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| **Single Page Application on E-Commerce Shopping Application** | **Abstract****The E-commerce should be a Single Page Application (SPA) to develop a general purpose e-commerce store where various products can be bought from the comfort of home through the Internet.****Developer****Java Full Stack Developer** |

# **Team - Ayushi (POC), Ekta, Mayank, Shravya**

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# **Business-Requirement: An Overview**

An online store is a virtual store on the Internet where customers can browse the catalogue and select products of interest. The selected items may be collected in a shopping cart. At checkout time, the items in the shopping cart will be presented as an order. E-Commerce application developed for performing Admin and Customer user role operations with respective user interfaces. Application is implemented in two parts:

1. Back End services for managing server side code.
   * SpringBoot framework used to simplify the development process.
   * Spring Data JPA aims to provide an easier way for performing data access.
   * Spring MVC framework used to implement the MVC (Model, View, Controller) pattern in their web apps.
   * MySql relational database management system used to manage data.
2. Front End: User interfaces designed and developed using Angular utilising web services for handling appropriate user actions

Basic description:

* Users can register by signing up.
* Only registered users will be able view and purchase multiple available products..
* There are two roles of users available: Customer and Admin.

#### **Features available based on the user role**

· Admin

* + Adding products
  + Updating products
  + Deleting products
  + Manage Orders

· Customer

* + Registering into System
  + Login into Website
  + View products
  + Adding / Deleting products from Cart
  + Placing / Cancelling the Order
  + Filter Products

· Technologies:

* + Spring Boot
  + Java
  + Angular
  + HTML
  + CSS

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# **Technical Spec –Solution Development Environment**

## **Front End Layer**

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| --- | --- |
| **Framework(s)/SDK/Libraries** | **Version** |
| Angular CLI | 11.1.3 |
| Bootstrap | 4.5.0 |
| CSS | 3 |
| HTML | 5 |
| Java | **1.8.0\_281** |

## **Middle Tier Layer**

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| **Technology** | **Framework(s)/SDK/Libraries** | **Version** |
| MySql SpringBoot Angular Java Full Stack Development | Node.JS | 14.16.0 |

## **Database & Integration Layer**

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| **Technology** | **Framework(s)/SDK/Libraries** | **Version** |
| MySql SpringBoot Angular Java Full Stack Development | MySQL | 8.0 |

## **Ancillary Layer**

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| **Technology** | **Framework(s)/SDK/Libraries** | **Version** |
| Source Code Management Tool | GIT | 2.31.1 |
| Dependency Management Tool/MEAN Stack | NPM | 6.14.11 |
| Testing Tool/MEAN Stack | Jasmine | 3.6.0 |

## **Deployment & Infrastructure**

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| **Technology** | **Framework(s)/SDK/Libraries** | **Version** |
| Docker | - |  |
| Node | - |  |
| Dependency Management Tool | NPM |  |

## **Editors**

|  |  |
| --- | --- |
| **Name** | **Version** |
| Eclipse IDE for Java enterprise Developers | 4.18.0 |
| Visual Studio Code | 1.54.3 |

**Wireframes:**

* **Login View**: Customers and Admin both can login from this view

Graphical user interface

Description automatically generated

* **Forgot Password View** : if Users forgot there password then they can generate new password from here.

A picture containing diagram

Description automatically generated

* **Customers Registration View** : From this view all the new users can sign up.

Graphical user interface

Description automatically generated

* **Customers Home View** : All the products will be displayed here. Customers can filter products by selecting that particular category from category dropdown menu.

Diagram

Description automatically generated

* **Customers Profile View** : Customers can view there Profile details from this view.

Graphical user interface, text, application

Description automatically generated

* **Customers Update Profile View** : User can update there profile from here.

Graphical user interface, text

Description automatically generated

* **Customers Cart View** : Customers can see all the products which were added in cart from this view.

Chart

Description automatically generated with medium confidence

* **Customers Order View** : From this view Customer will be able to view status of all the orders which were placed earlier.

A picture containing graphical user interface

Description automatically generated

* **Admin Home View** : Admin will be able to see all the product stocks available for sale from this view.

Diagram

Description automatically generated

* **Admin Add products View** : Admin will be able to add products from this view.

Diagram

Description automatically generated

* **Admin Edit product View** : admin can update product details from here.

A picture containing diagram

Description automatically generated

* **Admin Orders View** : In this view admin will be able to handle all the orders placed by different user. He can either approve or reject order request .

Diagram

Description automatically generated

# Data Management

**Data Description**

This database consists of :

* Customers: Customers information is added to database with unique customer Id.
* Orders: Customer ordered products, status and delivery information is stored in this table.
* Order\_Details : It is used to map orders with multiple products associated within same order.
* Products : Products information is maintained here.

**Database Table Diagram**Diagram

Description automatically generated