

CAPSTONE PROJECT

“SHOP FOR HOME”

JAVA And AWS C1

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Introduction

- ▶ Nowadays most of the purchasing of items that are needed for the daily basis can be done through online mode.
- ▶ There are many websites where people can buy their stuff through online like Ikea, Amazon and etc
- ▶ Shop for home is a popular store in the market for shopping the Shop for home.
- ▶ In this project we created a ecommerce website to provide all the services to the users through online.
- ▶ There are 2 users in this application:
 1. User
 2. Admin

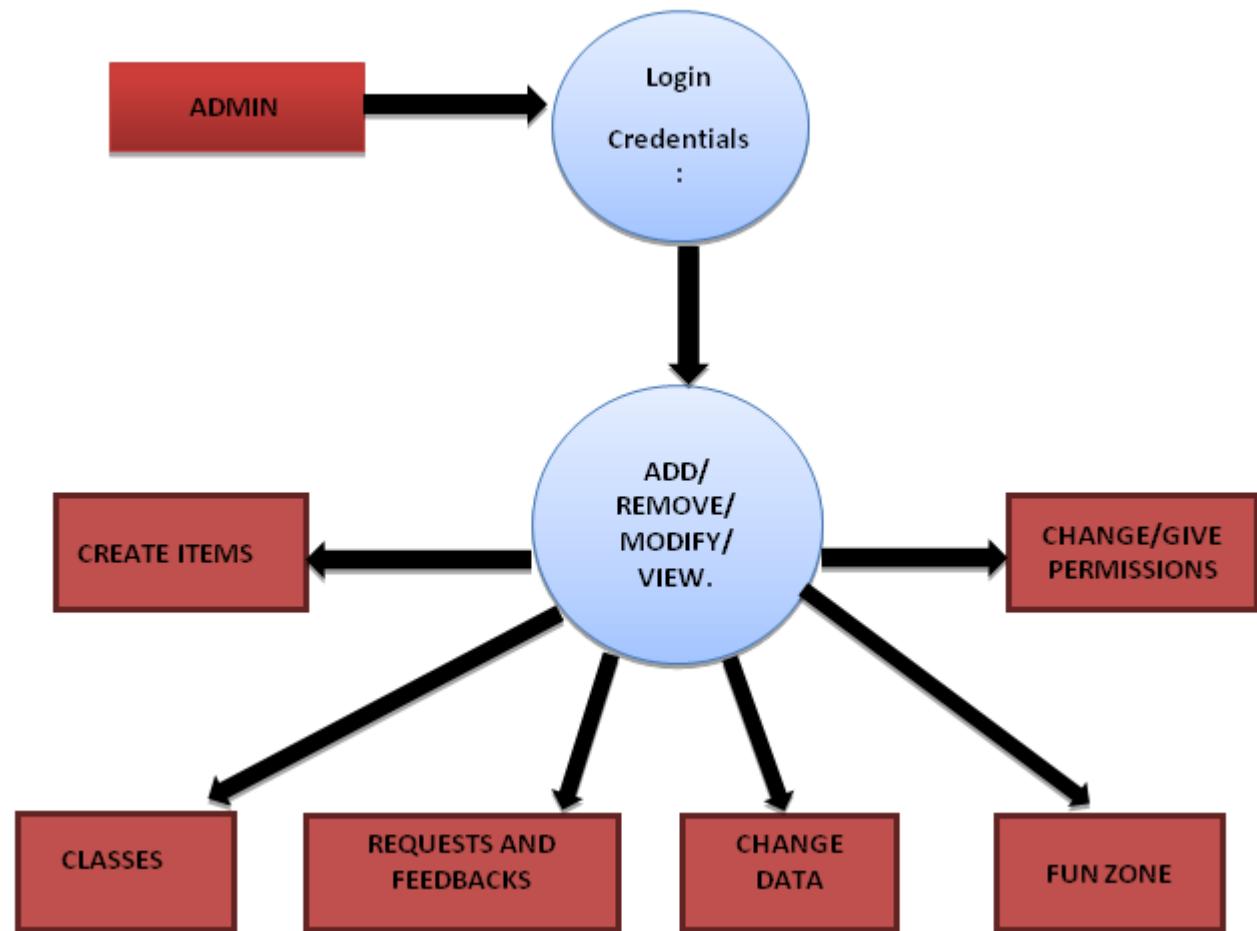
Aim

- ▶ This project aims to develop an online shopping for customers with the goal so that it is very easy to shop their loved things virtually without going to any store from their home
- ▶ The objective of the project is to make an application in android platform to purchase items in an existing shop.
- ▶ In order to build such an application complete web support need to be provided. A complete and efficient web application which can provide the online shopping experience is the basic objective of the project. The web application can be implemented in the form of an android application with web view.

Technologies Used:

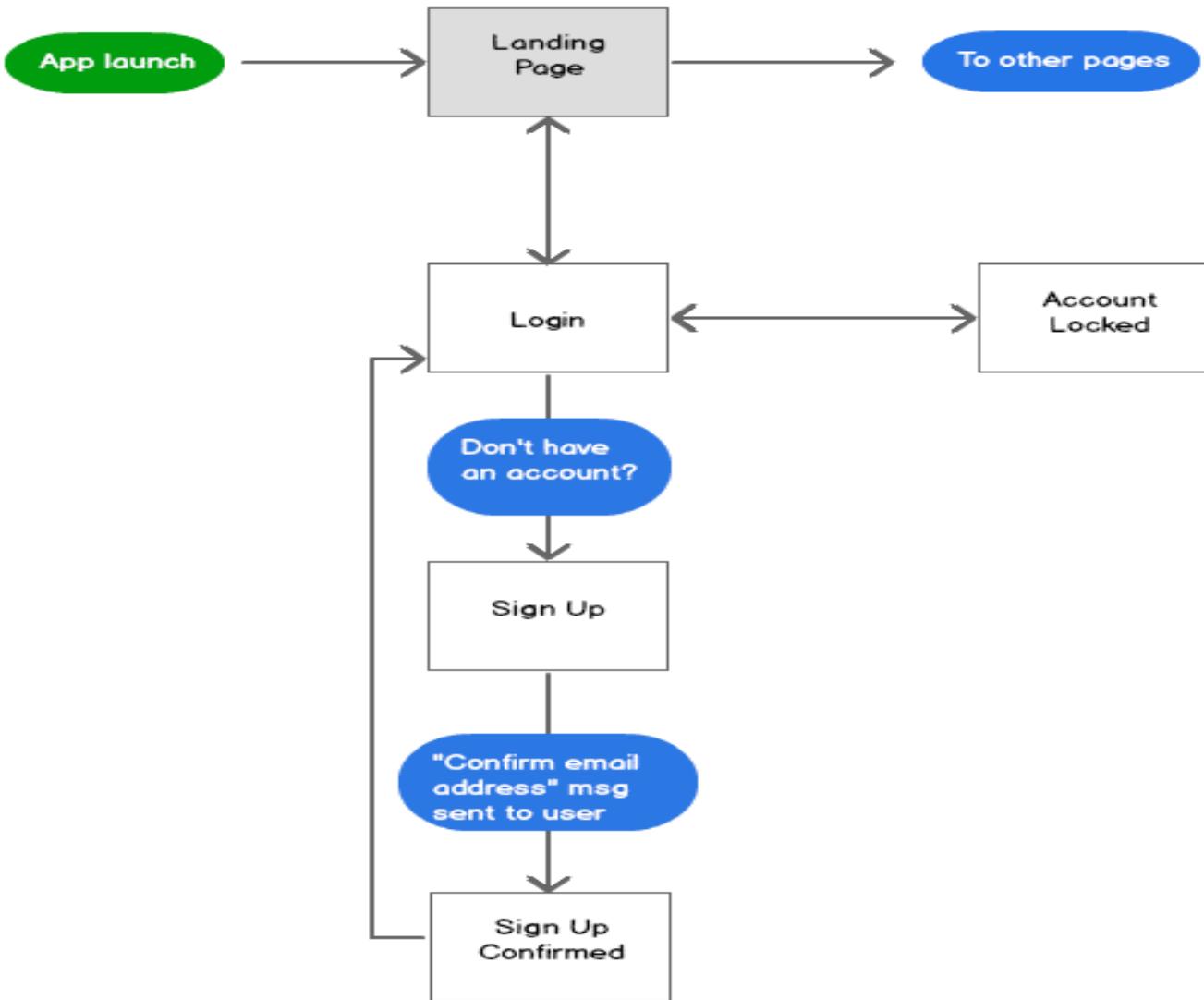
- ▶ Angular - Frontend
- ▶ Database – MySQL And XAMPP
- ▶ Java(Eclipse) and Spring boot - Backend
- ▶ AWS Services
- ▶ IDE- Visual Studio Code , Eclipse.
- ▶ Versioning: GitHub

The admin does the following activities:

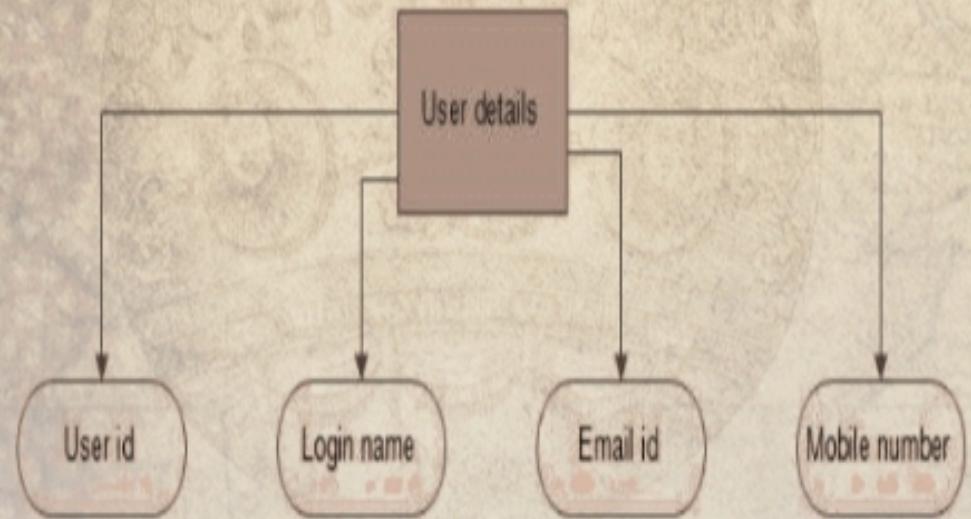


- Manages the product
- Manages the order
- Manages the user
- Manages the items

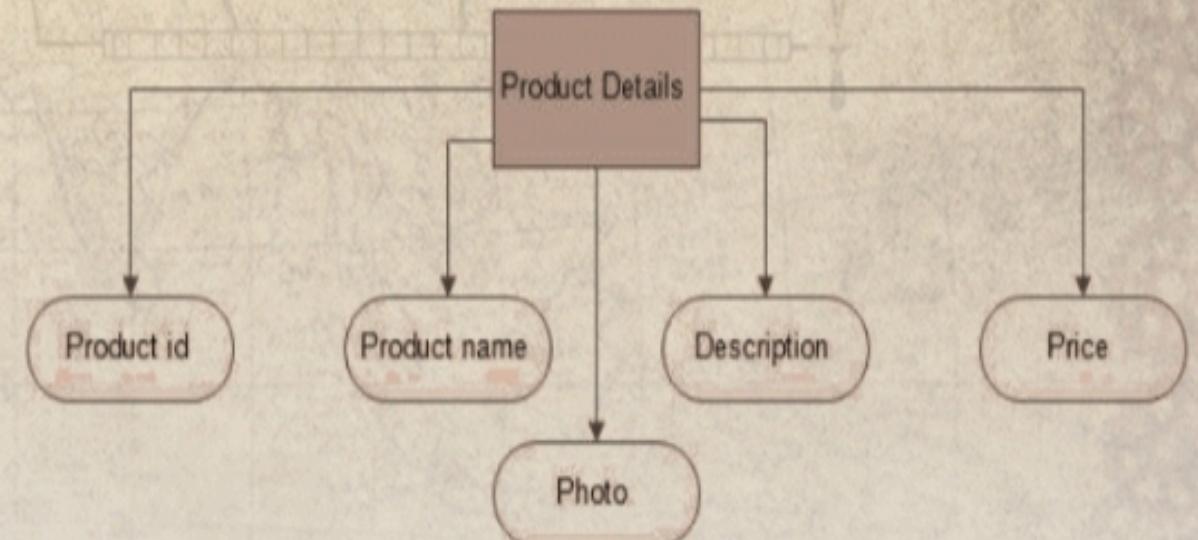
The login page of the user contains the following attributes:



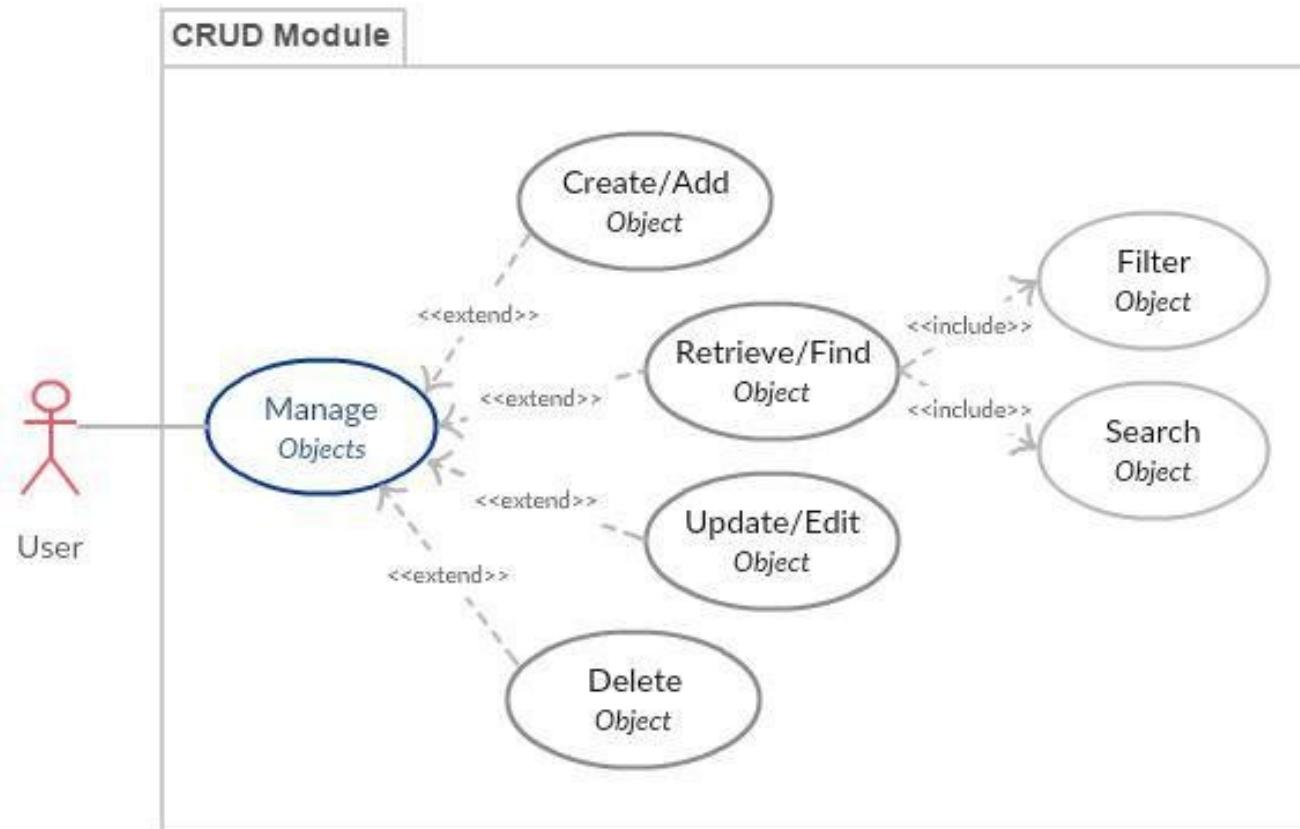
User details of a particular user:



Product details of a particular product:

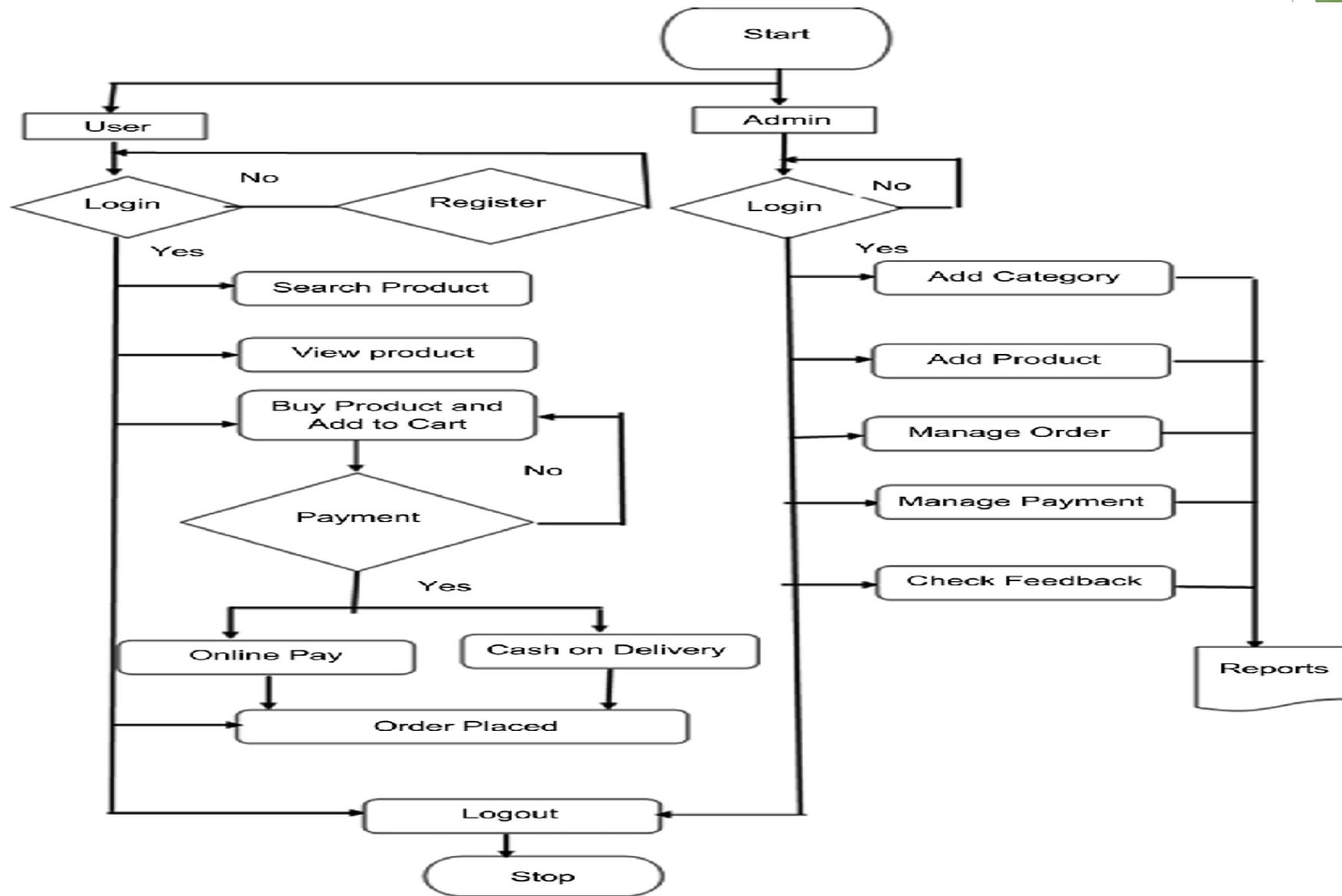


The manage product module do the CRUD operations:



- The CRUD options can be applied on the product and can be updated in the database.

The overall view of a project:



Goal of User

- User can be able to Login, Logout and Register into the Application.
- User can be able to see the Products in different categories.
- The user can also be able to sort the products.
- User can be able to add the products into the shopping cart.
- User can be able to increase or decrease the quantity added in the cart.
- User can be able to add “n” number of products in the cart.
- User can be able to get the Wishlist option where the user can add those products which he want but don’t want to order now.
- User gets the different discount coupons.

Git Repository-

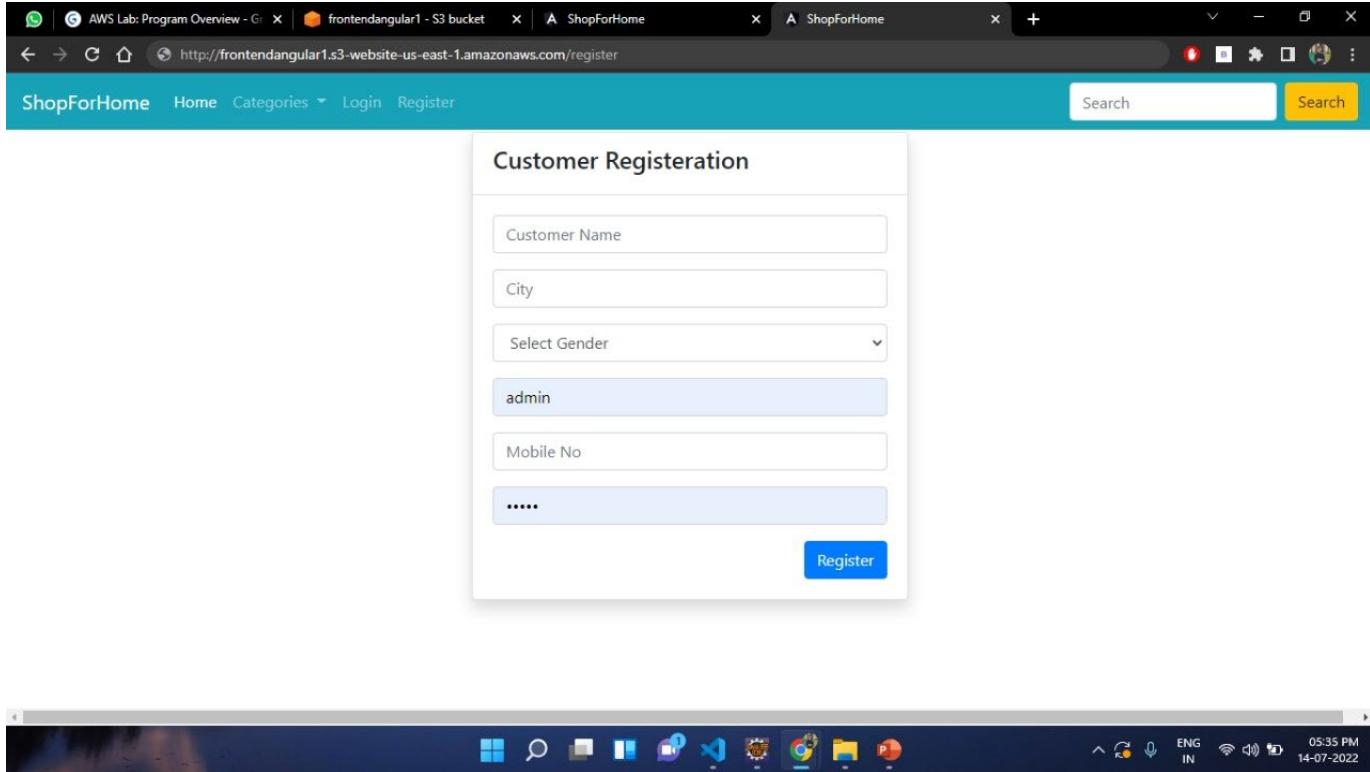
The screenshot shows a GitHub search results page with the following details:

- Home-for-Shop-Spring** (Private)
 - Capstone
 - Updated 3 days ago
 - Star button
- Home-for-shop-Angular** (Private)
 - Capstone
 - Updated 4 days ago
 - Star button
- Shop-for-Home** (Public)
 - Application based Project
 - Updated 4 days ago
 - Star button

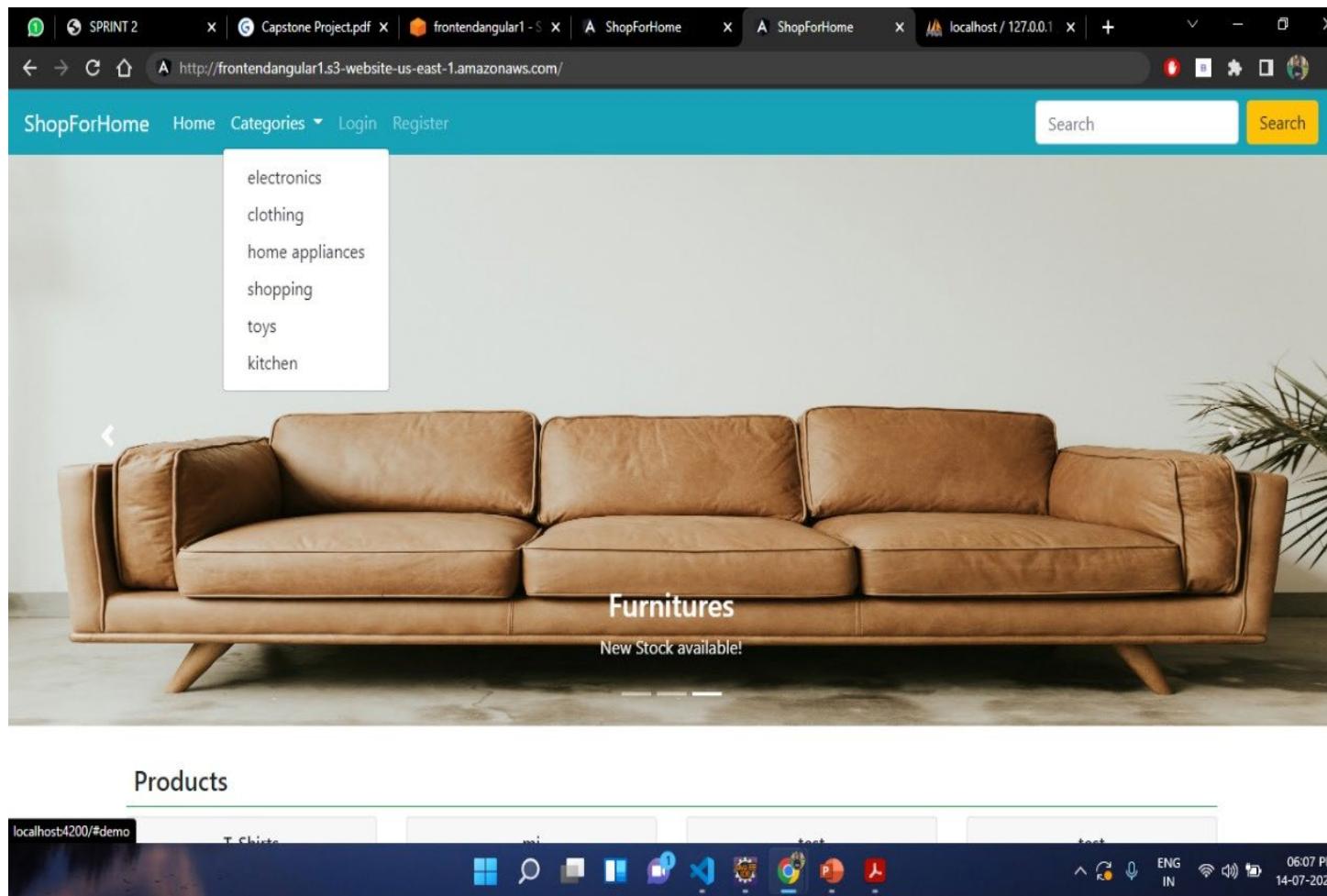
HOME PAGE(USER)-

The screenshot shows a web browser window with multiple tabs open. The active tab displays the homepage of a website named "ShopForHome". The URL in the address bar is <http://websitebucketecommercehome.s3-website.ap-south-1.amazonaws.com>. The page features a prominent red banner at the top with the word "SALE." and "UP TO 1/2 PRICE". Below the banner, there is a photograph of a clothing rack filled with various garments, including shirts, dresses, and jeans. Red price tags with numbers like 8, 12, 14, 18, and 24 are visible on the hangers. A text overlay on the image reads "Clothing and accessories" and "sale 40%". The navigation menu at the top includes links for "ShopForHome", "Home", "Categories", "Login", and "Register". On the right side of the header, there is a search bar with a yellow "Search" button. The bottom of the screen shows the Windows taskbar with icons for File Explorer, Search, Task View, Edge, File History, Control Panel, Google Chrome, and a video player. The system tray indicates the date and time as 13-07-2022, 09:08 AM, and shows connectivity and battery status.

CUSTOMER REGISTRATION-



CATEGORIES(User side)-



USER LOGIN-

The screenshot shows a user login interface. At the top, a teal header bar displays the word "Welcome". Below the header, a navigation bar includes links for "HomeShop", "Home", "Categories ▾", "Login", and "Register". To the right of the navigation bar is a search bar with a yellow "Search" button. The main content area has a light blue background and features a "Customer Login" form. The form consists of two input fields: the first contains the email "saikrishnasnapala2021@gmail.com" and the second contains four dots representing a password. A blue "Sign In" button is positioned below the input fields.

Welcome

HomeShop Home Categories ▾ Login Register

Search Search

Customer Login

saikrishnasnapala2021@gmail.com

....

Sign In

ADD TO CART-

The screenshot shows a web browser window with multiple tabs open. The active tab is titled "ShopForHome" and displays a "My Cart" page. The cart contains two items:

Product	Price	Qty	Amount	Action
T-Shirts (clothing)	700	3	2100	<button>Remove</button>
test (clothing)	1	7	7	<button>Remove</button>
Total			2107	

A green notification bar at the top right of the page says "Quantity updated". To the right of the cart, there is a "Check Out" sidebar with fields for Card No, Name on Card, Expiry Date, CVV, and Amount. The amount field is pre-filled with "2107". A green "Place Order" button is at the bottom of the sidebar.

At the bottom of the screen, the Windows taskbar is visible, showing various pinned icons and the system tray with the date and time (05:18 PM, 14-07-2022).

USER PROFILE-

The screenshot shows a user profile page from the 'ShopForHome' website. The URL in the browser is <http://frontendangular1.s3-website-us-east-1.amazonaws.com/profile>. The page displays the following user information:

Name	Saikrishna sanapala
Address	Navi-Mumbai
Gender	Male
Email id	saikrishnasanapala2021@gmail.com
Phone no	9096666021

At the bottom of the screen, the Windows taskbar is visible, showing various pinned icons and system status indicators.

WISHLIST-

The screenshot shows a web browser window with the following details:

- Title Bar:** AWS Lab: Program Overview - Gr X | omkarecommercebucket2 - S3 b X | A ShopForHome X | A ShopForHome X
- Address Bar:** http://frontendangular1s3-website-us-east-1.amazonaws.com/wishlist
- Header:** ShopForHome Home Categories ▾ Profile Order History Wishlist View Cart Logout Search Search
- Section Title:** My Wishlist
- Table:** A grid displaying two items in the wishlist.

Product	Category	Description	Price	Action
mi	electronics	smartphone	14000	<button>Remove</button>
test	clothing	test	1	<button>Remove</button>

Taskbar (Windows 10):

- Icons: File, Home, Start, Task View, File Explorer, Microsoft Edge, File Explorer, Google Chrome.
- System tray: Volume, Battery, Network, Language (ENG IN), Date and Time (05:20 PM, 14-07-2022).

USER ORDER HISTORY-

The screenshot shows a web browser window with the title "ShopForHome". The URL in the address bar is <http://frontendangular1.s3-website-us-east-1.amazonaws.com/history>. The page header includes links for "ShopForHome", "Home", "Categories", "Profile", "Order History", "Wishlist", "View Cart", and "Logout". There are two search input fields with the placeholder "Search". The main content area is titled "My Order History" and displays a table with one row of data. The table has three columns: "Order Id", "Order Date", and "Details". The "Order Id" column contains the value "4", the "Order Date" column contains "Jul 14, 2022", and the "Details" column contains a sub-table with two rows. The sub-table has three columns: "Product", "Price", and "Qty". The first row shows "T-Shirts" with a price of "700" and a quantity of "3". The second row shows "test" with a price of "1" and a quantity of "7".

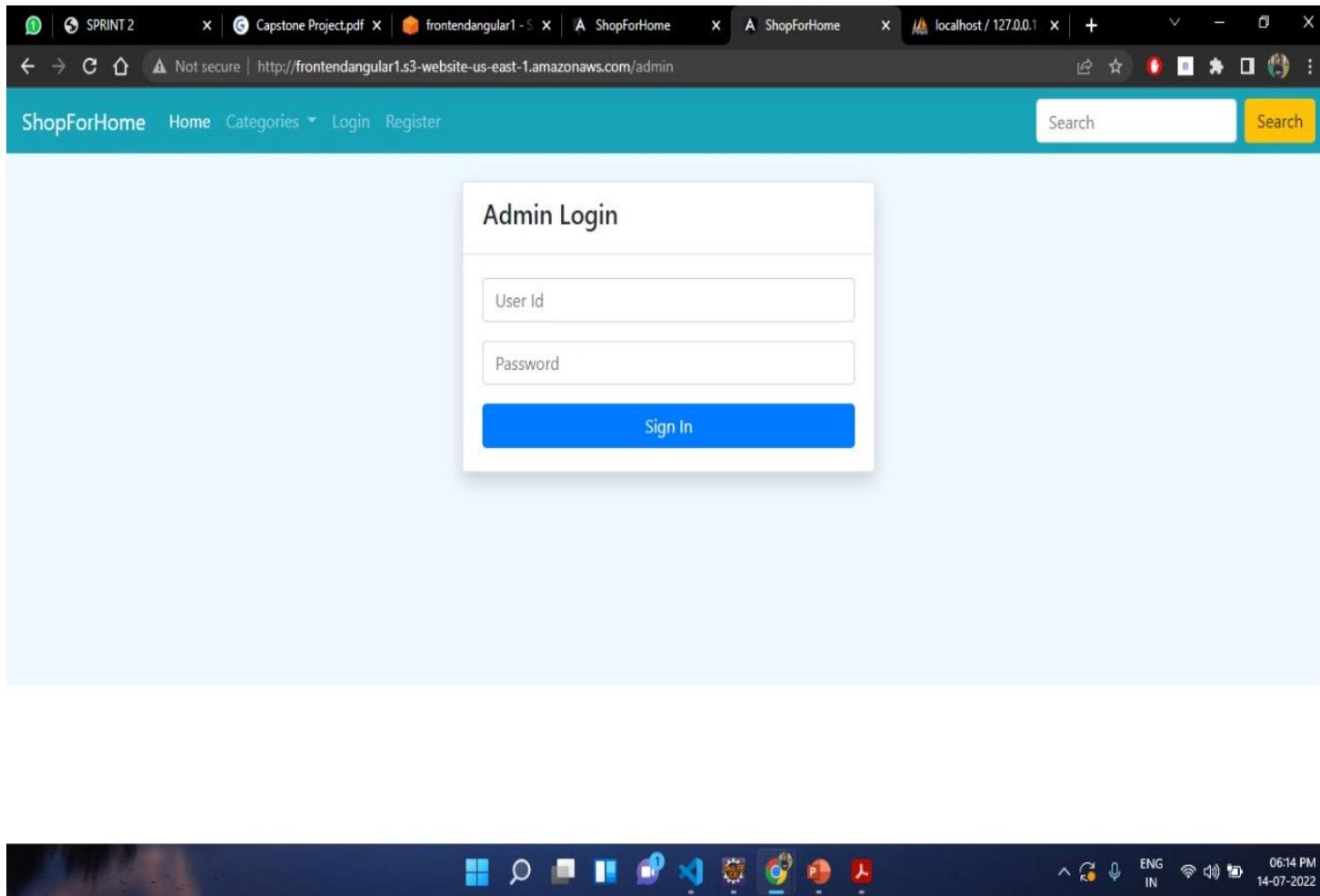
Order Id	Order Date	Details									
4	Jul 14, 2022	<table border="1"><thead><tr><th>Product</th><th>Price</th><th>Qty</th></tr></thead><tbody><tr><td>T-Shirts</td><td>700</td><td>3</td></tr><tr><td>test</td><td>1</td><td>7</td></tr></tbody></table>	Product	Price	Qty	T-Shirts	700	3	test	1	7
Product	Price	Qty									
T-Shirts	700	3									
test	1	7									

At the bottom of the screen, the Windows taskbar is visible, showing icons for File Explorer, Search, Task View, Microsoft Edge, and Google Chrome. The system tray displays the date and time as "14-07-2022 05:19 PM", along with battery status, signal strength, and language settings.

Goal of Admin

- Admin can be able to login, Logout and Register into the application.
- Admin can be able to perform CRUD on Users.
- Admin can be able to Perform CRUD on the products.
- Admin can be able to get bulk upload option to upload a csv for products details
- Admin can be able to get the stocks.
- Admin can be able to mail if any stock is less than 10.
- Admin can be able to get the sales report of a specific duration.
- Admin can be able to set the discount coupons for the specific set of user.

ADMIN LOGIN-



ADMIN(Adding product & Bulk Upload CSV)-

The screenshot shows the ShopForHome admin dashboard with a success message "Product saved successfully". The main area displays a table of products with columns: Product, Category, Description, Stocks, Price, E-Mail, and Action. Two products are listed: "T-Shirts" (clothing, Highlander Shirts, 56 stocks, 700 price) and "mi" (electronics, smartphone, 6 stocks, 14000 price). A modal window titled "Add Product" is open, containing fields for Product Name, Category (dropdown), Description, No. Of Stocks, Price, and a file upload field labeled "Choose File" with "No file chosen". A "Save Product" button is at the bottom of the modal.

Product	Category	Description	Stocks	Price	E-Mail	Action
T-Shirts	clothing	Highlander Shirts	56	700	E-MAIL	Delete
mi	electronics	smartphone	6	14000	E-MAIL	Delete

The screenshot shows the ShopForHome admin dashboard with a success message "Product saved successfully by csv files". The main area displays a table of products with the same structure as the first screenshot. Four products are listed: "T-Shirts" (clothing, Highlander Shirts, 56 stocks, 700 price), "mi" (electronics, smartphone, 6 stocks, 14000 price), and two new entries, "test" (clothing, test, 1 stock, 1 price) listed twice. A modal window titled "Add Product" is open, identical to the one in the first screenshot, with fields for Product Name, Category, Description, No. Of Stocks, Price, and a file upload field. A "Save Product" button is at the bottom.

Product	Category	Description	Stocks	Price	E-Mail	Action
T-Shirts	clothing	Highlander Shirts	56	700	E-MAIL	Delete
mi	electronics	smartphone	6	14000	E-MAIL	Delete
test	clothing	test	1	1	E-MAIL	Delete
test	clothing	test	1	1	E-MAIL	Delete

ADMIN(Email functionality when stock is less than 10)-

The screenshot shows a web browser window with multiple tabs open at the top. The active tab is titled "localhost / 127.0.0.1" and displays a form titled "Email For Stocks". The form is labeled "Orders Form" and contains five input fields: "Name", "Email", "Mobile Number", "Subject", and a large "Message" area. Below the message area is a yellow "Submit Form" button. The browser's address bar shows the URL "http://localhost:4200/emailus". The taskbar at the bottom of the screen displays various application icons, and the system tray shows the date and time as "14-07-2022 07:38 PM".

SPRINT 2 | Capstone Project | frontendangular | ShopForHome | ShopForHome | localhost / 127.0.0.1 | Contact Form E | + | - | X

← → C ⌂ ⌂ http://localhost:4200/emailus

Email For Stocks

Orders Form

Name

Email

Mobile Number

Subject

Message

Submit Form

14-07-2022 07:38 PM

CATEGORIES(Admin side)-

The screenshot shows a web browser window with the URL <http://frontedangular1.s3-website-us-east-1.amazonaws.com/category>. The browser tabs include "AWS Lab: Program Overview - Gr", "omkarecommercebucket2 - S3 b", and "ShopForHome". The main content area has a teal header bar with the "ShopForHome" logo and navigation links: Home, Dashboard, Categories, Products, Orders, Users, and Logout. A search bar with a yellow "Search" button is also present.

The main content area displays a table titled "Categories" with the following data:

Category Id	Category Name	Action
1	electronics	Delete
2	clothing	Delete
3	home appliances	Delete
5	shopping	Delete
7	toys	Delete
8	kitchen	Delete

To the right of the table, there is a form for adding a new category:

Category Name

Save Category

The taskbar at the bottom of the screen shows various pinned icons, including File Explorer, Task View, Start, Search, Taskbar settings, Microsoft Edge, and File History. The system tray indicates the date as 14-07-2022, the time as 05:15 PM, and language as ENG IN.

Discounts(Admin side)-

ShopForHome Home Dashboard Categories Products Orders Users Logout

Search

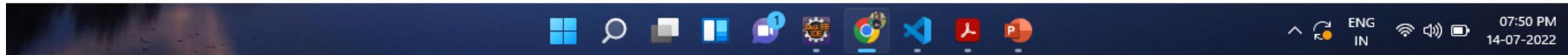
Discounts

Discounts Id	Discounts Name	Discounts Price	Action
1	One time Offer	40%	Delete
1	One time Offer	40%	Delete
1	One time Offer	40%	Delete
1	One time Offer	40%	Delete
1	One time Offer	40%	Delete

Discounts Name
Discounts name

Discounts Price
Discounts Price

Save Discounts



ADMIN ORDERS-

The screenshot shows a web browser window with multiple tabs open at the top. The active tab is titled "localhost / 127.0.0.1" and displays the "Orders" section of the "ShopForHome" application. The page has a teal header bar with the "ShopForHome" logo and navigation links for Home, Dashboard, Categories, Products, Orders, Users, and Logout. A search bar is also present in the header.

The main content area is titled "Orders" and lists two entries:

Order Id	Customer Name	Order Date	Details									
4	Omkar Pandurang Khandeshe	Jul 14, 2022	<table border="1"><thead><tr><th>Product</th><th>Price</th><th>Qty</th></tr></thead><tbody><tr><td> T-Shirts</td><td>700</td><td>3</td></tr><tr><td> test</td><td>1</td><td>7</td></tr></tbody></table>	Product	Price	Qty	T-Shirts	700	3	test	1	7
Product	Price	Qty										
T-Shirts	700	3										
test	1	7										
5	Girija kulkarni	Jul 14, 2022	<table border="1"><thead><tr><th>Product</th><th>Price</th><th>Qty</th></tr></thead><tbody><tr><td> T-Shirts</td><td>700</td><td>1</td></tr></tbody></table>	Product	Price	Qty	T-Shirts	700	1			
Product	Price	Qty										
T-Shirts	700	1										

At the bottom of the screen, the Windows taskbar is visible, showing various pinned icons and the system tray with network, battery, and date/time information.

DATABASE(Tables)-

The screenshot shows the phpMyAdmin interface for the database `testtb`. The left sidebar lists various databases, and the main area displays the structure of the `testtb` database. The table structure is as follows:

Table	Action	Rows	Type	Collation	Size	Overhead
address	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
admin	Browse Structure Search Insert Empty Drop	1	InnoDB	utf8mb4_general_ci	16.0 KiB	-
cart	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
category	Browse Structure Search Insert Empty Drop	6	InnoDB	utf8mb4_general_ci	16.0 KiB	-
customer	Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	16.0 KiB	-
discounts	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
orderdetails	Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_general_ci	48.0 KiB	-
orders	Browse Structure Search Insert Empty Drop	1	InnoDB	utf8mb4_general_ci	64.0 KiB	-
payments	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
product	Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	32.0 KiB	-
saleslog	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
wishlist	Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_general_ci	48.0 KiB	-
12 tables	Sum	20	InnoDB	utf8mb4_general_ci	352.0 KiB	0 B

Below the table structure, there are links for [Print](#), [Data dictionary](#), and a button to [Create table](#). The bottom of the screen shows a taskbar with various icons and the system status bar indicating the date and time.

DATABASE(User Info.)-

The screenshot shows the phpMyAdmin interface for a MySQL database named 'testtb'. The left sidebar lists various databases and tables. The 'customer' table is selected, displaying 5 rows of data. The columns are id, city, gender, name, phone, pwd, and userid.

	id	city	gender	name	phone	pwd	userid
<input type="checkbox"/>	1	Navi-Mumbai	Male	Omkar Pandurang Khandeshe	9096666021	Vijay@123	vijaymore@gmail.com
<input type="checkbox"/>	2	pune	Male	shreaysh	9876543212	admin	admin@gmail.com
<input type="checkbox"/>	3	pune	Male	shreaysh	9876543212	admin	admin@gmail.com
<input type="checkbox"/>	4	Navi-Mumbai	Male	hnjj	9096666021	Vijay@12	vijaymor@gmail.com
<input type="checkbox"/>	5	sangli	Female	Girija kulkarni	7866777222	Atul@123	atul@yopmail.com

Below the table, there are buttons for 'Edit', 'Copy', 'Delete', 'Check all', and 'With selected' operations. At the bottom, there are links for 'Print', 'Copy to clipboard', 'Export', 'Display chart', and 'Create view'.

DATABASE(Product Info.)-

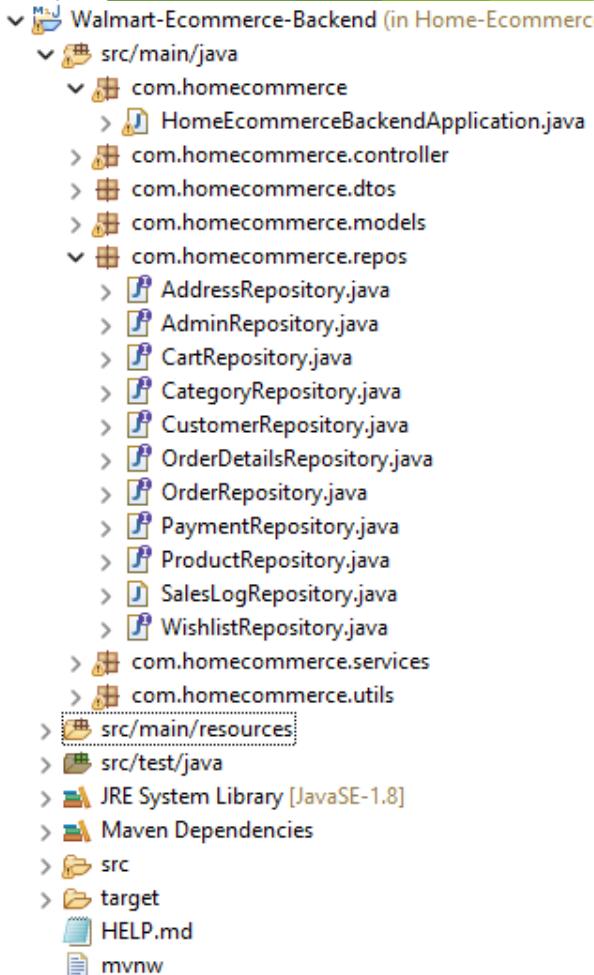
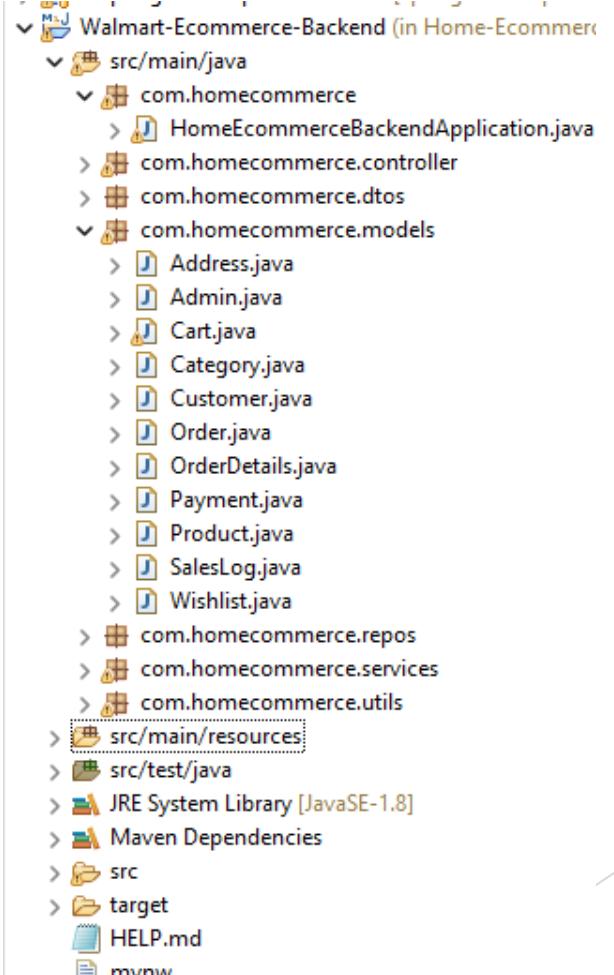
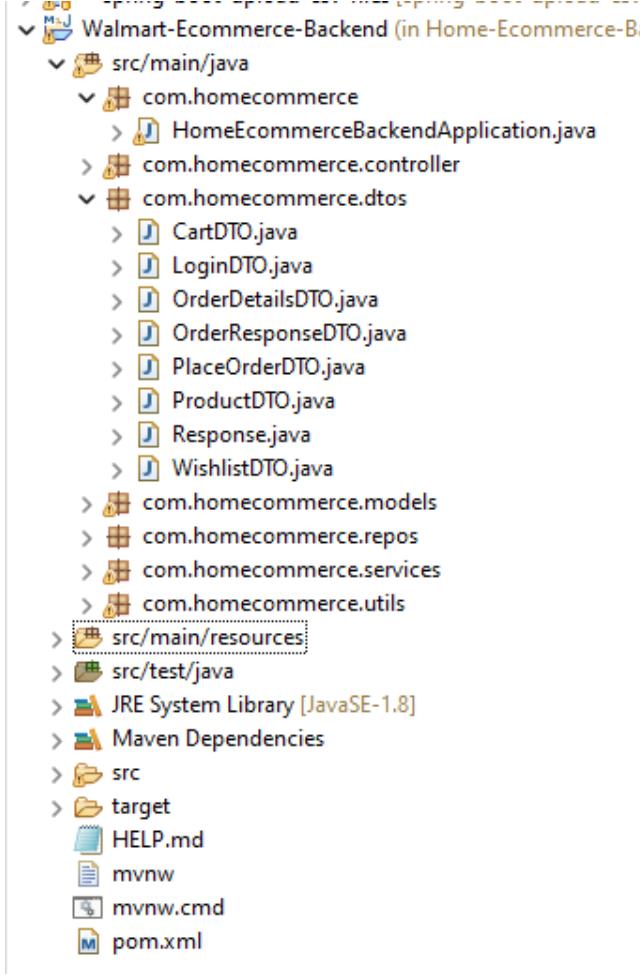
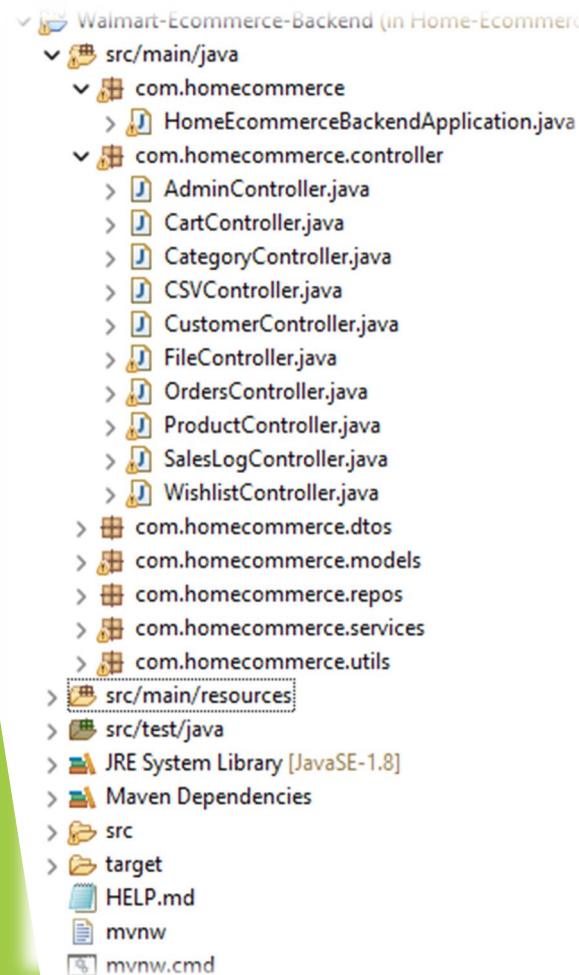
The screenshot shows the phpMyAdmin interface for the 'testtb' database, specifically the 'product' table. The table contains four rows of data:

	id	descr	photo	pname	price	cat_id	stocks
<input type="checkbox"/>	36	Highlander Shirts	https://omkarecommercebucket2.s3.amazonaws.com/fil...	T-Shirts	700	2	56
<input type="checkbox"/>	37	smartphone	https://omkarecommercebucket2.s3.amazonaws.com/fil...	mi	14000	1	6
<input type="checkbox"/>	38	test	https://omkarecommercebucket2.s3.amazonaws.com/fil...	test	1	2	1
<input type="checkbox"/>	39	test	https://omkarecommercebucket2.s3.amazonaws.com/fil...	test	1	2	1

Below the table, there are buttons for 'Check all', 'With selected:', and various operations like Edit, Copy, Delete, and Export.

The left sidebar shows other databases and tables available in the system.

Spring Boot(Controllers, Repository, Data Transfer Object, Entity)-



Installation of tomcat web server manager & Mysql On EC2 Instances(AWS)-

```
ubuntu@ip-172-31-94-150:~$ sudo apt install default-jdk
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
at-sp12-core ca-certificates-java default-jdk-headless default-jre default-jre-headless fontconfig-config fonts-dejavu-core fonts-dejavu-extra java-common
libasound2 libasound2-data libatk-wrapper-javat libatk-wrapper-javat-jni libatk1.0-0 libatksp12.0-0 libavahi-client3
libavahi-common-data libavahi-common3 libcups2 libdrm-amdgpu libdrm-intel libdrm-nouveau2 libfontconfig1 libfontenc1 libglf7 libgl1 libgl1-mesa-dri
libglapi-mesa libglvnd0 libglx-mesa libglx-dev libglx-turbo8 libglxpe8 liblcm2-2 liblvm10 libnsp4 libnss3
libpciaccess0 libpcsc-lite1 libpthread-stubs0-dev libsensors4 libsm-dev libsm6 libx11-dev libx11-xcb libxau-dev libxaw7 libxcb-dri2-0 libxcb-dri3-0
libxcb-glx0 libxcb-present0 libxcb-shape0 libxcb-sync1 libxcb1-dev libxcomposite1 libxdamage1 libxdmcp-dev libxfixes3 libxft2 libxi6 libxinerama1 libxmu6 libxpm4
libxrandr2 libxrender1 libxshmfence1 libxt-dev libxtst6 libxv1 libxf86dga1 libxf86vm1 openjdk-11-jdk openjdk-11-jdk-headless openjdk-11-jre
openjdk-11-jre-headless x11-common x11-utils x11proto-core-dev x11proto-dev xorg-sgml-doctools xtrans-dev
Suggested packages:
libasound2-plugins alsu-utils cups-common libice-doc liblcm2s-2-utils pscsd lm-sensors libsm-doc libxcb-doc libxt-doc openjdk-11-demo openjdk-11-source visualvm
libnss-mdns fonts-ipafont-gothic fonts-ipafont-mincho fonts-wqy-microhei | fonts-wqy-zhenhei fonts-indic mesa-utils
The following NEW packages will be installed:
at-sp12-core ca-certificates-java default-jdk-headless default-jre default-jre-headless fontconfig-config fonts-dejavu-core fonts-dejavu-extra
java-common libasound2 libasound2-data libatk-wrapper-javat libatk-wrapper-javat-jni libatk1.0-0 libatksp12.0-0 libavahi-client3
libavahi-common-data libavahi-common3 libcups2 libdrm-amdgpu libdrm-intel libdrm-nouveau2 libfontconfig1 libfontenc1 libglf7 libgl1 libgl1-mesa-dri
libglapi-mesa libglvnd0 libglx-mesa libglx-dev libglx-turbo8 libglxpe8 liblcm2-2 liblvm10 libnsp4 libnss3
libpciaccess0 libpcsc-lite1 libpthread-stubs0-dev libsensors4 libsm-dev libsm6 libx11-dev libx11-xcb libxau-dev libxaw7 libxcb-dri2-0 libxcb-dri3-0
libxcb-glx0 libxcb-present0 libxcb-shape0 libxcb-sync1 libxcb1-dev libxcomposite1 libxdamage1 libxdmcp-dev libxfixes3 libxft2 libxi6 libxinerama1 libxmu6 libxpm4
libxrandr2 libxrrender1 libxshmfence1 libxt-dev libxtst6 libxv1 libxf86dga1 libxf86vm1 openjdk-11-jdk openjdk-11-jdk-headless openjdk-11-jre
openjdk-11-jre-headless x11-common x11-utils x11proto-core-dev x11proto-dev xorg-sgml-doctools xtrans-dev
0 upgraded, 91 newly installed, 0 to remove and 28 not upgraded.
Need to get 296 MB of archives.
After this operation, 772 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libjpeg-turbo8 amd64 1.5.2-0ubuntu5.18.04.4 [110 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 x11-common all 1:7.7+19ubuntu7.1 [22.5 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libice6 amd64 2:1.0.9-2 [40.2 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libsm6 amd64 2:1.2.2-1 [15.8 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 fonts-dejavu-core all 2.37-1 [1041 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 fontconfig-config all 2.12.6-0ubuntu2 [55.8 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libfontconfig1 amd64 2.12.6-0ubuntu2 [137 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 librender1 amd64 1:0.9.10-1 [18.7 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libxft2 amd64 2.3.2-1 [36.1 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libxinerama1 amd64 2:1.1.3-1 [7908 kB]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libxf86dga1 amd64 2:1.1.4-1 [13.7 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libatspi2.0-0 amd64 2:28.0-0.1 [59.6 kB]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libatspi2.0-0 amd64 2:28.0-0.1 [59.6 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libxtst6 amd64 2:1.2.3-1 [12.8 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 at-sp12-core amd64 2:28.0-0.1 [47.9 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 java-common all 0.68ubuntu1~18.04.1 [14.5 kB]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libavahi-common-data amd64 0.7-3.1ubuntu1.3 [22.2 kB]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libavahi-common3 amd64 0.7-3.1ubuntu1.3 [21.6 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libavahi-client3 amd64 0.7-3.1ubuntu1.3 [25.2 kB]
done.
done.
ubuntu@ip-172-31-94-150:~$ sudo useradd -m -U -d /opt/tomcat -s /bin/false tomcat
ubuntu@ip-172-31-94-150:~$ sudo apt install unzip wget
Reading package lists... Done
Building dependency tree
Reading state information... Done
wget is already the newest version (1.19.4-1ubuntu2.2).
wget set to manually installed.
Suggested packages:
zip
The following NEW packages will be installed:
unzip
0 upgraded, 1 newly installed, 0 to remove and 28 not upgraded.
Need to get 168 kB of archives.
After this operation, 567 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 unzip amd64 6.0-21ubuntu1.1 [168 kB]
Fetched 168 kB in 0s (11.5 MB/s)
Selecting previously unselected package unzip.
(Reading database ... 68951 files and directories currently installed.)
Preparing to unpack .../unzip_6.0-21ubuntu1.1_amd64.deb ...
Unpacking unzip (6.0-21ubuntu1.1) ...
Setting up unzip (6.0-21ubuntu1.1) ...
Processing triggers for mime-support (3.60ubuntu1) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
ubuntu@ip-172-31-94-150:~$ cd /tmp
ubuntu@ip-172-31-94-150:~/tmp$ wget http://www-us.apache.org/dist/tomcat/tomcat-8/v8.5.37/bin/apache-tomcat-8.5.37.zip
-- 2022-07-14 05:49:03 -- http://www-us.apache.org/dist/tomcat/tomcat-8/v8.5.37/bin/apache-tomcat-8.5.37.zip
Resolving www-us.apache.org (www-us.apache.org)... failed: Name or service not known.
wget: unable to resolve host address 'www-us.apache.org'
ubuntu@ip-172-31-94-150:~/tmp$ wget https://dlcdn.apache.org/tomcat/tomcat-8/v8.5.81/bin/apache-tomcat-8.5.81.zip
-- 2022-07-14 05:49:46 -- https://dlcdn.apache.org/tomcat/tomcat-8/v8.5.81/bin/apache-tomcat-8.5.81.zip
Resolving dlcdn.apache.org (dlcdn.apache.org)... 151.101.2.132, 2a04:4e42::644
Connecting to dlcdn.apache.org (dlcdn.apache.org)|151.101.2.132|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 11113481 (11M) [application/zip]
Saving to: 'apache-tomcat-8.5.81.zip'

apache-tomcat-8.5.81.zip          100%[=====] 10.60M  ---KB/s  in 0.09s
2022-07-14 05:49:47 (116 MB/s) - 'apache-tomcat-8.5.81.zip' saved [11113481/11113481]

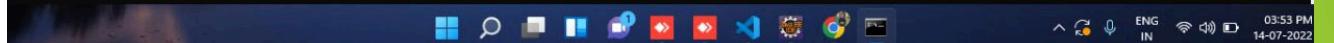
ubuntu@ip-172-31-94-150:~/tmp$ unzip apache-tomcat-8.5.81.zip
Archive:  apache-tomcat-8.5.81.zip
   creating: apache-tomcat-8.5.81/
   creating: apache-tomcat-8.5.81/bin/
   creating: apache-tomcat-8.5.81/conf/
```

```
inflating: apache-tomcat-8.5.81/webapps/examples/servlets/helloworld.html
inflating: apache-tomcat-8.5.81/webapps/examples/servlets/images/code.gif
inflating: apache-tomcat-8.5.81/webapps/examples/servlets/images/execute.gif
inflating: apache-tomcat-8.5.81/webapps/examples/servlets/images/return.gif
inflating: apache-tomcat-8.5.81/webapps/examples/servlets/index.html
inflating: apache-tomcat-8.5.81/webapps/examples/servlets/nonblocking/bytectorner.html
inflating: apache-tomcat-8.5.81/webapps/examples/servlets/reheaders.html
inflating: apache-tomcat-8.5.81/webapps/examples/servlets/reinfo.html
inflating: apache-tomcat-8.5.81/webapps/examples/servlets/reparams.html
inflating: apache-tomcat-8.5.81/webapps/examples/servlets/sessions.html
inflating: apache-tomcat-8.5.81/webapps/examples/websoket/chat.xhtml
inflating: apache-tomcat-8.5.81/webapps/examples/websoket/drawboard.xhtml
inflating: apache-tomcat-8.5.81/webapps/examples/websoket/echo.xhtml
inflating: apache-tomcat-8.5.81/webapps/examples/websoket/index.xhtml
inflating: apache-tomcat-8.5.81/webapps/examples/websoket/snake.xhtml
inflating: apache-tomcat-8.5.81/webapps/host-manager/META-INF/context.xml
inflating: apache-tomcat-8.5.81/webapps/host-manager/WEB-INF/jsp/401.jsp
inflating: apache-tomcat-8.5.81/webapps/host-manager/WEB-INF/jsp/403.jsp
inflating: apache-tomcat-8.5.81/webapps/host-manager/WEB-INF/jsp/404.jsp
inflating: apache-tomcat-8.5.81/webapps/host-manager/WEB-INF/manager.xml
inflating: apache-tomcat-8.5.81/webapps/host-manager/WEB-INF/web.xml
inflating: apache-tomcat-8.5.81/webapps/host-manager/css/manager.css
inflating: apache-tomcat-8.5.81/webapps/host-manager/images/asf-logo.svg
inflating: apache-tomcat-8.5.81/webapps/host-manager/images/tomcat.svg
inflating: apache-tomcat-8.5.81/webapps/host-manager/index.jsp
inflating: apache-tomcat-8.5.81/webapps/manager/META-INF/context.xml
inflating: apache-tomcat-8.5.81/webapps/manager/WEB-INF/jsp/401.jsp
inflating: apache-tomcat-8.5.81/webapps/manager/WEB-INF/jsp/403.jsp
inflating: apache-tomcat-8.5.81/webapps/manager/WEB-INF/jsp/404.jsp
inflating: apache-tomcat-8.5.81/webapps/manager/WEB-INF/jsp/connectorCerts.jsp
inflating: apache-tomcat-8.5.81/webapps/manager/WEB-INF/jsp/connectorCiphers.jsp
inflating: apache-tomcat-8.5.81/webapps/manager/WEB-INF/jsp/connectorTrustedCerts.jsp
inflating: apache-tomcat-8.5.81/webapps/manager/WEB-INF/jsp/sessionDetail.jsp
inflating: apache-tomcat-8.5.81/webapps/manager/WEB-INF/jsp/sessionsList.jsp
inflating: apache-tomcat-8.5.81/webapps/manager/WEB-INF/web.xml
inflating: apache-tomcat-8.5.81/webapps/manager/css/manager.css
inflating: apache-tomcat-8.5.81/webapps/manager/images/asf-logo.svg
inflating: apache-tomcat-8.5.81/webapps/manager/images/tomcat.svg
inflating: apache-tomcat-8.5.81/webapps/manager/index.jsp
inflating: apache-tomcat-8.5.81/webapps/manager/status.xls
inflating: apache-tomcat-8.5.81/webapps/manager/xform.xls
ubuntu@ip-172-31-94-150:~/tmp$ sudo mkdir -p /opt/tomcat
ubuntu@ip-172-31-94-150:~/tmp$ sudo mv apache-tomcat-8.5.81 /opt/tomcat
ubuntu@ip-172-31-94-150:~/tmp$ sudo ln -s /opt/tomcat/apache-tomcat-8.5.81 /opt/tomcat/latest
ubuntu@ip-172-31-94-150:~/tmp$ sudo chown -R tomcat: /opt/tomcat
ubuntu@ip-172-31-94-150:~/tmp$ sudo sh -c 'chmod +x /opt/tomcat/latest/bin/*.sh'
ubuntu@ip-172-31-94-150:~/tmp$
```

root@ip-172-31-94-150: /home/ubuntu

```
** System restart required ***
rst login: Thu Jul 14 06:02:41 2022 from 1.186.170.234
juntu@ip-172-31-94-150:~$ sudo nano /etc/systemd/system/tomcat.service
juntu@ip-172-31-94-150:~$ sudo systemctl daemon-reload
juntu@ip-172-31-94-150:~$ sudo systemctl start tomcat
juntu@ip-172-31-94-150:~$ sudo systemctl status tomcat
tomcat.service - Tomcat 8.5 servlet container
   Loaded: loaded (/etc/systemd/system/tomcat.service; disabled; vendor preset: enabled)
     Active: active (running) since Thu 2022-07-14 09:51:11 UTC; 14s ago
       Process: 16459 ExecStart=/opt/tomcat/latest/bin/startup.sh (code=exited, status=0/SUCCESS)
      Main PID: 16471 (java)
         Tasks: 30 (limit: 1134)
        CGroup: /system.slice/tomcat.service
                  └─16471 /usr/lib/jvm/default-java/bin/java -Djava.util.logging.config.file=/opt/tomcat/latest/conf/logging.properties -Djava.util.logging.manager=org.apache.

Jul 14 09:51:11 ip-172-31-94-150 systemd[1]: Starting Tomcat 8.5 servlet container...
Jul 14 09:51:11 ip-172-31-94-150 startup.sh[16459]: Tomcat started.
Jul 14 09:51:11 ip-172-31-94-150 systemd[1]: Started Tomcat 8.5 servlet container.
...skipping...
```



```
root@ip-172-31-94-150:/home/ubuntu
```

```
ubuntu@ip-172-31-94-150:~$ sudo su
root@ip-172-31-94-150:/home/ubuntu# sudo vim /opt/tomcat/latest/webapps/manager/META-INF/context.xml
root@ip-172-31-94-150:/home/ubuntu# sudo systemctl restart tomcat
root@ip-172-31-94-150:/home/ubuntu# sudo apt update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic InRelease [88.7 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates InRelease [74.6 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-backports InRelease [74.6 kB]
Hit:4 http://security.ubuntu.com/ubuntu bionic-security InRelease
Fetched 163 kB in 0s (475 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
5 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ip-172-31-94-150:/home/ubuntu# sudo apt install mysql-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
 libaio1 libcgi-fast-perl libcgipm-perl libencode-locale-perl libevent-core-2.1-6 libfcgi-perl libhtml-parser-perl libhtml-tagset-perl libhtml-template-perl
 libhttp-date-perl libhttp-message-perl libio-html-perl liblwp-mediatypes-perl libtimestr-perl liburi-perl mysql-client-5.7 mysql-client-core-5.7 mysql-common
 mysql-server-5.7 mysql-server-core-5.7
Suggested packages:
 libdata-dump-perl libipc-sharedcache-perl libwww-perl mailx tinyca
The following NEW packages will be installed:
 libaio1 libcgi-fast-perl libcgipm-perl libencode-locale-perl libevent-core-2.1-6 libfcgi-perl libhtml-parser-perl libhtml-tagset-perl libhtml-template-perl
 libhttp-date-perl libhttp-message-perl libio-html-perl liblwp-mediatypes-perl libtimestr-perl liburi-perl mysql-client-5.7 mysql-client-core-5.7 mysql-common
 mysql-server mysql-server-5.7 mysql-server-core-5.7
0 upgraded, 21 newly installed, 0 to remove and 5 not upgraded.
Need to get 19.6 MB of archives.
After this operation, 156 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 mysql-common all 5.8+1.0.4 [7308 B]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libaio1 amd64 0.3.110-Subuntu0.1 [6476 B]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 mysql-client-core-5.7 amd64 5.7.38-0ubuntu0.18.04.1 [6632 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 mysql-client-5.7 amd64 5.7.38-0ubuntu0.18.04.1 [1942 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 mysql-server-core-5.7 amd64 5.7.38-0ubuntu0.18.04.1 [7424 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libevent-core-2.1-6 amd64 2.1.8-stable-4build1 [85.9 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 mysql-server-5.7 amd64 5.7.38-0ubuntu0.18.04.1 [2905 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libhtml-tagset-perl all 3.20-3 [12.1 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 liburi-perl all 1.73-1 [77.2 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libhtml-parser-perl amd64 3.72-3build1 [85.9 kB]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libcgipm-perl all 4.38-1 [185 kB]
```

```
root@ip-172-31-94-150:/home/ubuntu
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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> exit
exit
root@ip-172-31-94-150:/home/ubuntu# sudo mysql
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 5.7.38-0ubuntu0.18.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

Installation of tomcat web server manager & Mysql On EC2 Instances(AWS)-

The screenshot shows the Apache Tomcat Web Application Manager interface. At the top, there's a banner with the Apache Software Foundation logo and a yellow cat icon. Below it, the title "Tomcat Web Application Manager" is displayed. A message box shows "Message: OK". The main area is titled "Manager" with tabs for "List Applications", "HTML Manager Help", "Manager Help", and "Server Status". The "Applications" section lists several applications:

Path	Version	Display Name	Running	Sessions	Commands
/	None specified	Welcome to Tomcat	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 min
/docs	None specified	Tomcat Documentation	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 min
/examples	None specified	Servlet and JSP Examples	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 min
/host-manager	None specified	Tomcat Host Manager Application	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 min
/manager	None specified	Tomcat Manager Application	true	1	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 min

On the right side of the interface, there are sections for "WAR or Directory path:" (with a "Deploy" button), "WAR file to deploy" (with a "Choose File" button and "No file chosen" message), "Configuration" (with a "Re-read TLS configuration files" button), and "Diagnostics" (with "Find leaks" and "TLS connector configuration diagnostics" sections). The bottom section, "Server Information", provides details about the Tomcat version, JVM, OS, and network settings.

At the very bottom, a Windows taskbar is visible with various icons and the system tray showing the date and time as 04:45 PM on 14-07-2022.

```

ubuntu@ip-172-31-91-81: ~
:: Spring Boot :: (v2.2.0.BUILD-SNAPSHOT)

2022-07-14 04:52:48.761  INFO 5632 --- [           main] o.h.homedecor.shopapi.ShopApiApplication : Starting ShopApiApplication v0.0.1-SNAPSHOT on ip-172-31-91-81 with PID 5632 (/home/ubuntu/shop-api-0.0.1-SNAPS
2022-07-14 04:52:48.769  INFO 5632 --- [           main] o.h.homedecor.shopapi.ShopApiApplication : No active profile set, falling back to default profiles: default
2022-07-14 04:52:48.785  INFO 5632 --- [           main] s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data repositories in DEFAULT mode.
2022-07-14 04:52:51.048  INFO 5632 --- [           main] s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 239ms. Found 8 repository interfaces.
2022-07-14 04:52:51.114  INFO 5632 --- [           main] t.r.a.l.i.g.e.a.p.P.ProxyTransactionManagementConfiguration : Bean 'org.springframework.transaction.annotation.ProxyTransactionManagementConfiguration' of type [org.springframework.transaction.annotation.ProxyTransactionManagementConfiguration] is not eligible for getting processed by all BeanPostProcessors (for example: not eligible for auto-proxying)
2022-07-14 04:52:52.819  INFO 5632 --- [           main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8080 (http)
2022-07-14 04:52:52.849  INFO 5632 --- [           main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2022-07-14 04:52:52.849  INFO 5632 --- [           main] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.42]
2022-07-14 04:52:52.899  INFO 5632 --- [           main] o.a.c.c.t.Tomcat : [localhost] [/api] : Initialising Spring embedded WebApplicationContext
2022-07-14 04:52:53.008  INFO 5632 --- [           main] o.s.web.context.ContextLoader      : Root WebApplicationContext: initialization completed in 4088 ms
2022-07-14 04:52:53.612  INFO 5632 --- [           main] o.h.b.j.p.internal.util.LogHelper : HHH000204: Processing PersistenceUnitInfo [name: default]
2022-07-14 04:52:53.759  INFO 5632 --- [           main] org.hibernate.Version            : HHH000412: Hibernate Core {5.4.6.Final}
2022-07-14 04:52:54.081  INFO 5632 --- [           main] org.hibernate.annotations.common.Version : HCAHN000001: Hibernate Commons Annotations {5.1.0.Final}
2022-07-14 04:52:54.277  INFO 5632 --- [           main] org.hibernate.dialect.Dialect   : HHH000409: Using dialect: org.hibernate.dialect.PostgreSQL9Dialect
2022-07-14 04:52:56.032  INFO 5632 --- [           main] com.zaxxer.hikari.HikariDataSource : HikariPool-1: Starting...
2022-07-14 04:52:56.885  INFO 5632 --- [           main] com.zaxxer.hikari.HikariDataSource : HikariPool-1: Start completed.
2022-07-14 04:52:57.372  INFO 5632 --- [           main] o.h.e.t.j.p.i.JtaPlatformInitiator : HHH000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.NoJtaPlatform]
2022-07-14 04:52:57.400  INFO 5632 --- [           main] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence unit 'default'
2022-07-14 04:52:59.377  WARN 5632 --- [           main] JpaBaseConfiguration$JpaWebConfiguration : spring.jpa.open-in-view is enabled by default. Therefore, database queries may be performed during view rendering. Explicitly configure spring.jpa.open-in-view to disable this warning
2022-07-14 04:53.006  INFO 5632 --- [           main] o.s.web.DefaultSecurityFilterChain : Creating filter chain: any request, [org.springframework.security.web.context.request.async.WebAsyncManagerIntegrationFilter@7238776d, org.springframework.security.web.header.HeaderWriterFilter@31a9fa, sFilter@415ef4d8, org.springframework.security.web.authentication.logout.LogoutFilter@50e9be6, eshop.homedecor.shopapi.security.JWTJwtFilter@7e4c72d6, org.springframework.web.servlet.filter.CharacterEncodingFilter@1524499, org.springframework.security.web.session.SessionManagementFilter@5af58f76, org.springframework.security.web.access.ExceptionTranslationFilter@3af58f76, org.springframework.security.web.PortReceptor@4f958f81]
2022-07-14 04:53:00.776  INFO 5632 --- [           main] o.s.concurrent.ThreadPoolTaskExecutor : Initializing ExecutorService 'applicationTaskExecutor'
2022-07-14 04:53:01.149  INFO 5632 --- [           main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8080 (http) with context path '/api'
2022-07-14 04:53:01.158  INFO 5632 --- [           main] e.homedecor.shopapi.ShopApiApplication : Started ShopApiApplication in 13.857 seconds (JVM running for 15.054)
Connection to 3.86.139.208 closed by remote host.
Connection to 3.86.139.208 closed.

C:\Users\acer\Downloads>ssh -i key.pem ubuntu@3.86.139.208
Welcome to Ubuntu 22.04 LTS (GNU/Linux 5.15.0-1011-aws x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/advantage

```

AWS Management Console screenshot showing the EC2 Management Console. The Instances page displays three instances:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4
Backend-server	i-047ac2ca0b208b755	Terminated	t2.micro	-	No alarms	+ us-east-1b	-	-
Backend-servers	i-0d0a8632c8061d210	Running	t2.micro	⌚ Initializing	No alarms	+ us-east-1b	ec2-54-152-190-211.co...	54.152.190...
Backend-Serv...	i-09e1d1bbb7c5f6abd	Running	t2.micro	-	No alarms	+ us-east-1b	ec2-54-234-118-226.co...	54.234.118...

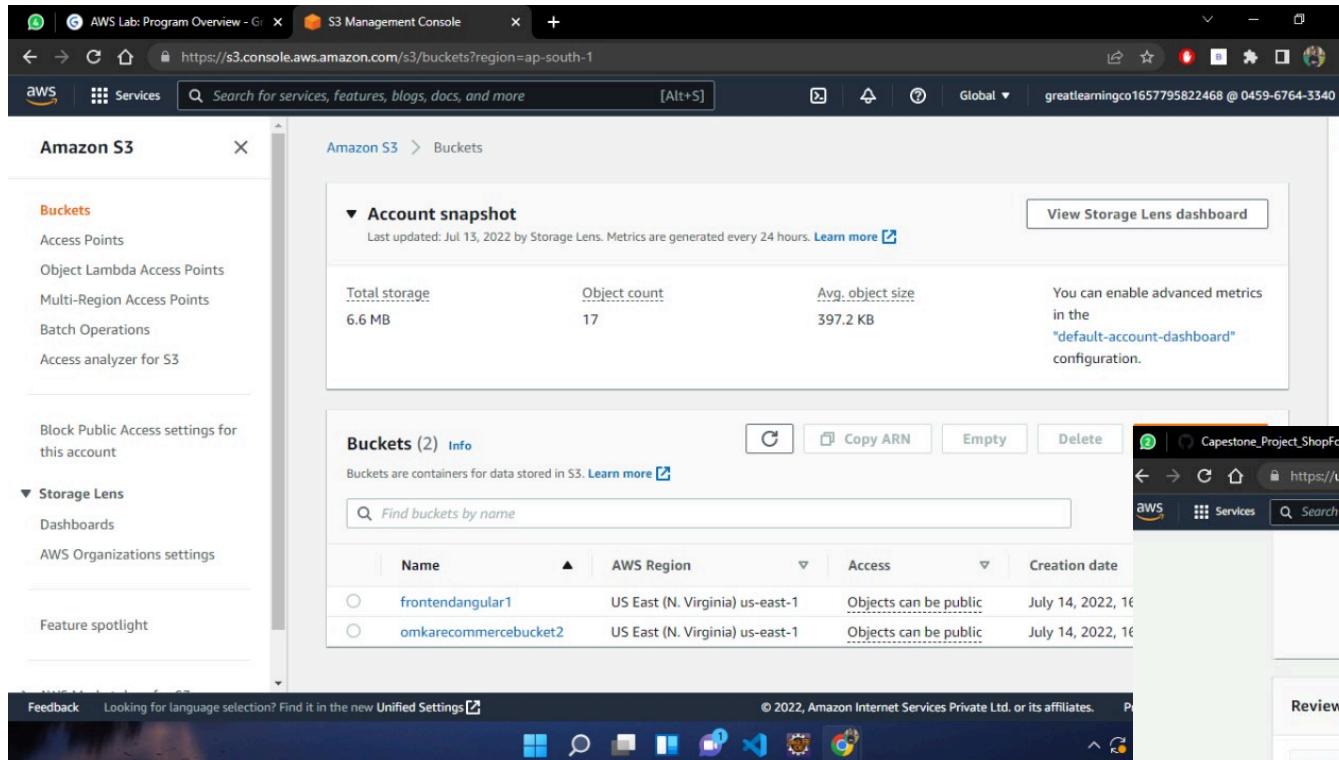
The details for the selected instance (i-0d0a8632c8061d210) are shown:

- Instance summary** (Info):
 - Instance ID: i-0d0a8632c8061d210 (Backend-servers)
 - IPv6 address: -
 - Hostname type: IP name: ip-172-31-92-37.ec2.internal
 - Private IP DNS name (IPv4 only): ip-172-31-92-37.ec2.internal
- Public IP4 address:** 54.163.2.75 (open address)
- Private IP4 addresses:** 172.31.92.37
- Public IP4 DNS:** ec2-54-152-190-211.compute-1.amazonaws.com (open address)

Feedback: Looking for language selection? Find it in the new Unified Settings.

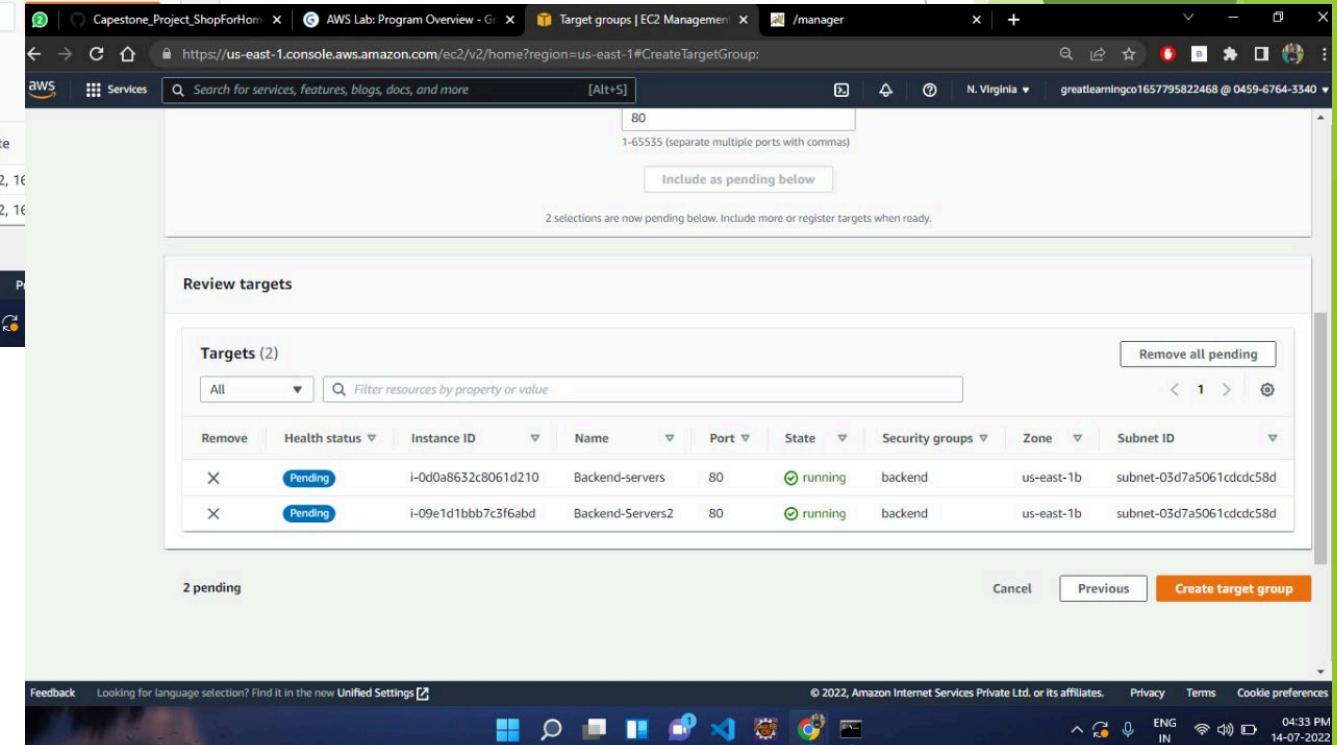
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S3 Buckets, Load Balancer & Auto Scaling Groups



The screenshot shows the AWS S3 Management Console. On the left, a sidebar lists various AWS services like Access Points, Object Lambda Access Points, Multi-Region Access Points, Batch Operations, and Access analyzer for S3. The main area displays an 'Account snapshot' with metrics: Total storage (6.6 MB), Object count (17), and Avg. object size (397.2 KB). Below this is a table titled 'Buckets (2) Info' showing two buckets:

Name	AWS Region	Access	Creation date
frontendangular1	US East (N. Virginia) us-east-1	Objects can be public	July 14, 2022, 16:45
omkarecommercebucket2	US East (N. Virginia) us-east-1	Objects can be public	July 14, 2022, 16:45



The screenshot shows the AWS EC2 Management Console. A new tab is open for 'CreateTargetGroup'. It shows a port configuration of '80' and '1-65535 (separate multiple ports with commas)'. A note says 'Include as pending below'. Below this, a 'Review targets' section shows two pending targets:

Remove	Health status	Instance ID	Name	Port	State	Security groups	Zone	Subnet ID
X	Pending	i-0d0a8632c8061d210	Backend-servers	80	running	backend	us-east-1b	subnet-03d7a5061cdcdc58d
X	Pending	i-09e1d1bbb7c3f6abd	Backend-Servers2	80	running	backend	us-east-1b	subnet-03d7a5061cdcdc58d

At the bottom, there are buttons for 'Cancel', 'Previous', and 'Create target group'.

Capestone_Project_ShopForHome AWS Lab: Program Overview - Gr Target groups | EC2 Management /manager

https://us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#TargetGroups:

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Limits

Instances Instances New Instance Types Launch Templates Spot Requests Savings Plans Reserved Instances New Dedicated Hosts Scheduled Instances Capacity Reservations

Images AMIs New AMI Catalog

Elastic Block Store Volumes New Snapshots New Lifecycle Manager New

Network & Security Security Groups

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Successfully created target group: Backend-tg

EC2 Target groups

Target groups (1/1) Info Actions Create target group

Search or filter target groups

Name	ARN	Port	Protocol	Target type	Load balancer
Backend-tg	arn:aws:elasticloadbalancing:us-east-1:123456789012:targetgroup/Backend-tg/5678901234567890	80	HTTP	Instance	None associated

Target group: Backend-tg

Total targets	Healthy	Unhealthy	Unused	Initial
2	0	0	2	0

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https://us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#CreateALBWizard:

Review and confirm your configurations. Estimate cost

Basic configuration Edit

Backend-lb

- Internet-facing
- IPv4

Security groups Edit

- default sg-01161aa8909517edo
- backend sg-02cb26b8234d443f2

Network mapping Edit

VPC vpc-0776825b6e563122d

- us-east-1a subnet-0026764723a31590e
- us-east-1b subnet-03d7a5061cdcc58d
- us-east-1c subnet-0a6393f57cc3b7e07
- us-east-1d subnet-099034fb72a52a7a
- us-east-1e subnet-0304f22bb63a2c021
- us-east-1f subnet-0b57ad2fb0421715a

Listeners and routing Edit

- HTTP:80 defaults to Backend-tg

Add-on services Edit

None

Tags Edit

None

Attributes

Certain default attributes will be applied to your load balancer. You can view and edit them after creating the load balancer.

Create load balancer

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https://us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LoadBalancers:search=Backend-lb;sort=loadBalancerName

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Create Load Balancer Actions

search : Backend-lb Add filter

Name	DNS name	State	VPC ID	Availability Zones	Type
Backend-lb	Backend-lb-1266276250.us-east-1.elb.amazonaws.com	Provisioning	vpc-0776825b6e563122d	us-east-1a, us-east-1e...	application

Basic Configuration

Name	Backend-lb
ARN	arn:aws:elasticloadbalancing:us-east-1:045967643340:loadbalancer/app/Backend-lb/bcd47129d99148d9
DNS name	Backend-lb-1266276250.us-east-1.elb.amazonaws.com (A Record)
State	Provisioning
Type	application
Scheme	internet-facing
IP address type	ipv4

Edit IP address type

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Auto Scaling groups | EC2 Manager /manager

https://us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#AutoScalingGroups:id=backend-asg:view=details

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EC2 Auto Scaling groups

Auto Scaling groups (1/1) Info

Name	Launch template/configuration	Instances	Status	Desired capacity	M...	M...	Availability Zones
backend-asg	backend-lc	0	Updating capacity	3	2	5	us-east-1a, us-east-1b...

Details Activity Automatic scaling Instance management Monitoring Instance refresh

Group details

Desired capacity	Auto Scaling group name
3	backend-asg
Minimum capacity	Date created
2	Thu Jul 14 2022 16:51:54 GMT+0530 (India Standard Time)
Maximum capacity	Amazon Resource Name (ARN)
5	arn:aws:autoscaling:us-east-1:045967643340:autoScalingGroup:9f9c501d-fc80-47f4-858cbf5bf404858aautoScalingGroupName/backend-asg

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https://us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#AutoScalingGroups:id=backend-asg:view=details

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EC2 Auto Scaling groups

Auto Scaling groups (1/1) Info

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5	arn:aws:autoscaling:us-east-1:045967643340:autoScalingGroup:9f9c501d-fc80-47f4-858cbf5bf404858aautoScalingGroupName/backend-asg

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Conclusion

- ▶ Technology has made significant progress over the years to provide consumers a better online shopping experience and will continue to do so for years to come.
- ▶ With the rapid growth of products and brands, people have speculated that online shopping will overtake in-store shopping.
- ▶ However, the availability of online shopping has produced a more educated consumer that can shop around with relative ease without having to spend a large amount of time.



Thank You