.userRepository.save(user);
}
@PutMapping("/{id}")
public User updateUser(@RequestBody User user,@PathVariable("id") long userId)
{
        User ex=this.userRepository.findById(userId).orElseThrow();
        ex.setFirstname(user.getFirstname());
        ex.setLasttname(user.getLasttname());
        return this.userRepository.save(ex);
}
@DeleteMapping("/{id}")
public ResponseEntity<User> deleteUser(@PathVariable("id") long userId)
{
        User ex=this.userRepository.findById(userId).orElseThrow();
        this.userRepository.delete(ex);
        return ResponseEntity.ok().build();
}
}
```

Application.property

```
spring.datasource.url=jdbc:mysql://localhost:3306/emp
spring.datasource.username=root
spring.datasource.password=root
spring.jpa.hibernate.ddl-auto = update
```

16. Test created APIs with the help of Postman

Note: Create crud operation to Test with Postman

Step1: Download & Install postman from official website

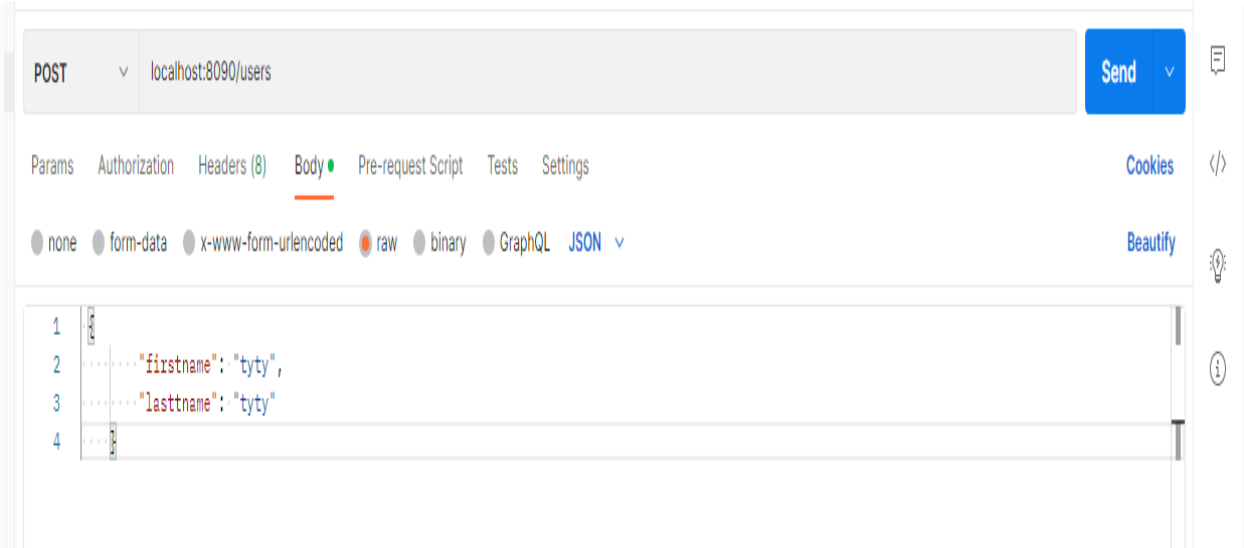
https://www.postman.com/downloads/

Step2: Click on Collection and Create Collection → Add Request

Step3: Demonstrate Get, Post, Put, Delete methods

Get: Select Get method from dropdown list and enter the URL [localhost:8090/users] → Send

Post: Select Post method from dropdown list → Click on Body, choose raw and select JSON from dropdown list and enter the URL [localhost:8090/users] → Give the input in the form of JSON and Click on Send



Put: Select Put method from dropdown list and enter the URL [localhost:8090/users/1]

Update the existing data by using primary key and Click on Send

Delete: Select Delete method from dropdown list and enter the URL [localhost:8090/users/1]

17. Writing Junit test cases for CRUD operations

Note: Create crud operation to Test with Junit

Download JUnit from https://junit.org/junit4/

Goto download & install

Find Plain-old Jar & Download the following

- junit.jar
- hamcrest-core.jar
- Create a folder in any drive by giving relevant name, copy and paste both jar files to the folder.
- Create a project in eclipse
- Right click on project select build path, click on configure build path
- Select java build path, Click on Libraries and click on class path in libraries, go to Add External JAR's, select junit.jar and hamcrest-core.jar files, click on apply and then apply and close.
- Goto src/test/java folder find default package and Testclass
- Write the below code

```
// Import required packages and dependencies
@SpringBootTest
class SpringbootFirstAppApplicationTests {
	@Autowired
	UserRepository userRepo;
	@Test
	public void testCreate()
	{
		User u=new User();
		u.setId(3L);
		u.setFirstname("Kavya");
		u.setLasttname("shree");
```

```
		userRepo.save(u);
		assertNotNull(userRepo.findById(902L).get());
	}
	@Test
	public void testReadAll()
	{
		List<User> list=userRepo.findAll();
		assertThat(list).size().isGreaterThan(0);
	}
	@Test
	public void testUpdate()
	{
		User u=userRepo.findById(2L).get();
		u.setFirstname("Murthy");
		userRepo.save(u);
		assertNotEquals("Niranjan",userRepo.findById(902L).get().getFirstname());
	}
	@Test
	public void testDelete()
	{
		userRepo.deleteById(2L);
		assertThat(userRepo.existsById(852L)).isFalse();
	}
}
```

18. CRUD Operations on document using Mongo DB

Creating a Table.

db.createCollection("student")

{ ok: 1 }

show tables

student

insert() Method

To insert data into MongoDB collection, you need to use MongoDB's insert() or save() method.

Syntax: db.COLLECTION_NAME.insert(document)

db.student.insert({"id":1,"name":"chandru","mark":300})

db.student.insertMany([{"id":1,"name":"chandru","mark":300},
{"id":2,"name":"suman","mark":290}])

View data from Table.

db.student.find({})

Update.

db.student.update({"name":"chandru"},{$set:{"name":"sekar",id:5}})

Delete only one data.

db.student.deleteOne({"name":"sekar"})

19. Perform CRUD Operations on MongoDB through REST API using Spring Boot StarterData MongoDB

Step 1: Create a Spring Boot project.

Step 2: Add the following dependency

- Spring Web
- MongoDB
- Lombok
- DevTools

Step 3: Create 3 packages and create some classes and interfaces inside these packages

- entity
- repository
- controller

Step 4: Inside the entity package create a Book.java file.

```
// Import required packages and dependencies
@Data
@NoArgsConstructor
@AllArgsConstructor
@Document(collection = "Book")
public class Book
{
    @Id
    private int id;
    private String bookName;
    private String authorName;
    //Call Getter & Setter
}
```

Step 5: Inside the repository package

Create a simple interface and name the interface as **BookRepo**. This interface is going to extend the **MongoRepository**

```
// Import required packages and dependencies
public interface BookRepo extends MongoRepository<Book, Integer> {
}
```

Step 6: Inside the controller package. Inside the package create one class named as **BookController**

```
// Import required packages and dependencies
@RestController
public class BookController {
    @Autowired
    private BookRepo repo;

@PostMapping("/addBook")
    public String saveBook(@RequestBody Book book){
            repo.save(book);
            return "Added Successfully";
    }
@GetMapping("/findAllBooks")
    public List<Book> getBooks() {
            return repo.findAll();
    }
@DeleteMapping("/delete/{id}")
    public String deleteBook(@PathVariable int id){
            repo.deleteById(id);
            return "Deleted Successfully";
    }
}
```

Step 7: Below is the code for the application.properties file

server.port:8989
spring.data.mongodb.host=localhost
spring.data.mongodb.port=27017
spring.data.mongodb.database=jss

Step 8: Inside the MongoDB Compass

Go to your MongoDB Compass and create a Database named **BookStore** and inside the database create a collection named **Book**

Testing the Endpoint in Postman

POST – http://localhost:8989/addBook
GET – http://localhost:8989/findAllBooks
DELETE – http://localhost:8989/delete/1

20. Securing REST APIs with Spring Security

In order to add security to our Spring Boot application, we need to add the *security starter dependency*

```
<dependency>
   <groupId>org.springframework.boot</groupId>
   <artifactId>spring-boot-starter-security</artifactId>
</dependency>
```

This will also include the *SecurityAutoConfiguration* class containing the initial/default security configuration.

By default, the Authentication gets enabled for the Application. Also, content negotiation is used to determine if basic or formLogin should be used.

There are some predefined properties:

```
spring.security.user.name=root
spring.security.user.password=root
```

If we don't configure the password using the predefined property *spring.security.user.password* and start the application, a default password is randomly generated and printed in the console log:

```
Using default security password: c8be15de-4488-4490-9dc6-fab3f91435c6
```

File - new – Project - spring starter project

Name: spring-basic-security

Package: com.example.security

Click Next - Add Dependencies: Spring Web, Spring Security, Spring Boot Dev Tools….

Finish

Name: SpringBasicSecurityApplication

package com.example.security;

SecurityController.java

```
package com.example.security;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.RestController;
@RestController
public class SecurityController {
	@GetMapping("/")
	public String Welcome() {
		return ("<h1>Welcome to SpringBoot Security</h1>");
		}
	}
```

application.properties File

```
spring.security.user.name=niranjan
spring.security.user.password=murthy
server.port=8090
```

21. Build simple page application like shopping cart using ReactJS.

App.js

```
import Header from "./Header";
import Products from "./Product";
import { useState } from "react";
import CartList from "./CartList";
function App() {
const [product, setproduct] = useState([
{
url:'imgs/lenovo.png',
name: 'lenovo ideapad Slim 3',
price: 57000
},
{
url: 'imgs/watch.png',
name: 'fastrack w98',
price: 1500
},
])
const [cart, setCart] = useState([])
const [showCart, setShowCart] = useState(false)
const addToCart = (data) => {
setCart([...cart, { ...data, quantity: 1 }])
}
const handleShow = (value) => {
setShowCart(value)
}
return (
<div >
<Header count={cart.length} handleShow={handleShow} />
{
showCart ?
<CartList cart={cart} /> :
<Products product={product} addToCart={addToCart} />
}
</div>
)
}
export default App;
```

Product.js

```
import React from 'react';
export default function Products({product,addToCart} ){
return (
<div className='flex'>{
product.map((productitem,productIndex)=>{
return(
<div>
<img src={productitem.url} width="20%" alt=""/>
<p>{productitem.name}</p>
<p>Rs.{ productitem.price}</p>
<button onClick={()=>addToCart(productitem)}>Add Cart</button>
</div>
)
})
}
</div>
)
}
```

CarList.js

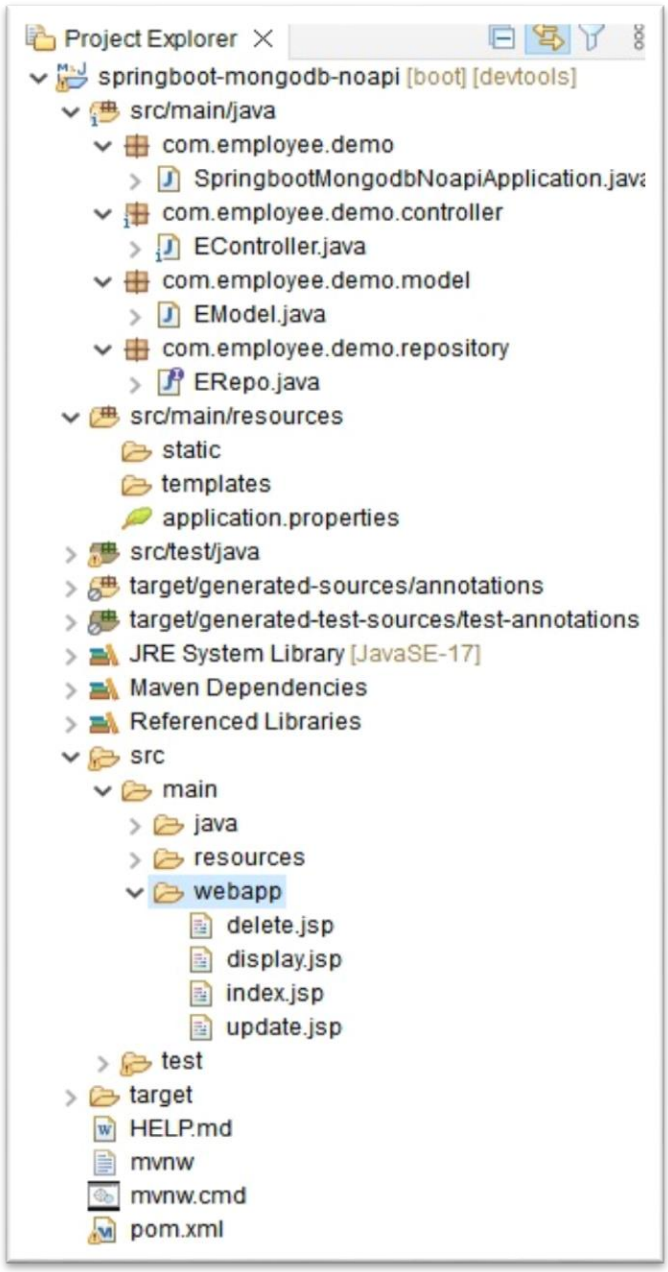
```
import React,{useState,useEffect} from 'react';
function CartList({cart}) {
const [CART,setCART]= useState([])
useEffect(() => {
setCART(cart)
}, [cart])
return (
<div>
{
CART?.map((cartitem,cartindex)=>{
return(
<div>
<img src={cartitem.url} width={60} />
<span> {cartitem.name} </span>
<button onClick={()=>{
const _CART= CART.map((item,index)=>{
return cartindex ===index? {...item,quantity:item.quantity>0?item.quantity-1:0}:item
```

```
})
setCART(_CART)
}}>
- </button>
<span> {cartitem.quantity} </span>
<button onClick={()=>{
const _CART= CART.map((item,index)=>{
return cartindex ===index? {...item,quantity:item.quantity+1}:item
})
setCART(_CART)
}}>+ </button>
<span> Rs.{cartitem.price* cartitem.quantity} </span>
</div>
)
})
}
<p>Total=<span>
</span>
{CART.map(item=>item.price*item.quantity).reduce((total,value)=>total+value,0)}
</p>
</div>
)
}
export default CartList;
```

Header.js

```
import React from 'react'
export default function Header(props) {
return (
<div>
<div onClick={()=>props.handleShow(false)}>ShoppingCart</div>
<div onClick={()=>props.handleShow(true)}> Cart
<sup>{props.count}</sup>
</div>
</div>
)
}
```

22. Perform CRUD operations using MySQL without using API



EController.java

```
package com.example.security.controller;

import org.springframework.beans.factory.annotation.Autowired;

import org.springframework.stereotype.Controller;

import org.springframework.web.bind.annotation.RequestMapping;

import org.springframework.web.bind.annotation.RequestParam;
```

```
import org.springframework.web.servlet.ModelAndView;
import com.example.security.model.EModel;
import com.example.security.repository.ERepo;

@Controller
public class EController {

    @Autowired
    ERepo erepo;

    @RequestMapping("index")
    public String index()
    {
        return "index.jsp";
    }

    @RequestMapping("addEmp")
    public String addEmp(EModel emodel)
    {
        erepo.save(emodel);
        return "index.jsp";
    }
    @RequestMapping("getEmp")
    public ModelAndView getEmp(@RequestParam int id)
    {
        ModelAndView mv = new ModelAndView("display.jsp");
        EModel emodel = erepo.findById(id).orElse(new EModel());
```

```
            mv.addObject(emodel);
            return mv;
        }

        @RequestMapping("delEmp")
        public ModelAndView delEmp(@RequestParam int id)
        {
            ModelAndView mv = new ModelAndView("delete.jsp");
            EModel emodel = erepo.findById(id).orElse(new EModel());
            erepo.deleteById(id);
            mv.addObject(emodel);
            return mv;
        }

        @RequestMapping("updEmp")
        public ModelAndView updEmp(EModel emodel)
        {
            ModelAndView mv = new ModelAndView("update.jsp");
            emodel = erepo.findById(emodel.getId()).orElse(new EModel());
            mv.addObject(emodel);
            return mv;
        }
}
```

EModel.java

```
package com.example.security.model;

import org.springframework.data.annotation.Id;

import org.springframework.data.mongodb.core.mapping.Document;


@Entity

@Table(name="emp")

public class EModel {

	@Id

	private int id;

	private String name;

	private String branch;

	public int getId() {

		return id;

	}

	public void setId(int id) {

		this.id = id;

	}

	public String getName() {

		return name;

	}

	public void setName(String name) {

		this.name = name;

	}

	public String getBranch() {

		return branch;

	}
```

```
	public void setBranch(String branch) {
		this.branch = branch;
	}

	@Override
	public String toString() {
		return "EModel [id=" + id + ", name=" + name + ", branch=" + branch + "]";
	}
}
```

ERepo.java

```
package com.example.security.repository

import org.springframework.data.mongodb.repository.MongoRepository;

import com.example.security.model.EModel;

public interface ERepo extends MongoRepository<EModel, Integer> {

}
```

Application.properties

```
spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver
spring.datasource.url = jdbc:mysql://localhost:3306/ssp
spring.datasource.username=root
spring.datasource.password=Tiger@123

spring.jpa.hibernate.ddl-auto = update
spring.jpa.properties.hibernate.dialect = org.hibernate.dialect.MySQL5Dialect
```

index.jsp

src/main/webapp/index.jsp

```
<html>
```

```
<body>
        <h1>Add Employee</h1>
        <form action="addEmp">
                Id : <input type="text" name="id" /><br><br>
                Name : <input type="text" name="name" /><br><br>
                <input type="submit" />
        </form>

        <h1>Get Employee</h1>
        <form action="getEmp">
                Id : <input type="text" name="id" /><br><br>
                <input type="submit" />
        </form>

        <h1>Del Employee</h1>
        <form action="delEmp">
                Id : <input type="text" name="id" /><br><br>
                <input type="submit" />
        </form>

        <h1>Upd Employee</h1>
        <form action="updEmp">
                Id : <input type="text" name="id" /><br><br>
                <input type="submit" />
        </form>
</body>
</html>
```

display.jsp

src>webapp>display.jsp

ID : ${EModel.id}

Name : ${EModel.name}

delete.jsp

src>webapp>delete.jsp

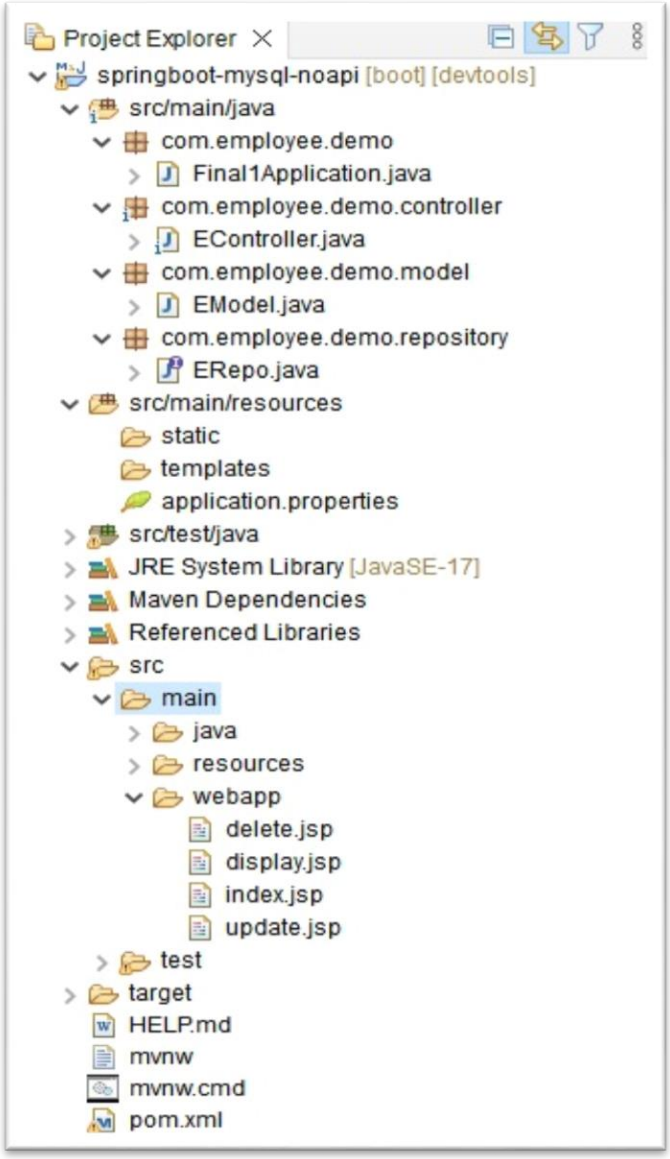
ID of ${EModel.id} has been removed.....

update.jsp

src>webapp>update.jsp

```
<html>
	<body>
		<h1>Upd Employee</h1>
		<form action="addEmp">
	Id : <input type="text" name="id" value="${EModel.id }"
readonly="readonly"/><br><br>
			Name : <input type="text" name="name" value="${EModel.name }"
/><br><br>
			<input type="submit" />
		</form>
	</body>
</html>
```

23. Perform CRUD Operations in MongoDB without using API.



pom.xml

```
<dependency>
   <groupId>org.apache.tomcat.embed</groupId>
   <artifactId>tomcat-embed-jasper</artifactId>
   <version>10.1.1</version>
</dependency>
```

application.properties

```
spring.data.mongodb.host=localhost
spring.data.mongodb.port=27017
spring.data.mongodb.database=newdb
```

EController.java

```
package com.employee.demo.controller;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestParam;
import org.springframework.web.servlet.ModelAndView;
import com.employee.demo.model.EModel;
import com.employee.demo.repository.ERepo;

@Controller
public class EController {
	@Autowired
	ERepo erepo;

	@RequestMapping("index")
	public String index()
	{
		return "index.jsp";
	}
```

```
@RequestMapping("addEmp")
public String addEmp(EModel emodel)
{
	erepo.save(emodel);
	return "index.jsp";
}

@RequestMapping("getEmp")
public ModelAndView getEmp(@RequestParam int id)
{
	ModelAndView mv = new ModelAndView("display.jsp");
	EModel emodel = erepo.findById(id).orElse(new EModel());
	mv.addObject(emodel);
	return mv;
}

@RequestMapping("updEmp")
public ModelAndView updEmp(EModel emodel)
{
	ModelAndView mv = new ModelAndView("update.jsp");
	emodel = erepo.findById(emodel.getId()).orElse(new EModel());
	mv.addObject(emodel);
	return mv;
}
```

```
	@RequestMapping("delEmp")
	public ModelAndView delEmp(@RequestParam int id)
	{
		ModelAndView mv = new ModelAndView("delete.jsp");
		EModel emodel = erepo.findById(id).orElse(new EModel());
		erepo.deleteById(id);
		mv.addObject(emodel);
		return mv;
	}
}
```

EModel.java

```
package com.employee.demo.model;
import org.springframework.data.annotation.Id;
import org.springframework.data.mongodb.core.mapping.Document;

@Document("evening")
public class EModel {
	@Id
	private int id;
	private String name;

	public int getId() {
		return id;
	}
```

```
	public void setId(int id) {
		this.id = id;
	}

	public String getName() {
		return name;
	}

	public void setName(String name) {
		this.name = name;
	}

	@Override
	public String toString() {
		return "EModel [id=" + id + ", name=" + name + "]";
	}
}
```

ERepo.java

```
package com.employee.demo.repository;
import org.springframework.data.mongodb.repository.MongoRepository;
import com.employee.demo.model.EModel;
public interface ERepo extends MongoRepository<EModel, Integer> {
}
```

index.jsp

```
<html>
	<body>
		<center><h1>SpringBoot-NoAPI-MongoDB</h1></center>
		<h2>CREATE Employee</h2>
		<form action="addEmp">
			ID : <input type="text" name="id" /><br><br>
			Name : <input type="text" name="name" /><br><br>
			<input type="submit" />
		</form>

		<h2>READ Employee</h2>
		<form action="getEmp">
			ID : <input type="text" name="id" /><br><br>
			<input type="submit" />
		</form>

		<h2>UPDATE Employee</h2>
		<form action="updEmp">
			ID : <input type="text" name="id" /><br><br>
			<input type="submit" />
		</form>

		<h2>DELETE Employee</h2>
		<form action="delEmp">
			ID : <input type="text" name="id" /><br><br>
			<input type="submit" />
```

```
        </form>
    </body>
</html>
```

display.jsp

```
Id : ${EModel.id}       <br><br>
Name : ${EModel.name}
```

delete.jsp

```
${EModel.name} has been removed successfully.
```

update.jsp

```
<html>
    <body>
        <h2>UPDATE Employee Section</h2>
        <form action="addEmp">
            ID : <input type="text" name="id" value="${EModel.id}"
readonly="readonly" /><br><br>
            Name : <input type="text" name="name" value="${EModel.name}"
/><br><br>
            <input type="submit" />
        </form>
    </body>
</html>
```

24. Dockers Implementation

1. Install docker desktop on web browser
2. Install the package
   https://wslstorestorage.blob.core.windows.net/wslblob/wsl_update_x64.msi
3. In your desktop, open PowerShell and execute the command given below **wsl --set-default-version 2**

4. Make sure the docker is running
5. Open eclipse and import the spring boot project
6. In src/main/java ----- Open main Java file and enter the code given below

```
package com.jssp.springdockerproject;
import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.RestController;

@SpringBootApplication
@RestController
public class SpringDockerProjectApplication {


	@GetMapping("/message")
	public String message()
	{
		return "Docker Implementation";
	}

	public static void main(String[] args) {
		SpringApplication.run(SpringDockerProjectApplication.class, args);
```

```
        }
}
```

7. Right click on the spring docker project and create a file named Dockerfile
8. And enter the code given below

   FROM openjdk:17

   EXPOSE 8080

   ADD target/spring-docker-project.jar spring-docker-project.jar

   ENTRYPOINT ["java", "-jar", "/spring-docker-project.jar"]

9. Save the changes and run
10. Right click on the project>Run as>Maven install
11. After execution open terminal, go into the project folder, and execute the command

    docker build -t spring-docker-project.jar .

12. then finally execute the last command:-

    docker run -p 9090:8080 spring-project-docker.jar

13. open the web browser and type the url for confirmation

    localhost:9090/message