A project report on

SHOP FOR HOME

Submitted in partial fulfilment of the requirements of Wipro

JAVA &AWS C1 GROUP-1

By

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Great Learning

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ABSTRACT

E-commerce is fast gaining ground as an accepted and used business paradigm. More and more business houses are implementing websites providing functionality for performing commercial transactions over the web. It is reasonable to say that the process of shopping on the web is becoming commonplace.

The objective of this project is to develop an e-commerce toy store where products home décor items like sofas, chairs, mirrors, etc can be bought from the comfort of home through the Internet. However, for implementation purposes, this paper will deal with online shopping for toys.

An online store is a virtual store on the Internet where customers can browse the Catalog 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.

ACKNOWLEDGEMENTS

We student of Great Learning would like to thank our project mentor **MR. NEERAJ KUMAR KHERIA** for his guidance and support while working on this project. His regular monitoring of the project and correction of various project documents made sure the project was in the right direction.

We would also like to thank our **Wipro & Great Learning** for providing such opportunity and their constant efforts to keep our courses going despite all the hardships that the pandemic brought upon us.

Table of Content

1. Introduction

ShopForHome is for shopping the Home Decor stuff . Due to Covid 19 all the offline shopping stopped. So, the store wants to move to the cloud platforms and wants their own web application. The overall idea behind this project is to allow users to buy home decor products online.

The application aims to provide a shopping system for users where the user can sign in ,sign up and search all the home decor items available in the application. The user can add favorite items to the wishlist and can add items to the cart by clicking on the get it button available. In this way ShopforHome app enables users to purchase home decor items like chairs, mirrors, clocks, sofas, etc with a single click.

Admin, on the other hand, can login, log out, and register into the application. Along with this admin will be able to upload the products in bulk amounts.

1.1 Objectives

The primary goal of e-commerce is to reach maximum customers at the right time to increase sales and profitability of the business. Functions of e-commerce include buying and selling goods, transmitting funds or data over the internet.

The three main objectives are as follows

1. Find the best solution for their needs
2. Make a purchase, and
3. Get information/answers to their questions

2. Problem Description

ShopForHome is a popular Store in the market for shopping the home décor stuff . Due to Covid 19 all the offline shopping stopped. So, the store wants to move to the cloud platforms and wants their own web application. There are 2 users on the application: -

1. **User Stories-**

   1. As a user I should be able to login, Logout and Register into the application.
   2. As a user I should be able to see the products in different categories.
   3. As a user I should be able to sort the products.
   4. As a user I should be able to add the products into the shopping cart.
   5. As a user I should be able to increase or decrease the quantity added in the cart.
   6. As a user I should be able to add “n” number of products in the cart.
   7. As a user I should be able to get the Wishlist option where I can add those products which I want but don’t want to order now.
   8. As a user I should get different discount coupons.

2. **Admin Stories –**

   1. As an Admin I should be able to login, Logout and Register into the application.
   2. As an Admin I should be able to perform CRUD on Users.
   3. As an Admin I should be able to Perform CRUD on the products.
   4. As an Admin I should be able to get bulk upload option to upload a csv for products details.
   5. As an Admin I should be able to get the stocks.
   6. As an Admin I should be able to mail if any stock is less than 10.
   7. As an Admin I should be able to get the sales report of a specific duration.
   8. As an Admin I should be able to set the discount coupons for the specific set of users.

3. Technology Required

We have developed this project using the below technology

- **HTML**: Page layout has been designed in HTML
- **CSS**: CSS has been used for all the designing part
- **JavaScript**: All the validation task and animations has been developed by JavaScript
- **Java Spring Boot**: All the business and backend API logic has been implemented in Java Spring Boot
- **SQL**: .SQL files has been used as database for the project
- **Angular:** All the frontend logic has been implemented over the Angular and we used angular CLI for it
- **Visual Studio Code-(VSS**): For Angular IDE, we have used Visual Studio Code
- **STS**: We have used STS (Spring Tool Suite) for developing all spring boot API's
- **Tomcat**: Project will be run over the Tomcat server

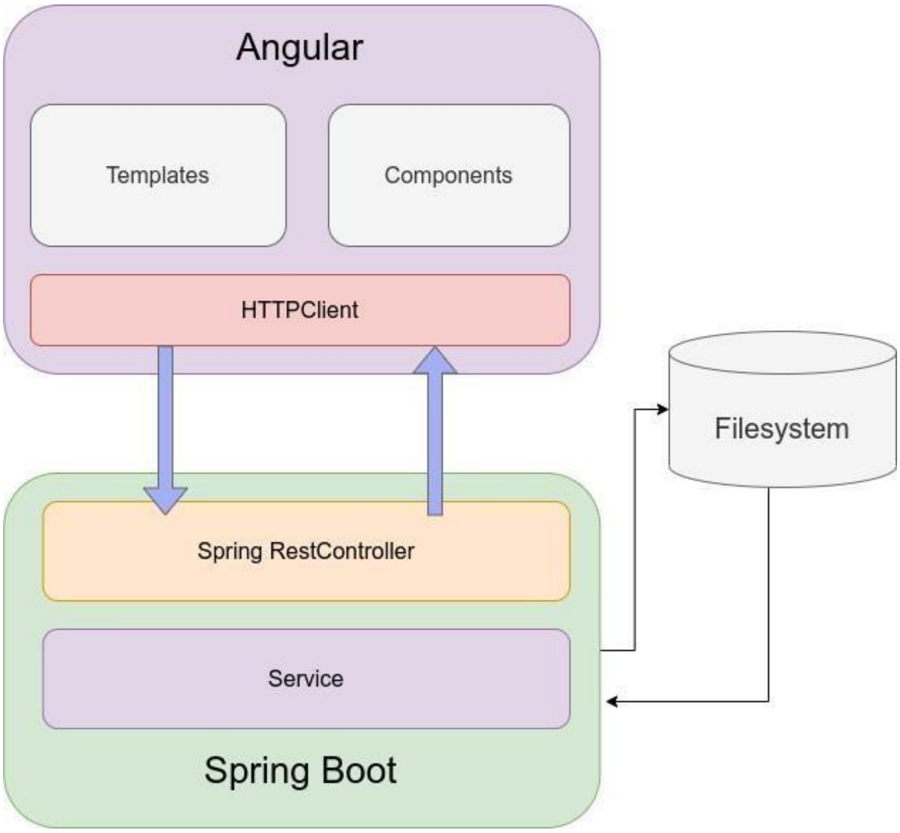
Technologies	**Angular, Spring Boot, PostgreSQL**
Languages	**Eclipse , Vs code, PostgreSQL**
IDE	**Eclipse , Vs code, PgAdmin4**
Operating System	**Windows 7/8/10/11 , Linux distros, MacOS X or later**

4. STUDY OF THE SYSTEM

The major objective of this ShopForHome application was to provide a platform for users to buy home décor products from the website. The application consists of two types of users.

- **ADMIN –** A admin can log in to the application using a username and password. On successful login, the user will be redirected to the admin dashboard where the user will see an overall view of the application which includes all products and a list of products to shop for. Admin is able to log in, Logout, and Register into the application. Admin is able to perform CRUD on Users. Admin is able to perform CRUD on the products. Admin is able to get bulk upload option to upload a csv for product details. Admin is able to get the stocks. Admin is able to mail if any stock is less than 10. Admin is able to get the sales report of a specific duration. Admin is able to set the discount coupons for a specific set of users.

- **USER –** Users can register themselves on the platform by signup from the registration page. For registration, the user will need to provide the username, email address, password, phone number, and address. The user is able to log in, Logout, and Register into the application. User is able to see the products in different categories. The user is able to sort the products. The user is able to add the products to the shopping cart. The user is able to increase or decrease the quantity added to the cart. The user is able to add "n" number of products in the cart. The user is able to get the Wishlist option where I can add those products which I want but don't want to order now. Users can get different discount coupons.



4.1 System Architecture

5. Modeling Requirements

5.1 UML Diagrams

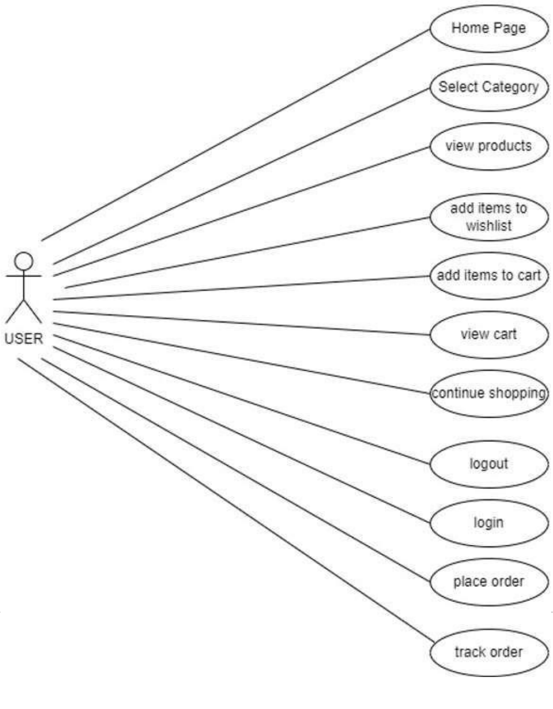
UML stands for Unified Modeling Language. UML is a standardized general-purpose modeling language in the field of object-oriented software engineering. The standard is managed, and was created by, the Object Management Group.

The Unified Modeling Language is a standard language for specifying, Visualization, Constructing and documenting the artifacts of software systems, as well as for business modeling and other non-software systems.

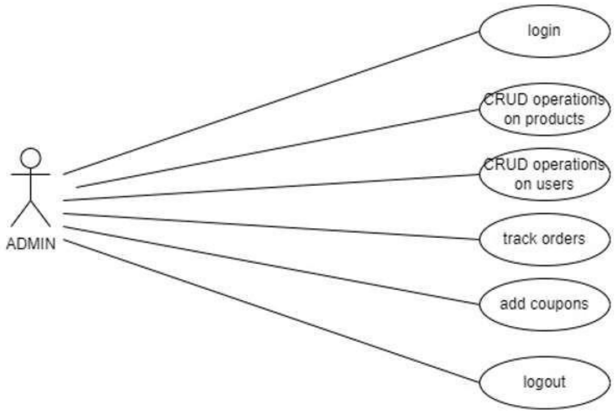
The UML represents a collection of best engineering practices that have proven successful in the modeling of large and complex systems.

5.2 Use Case Diagram

A use case diagram in the Unified Modeling Language (UML) is a type of behavioral diagram defined by and created from a Use-case analysis. Its purpose is to present a graphical overview of the functionality provided by a system in terms of actors, their goals (represented as use cases), and any dependencies between those use cases.



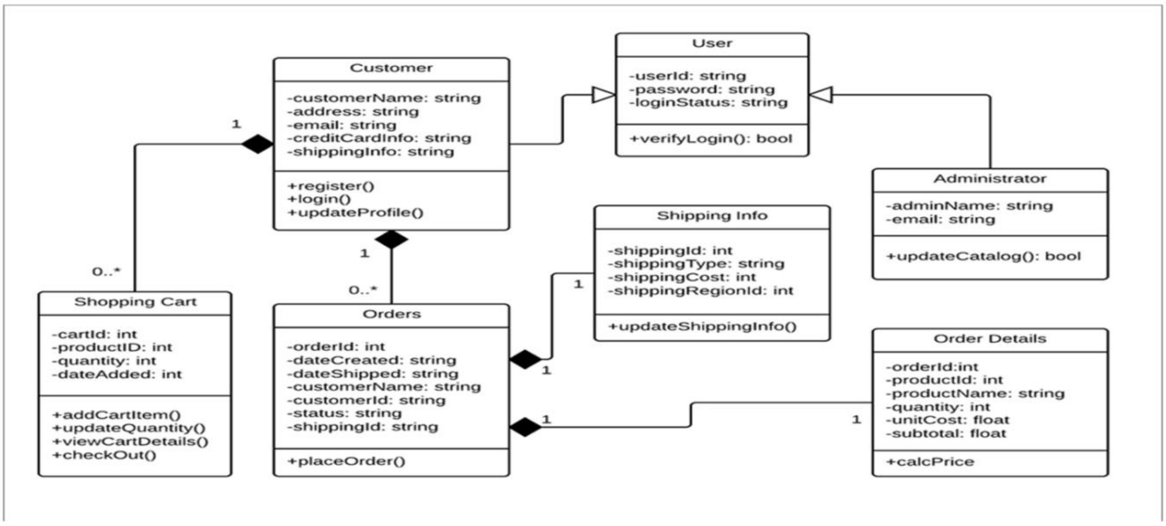
5.2 User Use Case Diagram



5.3 Admin Use Case Diagram

5.3 Class Diagram

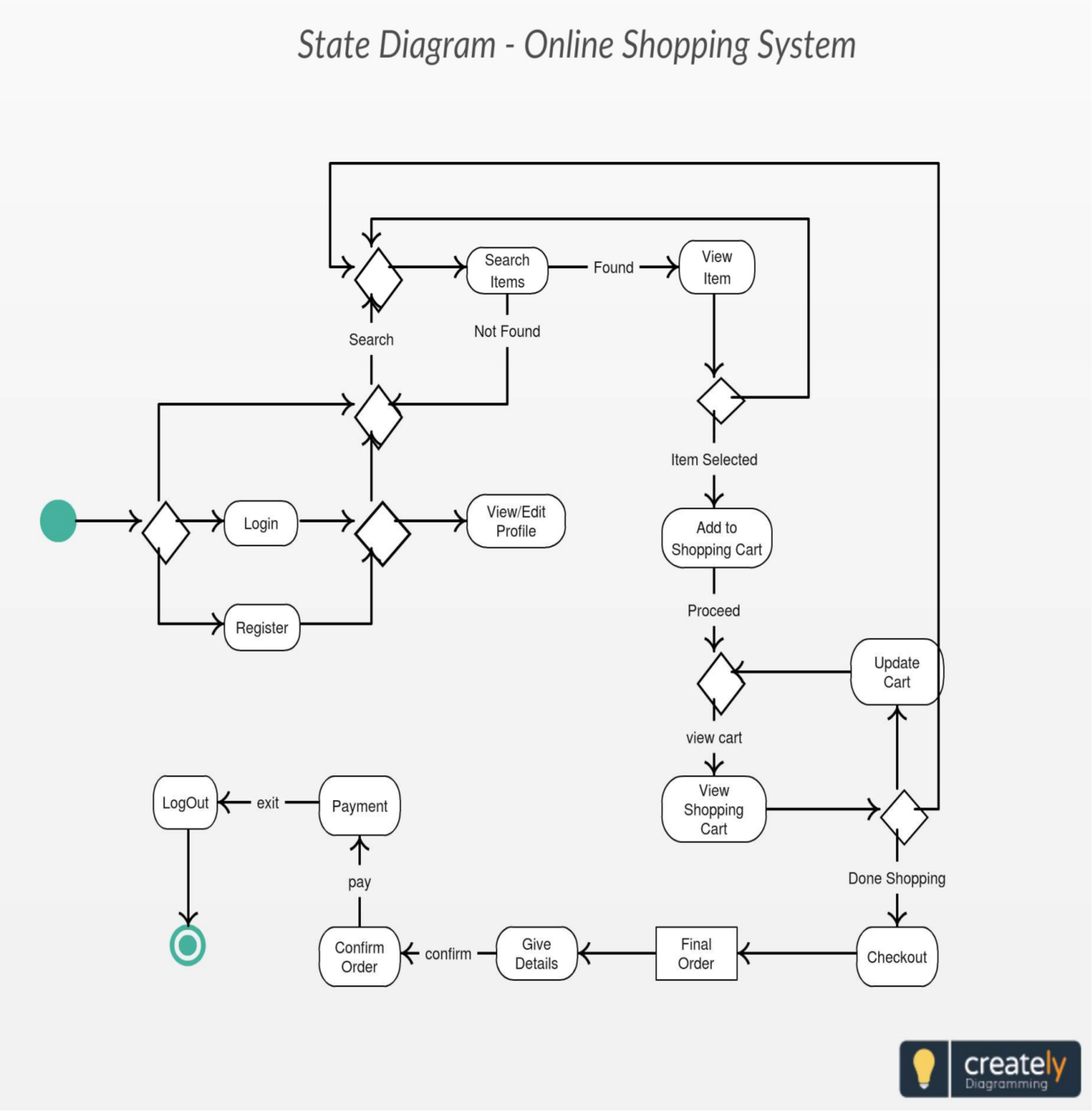
The class diagram is used to refine the use case diagram and define a detailed design of the system. The class diagram classifies the actors defined in the use case diagram into a set of interrelated classes. The relationship or association between the classes can be either an "is-a" or "has-a" relationship. Each class in the class diagram may be capable of providing certain functionalities. These functionalities provided by the class are termed "methods" of the class. Apart from this, each class may have certain "attributes" that uniquely identify the class.



5.3 Class Diagram

5.4 State Chart Diagram

A state diagram, as the name suggests, represents the different states that objects in the system undergo during their life cycle. Objects in the system change states in response to events. In addition to this, a state diagram also captures the transition of the object's state from an initial state to a final state in response to events affecting the system.

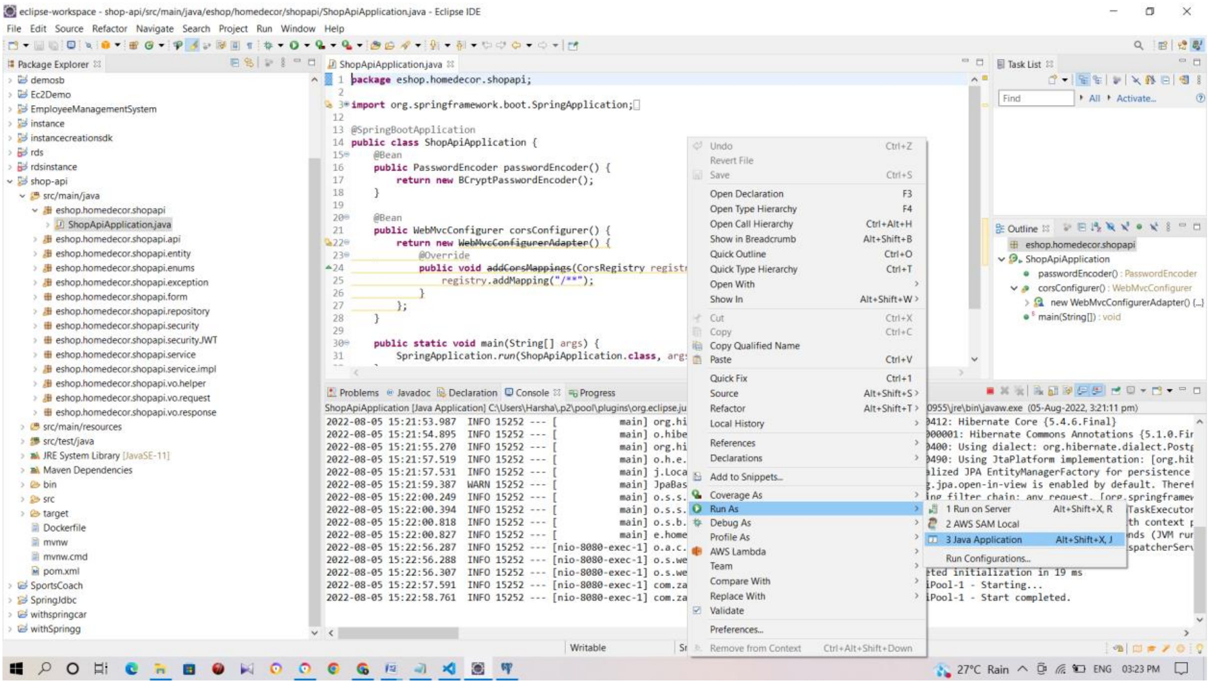


5.4 State chart Diagram

6. Installation and Instructions

6.1 Eclipse IDE

- Open the spring suit tool 4 or Eclipse Ide
- Then import the project as existing maven project
- Then run as java application



```
package eshop.homedecor.shopapi;

import org.springframework.boot.SpringApplication;

@SpringBootApplication
public class ShopApiApplication {
    @Bean
    public PasswordEncoder passwordEncoder() {
        return new BCryptPasswordEncoder();
    }

    @Bean
    public WebMvcConfigurer corsConfigurer() {
        return new WebMvcConfigurerAdapter() {
            @Override
            public void addCorsMappings(CorsRegistry registr
                registry.addMapping("/**");
            }
        };
    }

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

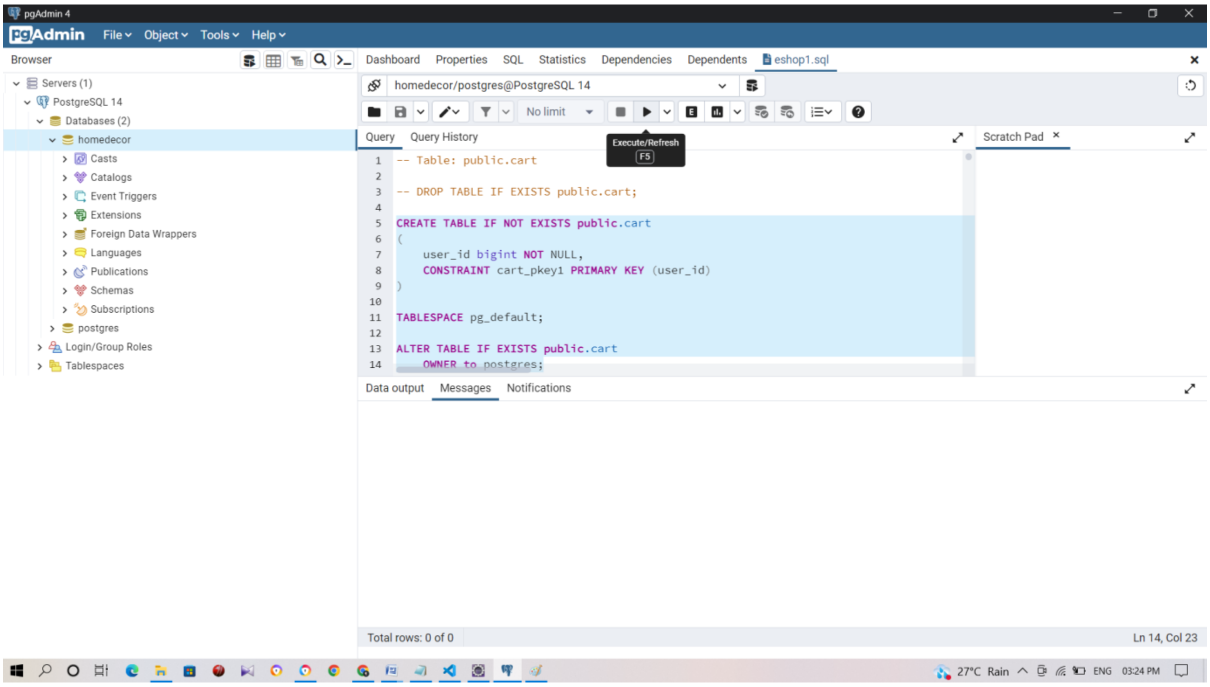
```
ShopApiApplication [Java Application] C:\Users\Harsha\.p2\pool\plugins\org.eclipse.ju 0955\jre\bin\javaw.exe (05-Aug-2022, 3:21:11 pm)
2022-08-05 15:21:53.987  INFO 15252 --- [           main] org.hi 0412: Hibernate Core {5.4.6.Final}
2022-08-05 15:21:54.895  INFO 15252 --- [           main] o.hibe 000001: Hibernate Commons Annotations {5.1.0.Fir
2022-08-05 15:21:55.270  INFO 15252 --- [           main] org.hi 0400: Using dialect: org.hibernate.dialect.Postg
2022-08-05 15:21:57.519  INFO 15252 --- [           main] o.h.e. 0490: Using JtaPlatform implementation: [org.hib
2022-08-05 15:21:57.531  INFO 15252 --- [           main] j.Loca alized JPA EntityManagerFactory for persistence
2022-08-05 15:21:59.387  WARN 15252 --- [           main] JpaBas g.jpa.open-in-view is enabled by default. There
2022-08-05 15:22:00.249  INFO 15252 --- [           main] o.s.s. ing filter chain: any request, [org.springframew
2022-08-05 15:22:00.394  INFO 15252 --- [           main] o.s.s. TaskExecutor
2022-08-05 15:22:00.818  INFO 15252 --- [           main] o.s.b. th context p
2022-08-05 15:22:00.827  INFO 15252 --- [           main] e.home nds (JVM rur
2022-08-05 15:22:56.287  INFO 15252 --- [nio-8080-exec-1] o.a.c. spatcherServ
2022-08-05 15:22:56.288  INFO 15252 --- [nio-8080-exec-1] o.s.we
2022-08-05 15:22:56.307  INFO 15252 --- [nio-8080-exec-1] o.s.we eted initialization in 19 ms
2022-08-05 15:22:57.591  INFO 15252 --- [nio-8080-exec-1] com.za iPool-1 - Starting...
2022-08-05 15:22:58.761  INFO 15252 --- [nio-8080-exec-1] com.za iPool-1 - Start completed.
```

eclipse-workspace - shop-api/src/main/java/eshop/homedecor/shopapi/ShopApiApplication.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
demosb
Ec2Demo
EmployeeManagementSystem
instance
instancecreationsdk
rds
rdsinstance
shop-api
src/main/java
eshop.homedecor.shopapi
ShopApiApplication.java
eshop.homedecor.shopapi.api
eshop.homedecor.shopapi.entity
eshop.homedecor.shopapi.enums
eshop.homedecor.shopapi.exception
eshop.homedecor.shopapi.form
eshop.homedecor.shopapi.repository
eshop.homedecor.shopapi.security
eshop.homedecor.shopapi.security.JWT
eshop.homedecor.shopapi.service
eshop.homedecor.shopapi.service.impl
eshop.homedecor.shopapi.vo.helper
eshop.homedecor.shopapi.vo.request
eshop.homedecor.shopapi.vo.response
src/main/resources
src/test/java
JRE System Library [JavaSE-11]
Maven Dependencies
bin
src
target
Dockerfile
mvnw
mvnw.cmd
pom.xml
SportsCoach
SpringJdbc
withspringcar
withSpringg
ShopApiApplication.java
Undo Ctrl+Z
Revert File
Save Ctrl+S
Open Declaration F3
Open Type Hierarchy F4
Open Call Hierarchy Ctrl+Alt+H
Show in Breadcrumb Alt+Shift+B
Quick Outline Ctrl+O
Quick Type Hierarchy Ctrl+T
Open With
Show In Alt+Shift+W
Cut Ctrl+X
Copy Ctrl+C
Copy Qualified Name
Paste Ctrl+V
Quick Fix Ctrl+1
Source Alt+Shift+S
Refactor Alt+Shift+T
Local History
References
Declarations
Add to Snippets...
Coverage As
Run As
Debug As
Profile As
AWS Lambda
Team
Compare With
Replace With
Validate
Preferences...
Remove from Context Ctrl+Alt+Shift+Down
1 Run on Server Alt+Shift+X, R
2 AWS SAM Local
3 Java Application Alt+Shift+X, J
Run Configurations...
Task List
Find
All
Activate...
Outline
eshop.homedecor.shopapi
ShopApiApplication
passwordEncoder() : PasswordEncoder
corsConfigurer() : WebMvcConfigurer
new WebMvcConfigurerAdapter() {...}
main(String[]) : void
Problems
Javadoc
Declaration
Console
Progress
Writable
27°C Rain
ENG
03:23 PM

6.1 Eclipse IDE

6.2 Postgre SQLDatabase

- Now create Database and add required tables
- Install postgres SQL
- After installation serach PgAdmin in your computer
- Open that PgAdmin and create the database as ecommerce or any other but make sure to declare the same database name in application file
- Open this query editor and You can run the query from databse.sql file. Provided along with report and ppt.
- Run the query.



homedecor/postgres@PostgreSQL 14

```sql
-- Table: public.cart

-- DROP TABLE IF EXISTS public.cart;

CREATE TABLE IF NOT EXISTS public.cart
(
    user_id bigint NOT NULL,
    CONSTRAINT cart_pkey1 PRIMARY KEY (user_id)
)

TABLESPACE pg_default;

ALTER TABLE IF EXISTS public.cart
    OWNER to postgres;
```

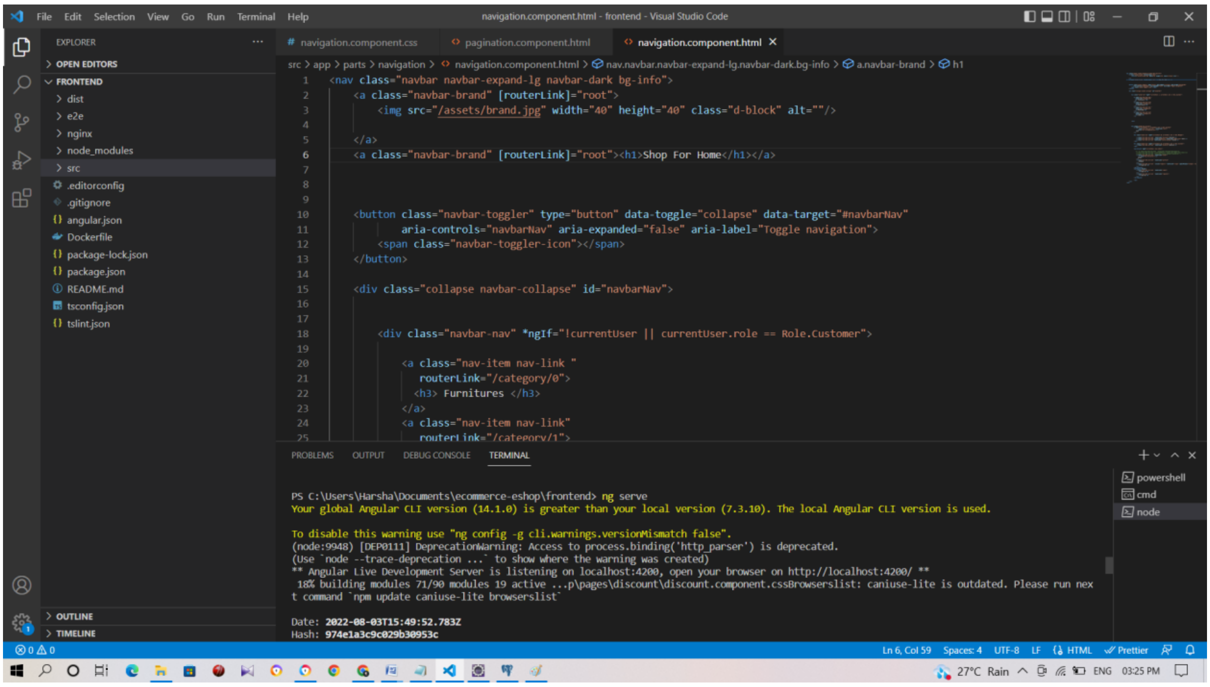
Total rows: 0 of 0

Ln 14, Col 23

6.2 PgAdmin4

6.3Visual Studio

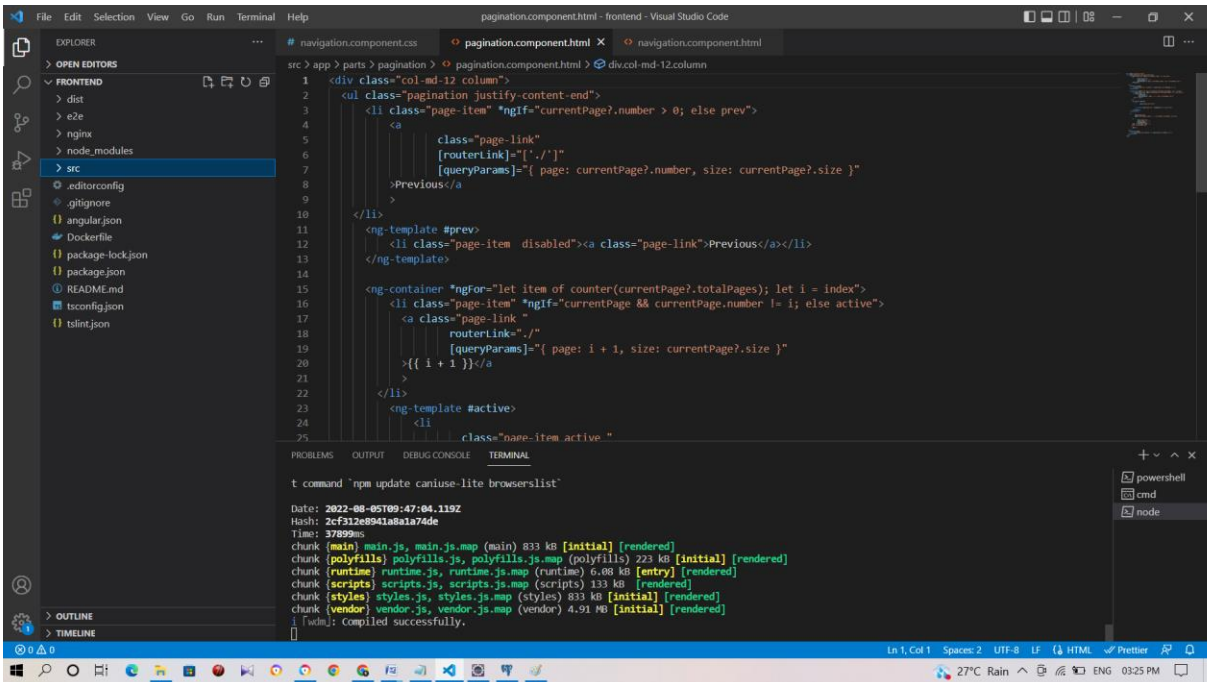
- Files -> open project -> locate the directory where you extracted the project and select the frontend folder
- Open terminal
- Then type npm install
- After that ng serve
- After the successful compiling you got this link in terminal http://localhost:4200/ **
- Open this link in any browser



```html
<nav class="navbar navbar-expand-lg navbar-dark bg-info">
    <a class="navbar-brand" [routerLink]="root">
        <img src="/assets/brand.jpg" width="40" height="40" class="d-block" alt=""/>

    </a>
    <a class="navbar-brand" [routerLink]="root"><h1>Shop For Home</h1></a>



    <button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarNav"
            aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
    </button>

    <div class="collapse navbar-collapse" id="navbarNav">


        <div class="navbar-nav" *ngIf="!currentUser || currentUser.role == Role.Customer">

            <a class="nav-item nav-link "
               routerLink="/category/0">
              <h3> Furnitures </h3>
            </a>
            <a class="nav-item nav-link"
               routerLink="/category/1">
```

```
PS C:\Users\Harsha\Documents\ecommerce-eshop\frontend> ng serve
Your global Angular CLI version (14.1.0) is greater than your local version (7.3.10). The local Angular CLI version is used.

To disable this warning use "ng config -g cli.warnings.versionMismatch false".
(node:9948) [DEP0111] DeprecationWarning: Access to process.binding('http_parser') is deprecated.
(Use `node --trace-deprecation ...` to show where the warning was created)
** Angular Live Development Server is listening on localhost:4200, open your browser on http://localhost:4200/ **
 18% building modules 71/90 modules 19 active ...p\pages\discount\discount.component.cssBrowserslist: caniuse-lite is outdated. Please run nex
t command `npm update caniuse-lite browserslist`

Date: 2022-08-03T15:49:52.783Z
Hash: 974e1a3c9c029b30953c
```

6.3 (a) Visual Studio



```html
<div class="col-md-12 column">
  <ul class="pagination justify-content-end">
      <li class="page-item" *ngIf="currentPage?.number > 0; else prev">
          <a
                  class="page-link"
                  [routerLink]="['./']"
                  [queryParams]="{ page: currentPage?.number, size: currentPage?.size }"
          >Previous</a
          >
    </li>
      <ng-template #prev>
          <li class="page-item  disabled"><a class="page-link">Previous</a></li>
      </ng-template>

      <ng-container *ngFor="let item of counter(currentPage?.totalPages); let i = index">
          <li class="page-item" *ngIf="currentPage && currentPage.number != i; else active">
            <a class="page-link "
                    routerLink="./"
                    [queryParams]="{ page: i + 1, size: currentPage?.size }"
            >{{ i + 1 }}</a
            >
        </li>
          <ng-template #active>
              <li
                     class="page-item active "
```

```
t command `npm update caniuse-lite browserslist`

Date: 2022-08-05T09:47:04.119Z
Hash: 2cf312e8941a8a1a74de
Time: 37899ms
chunk {main} main.js, main.js.map (main) 833 kB [initial] [rendered]
chunk {polyfills} polyfills.js, polyfills.js.map (polyfills) 223 kB [initial] [rendered]
chunk {runtime} runtime.js, runtime.js.map (runtime) 6.08 kB [entry] [rendered]
chunk {scripts} scripts.js, scripts.js.map (scripts) 133 kB  [rendered]
chunk {styles} styles.js, styles.js.map (styles) 833 kB [initial] [rendered]
chunk {vendor} vendor.js, vendor.js.map (vendor) 4.91 MB [initial] [rendered]
i ｢wdm｣: Compiled successfully.
```

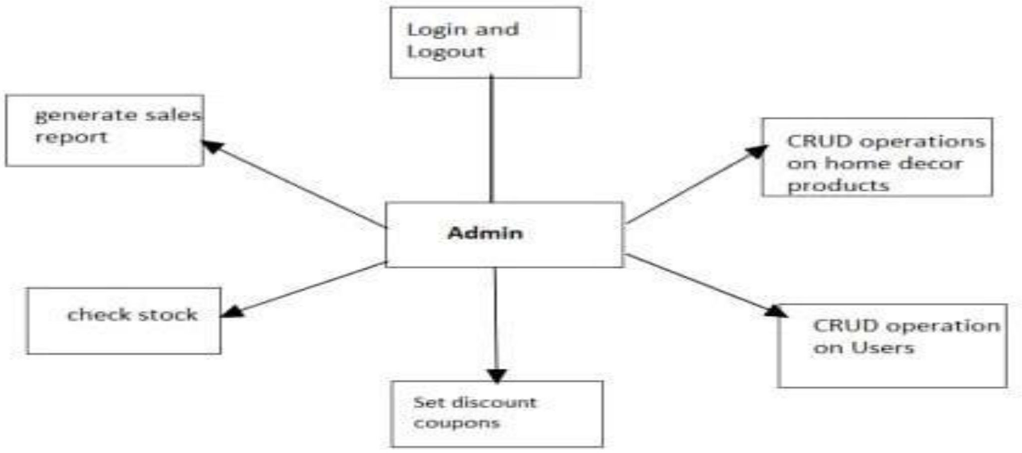
6.3 (b) Visual Studio

7. MODULES

There are two modules. They are:

1. Admin
2. User

7.1 ADMIN MODULE



7.1 Admin Module

- Admin Login

This feature helps the admin to login to system. A admin must login with his user name and password to the system after registration. If they are invalid, the user not allowed to enter thesystem.

- Curd Operations

Admin is able to perform different Curd operations on User and Products.

- Bulk Upload

This feature help admin to upload the products in the bluk amount.

- Stocks

Admin gets the products in the stockand mail if any stock is less than 10.

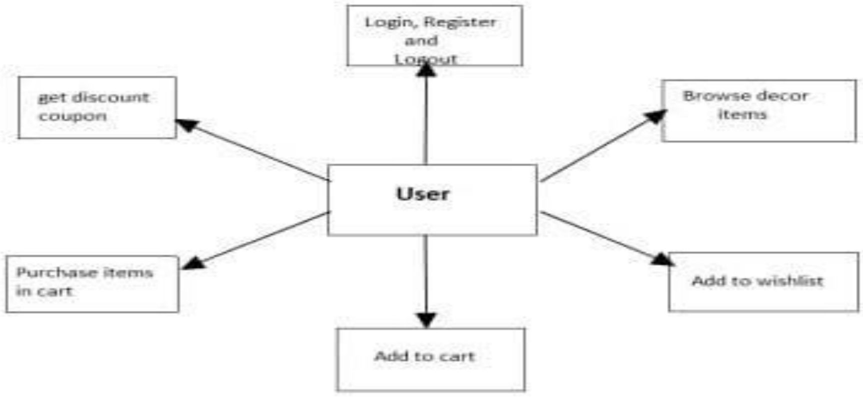
- Sales and reports

Admin gets the sales report of particular duration.

- Discount coupons

Admin sets the discount coupons for the specific set of users.

7.2 USER MODULE



7.2 User Module

- User Login

This feature helps the user to login to system. A user must login with his user name and password to the system after registration. If they are invalid, the user not allowed to enter thesystem.

- Product List

This feature helps the user to see the products in different categories.

- Cart

This feature helps the userto add the products into the shopping cart and user can increase or decrease the quantity added in the cart. User is able to add “n” number of products in the cart.

- Wish-list

This feature helps the user add the products to the wishlistwhich the user doesn’t want to order at that particular time.

- Discount Coupon

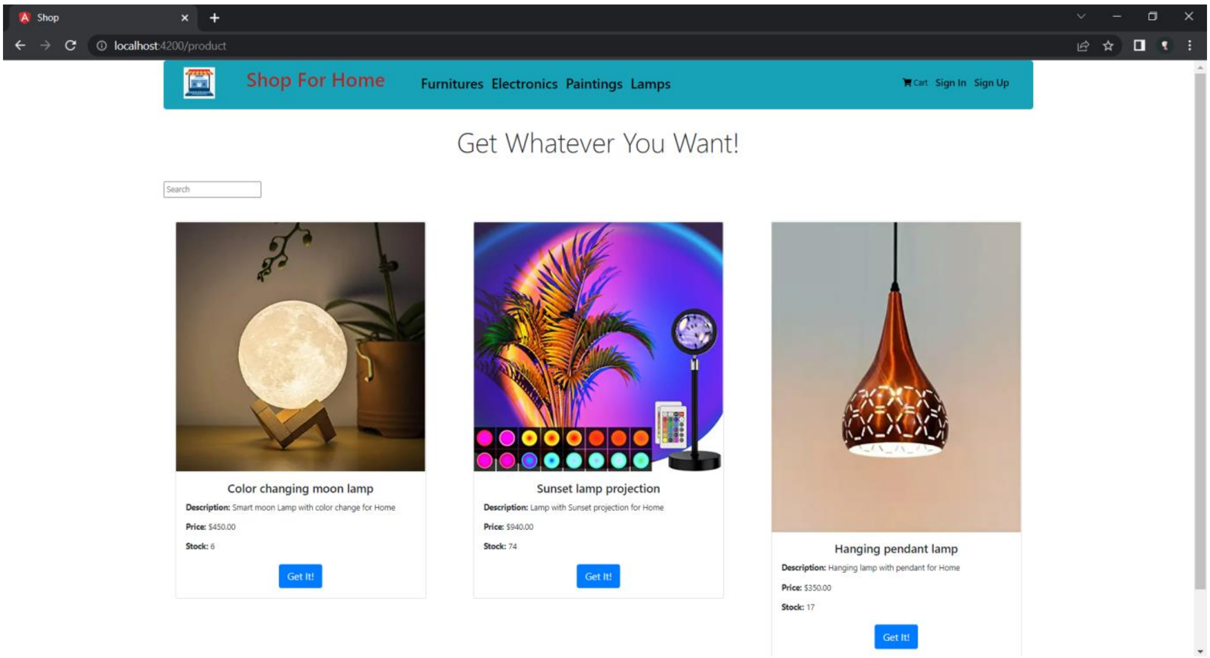
User can get different discount coupons.

8. RESULTS

8.1 Web Page

HOME PAGE:

The Home Screen will consist of screen were one can Login Into the application.



Color changing moon lamp
Description: Smart moon Lamp with color change for Home
Price: $450.00
Stock: 6

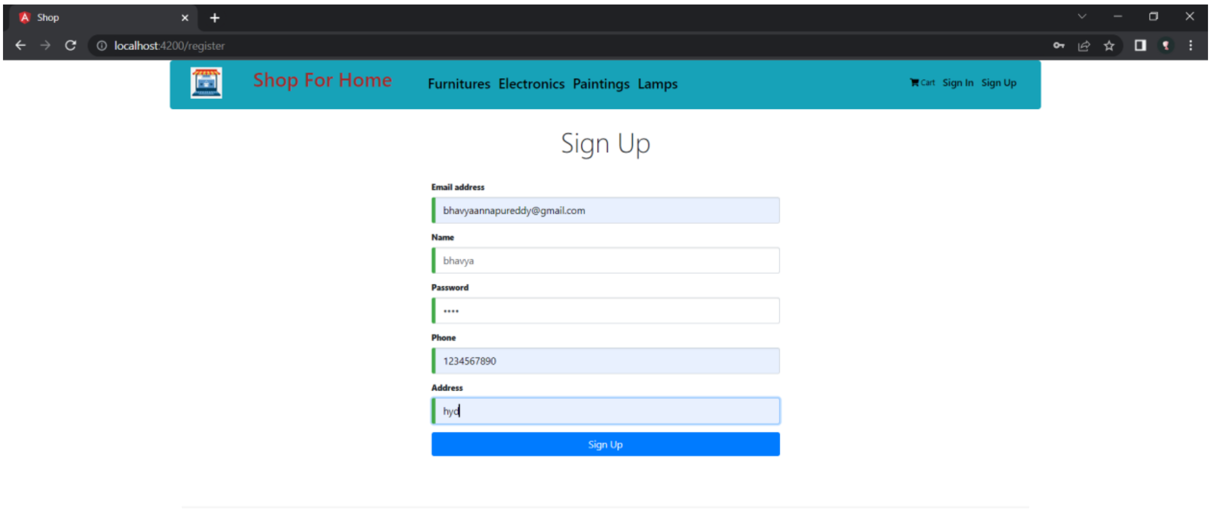
Sunset lamp projection
Description: Lamp with Sunset projection for Home
Price: $940.00
Stock: 74

Hanging pendant lamp
Description: Hanging lamp with pendant for Home
Price: $350.00
Stock: 17

8.1.1 Home Page

SIGNUP PAGE:

User is able to register into the Application



Sign Up

Email address: bhavyaannapureddy@gmail.com

Name: bhavya

Password: ••••

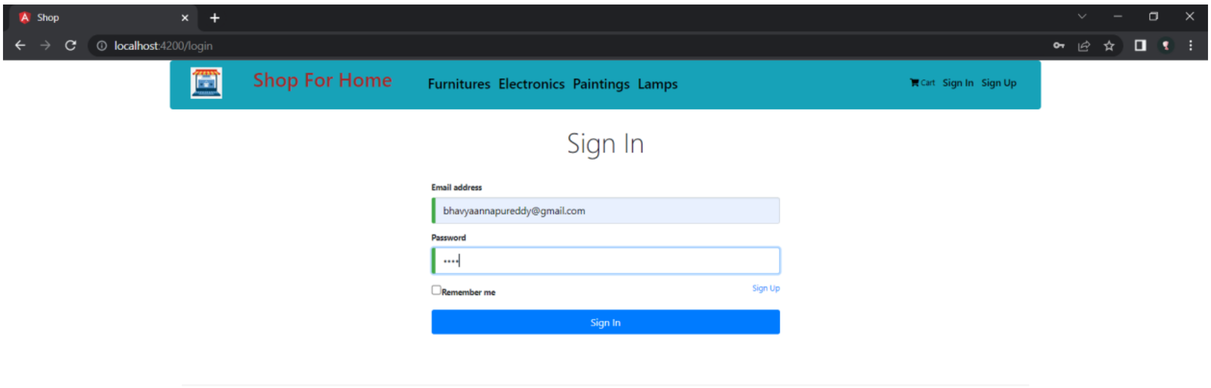
Phone: 1234567890

Address: hyd

8.1.2 Sign Up Page

LOGIN PAGE:

User is able to login and logout into the Application



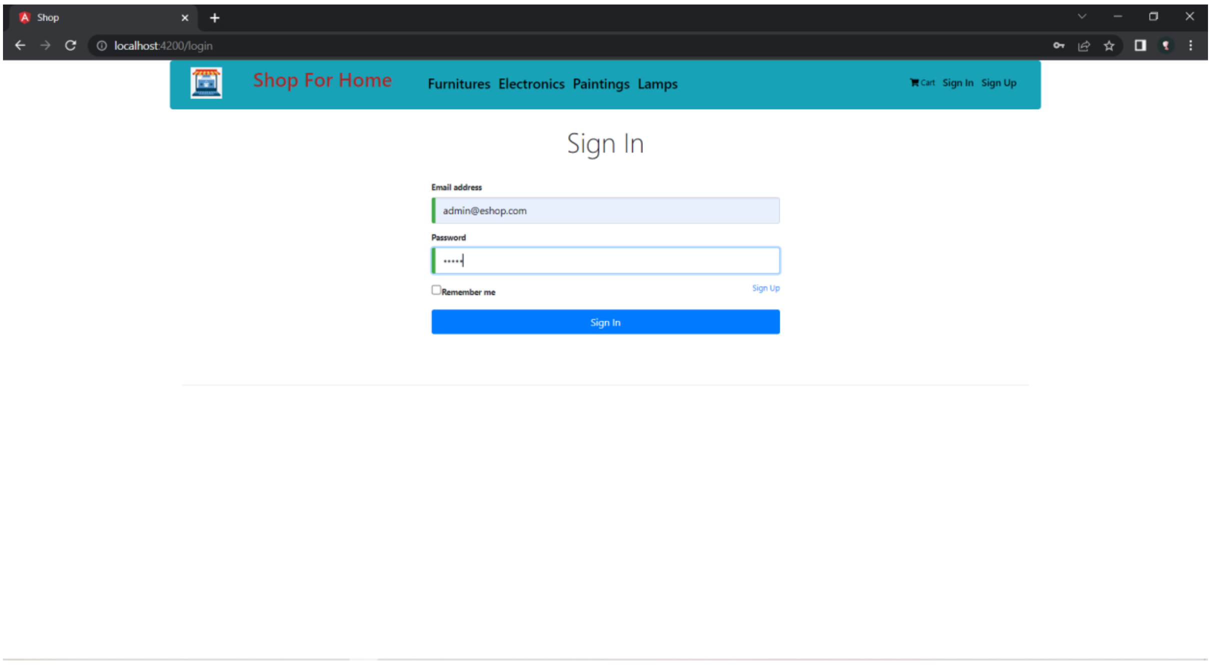
Sign In

Email address: bhavyaannapureddy@gmail.com

Password: ••••

□ Remember me

8.1.3 (a) Sign in as a user



Sign In

Email address: admin@eshop.com

Password: •••••

□ Remember me

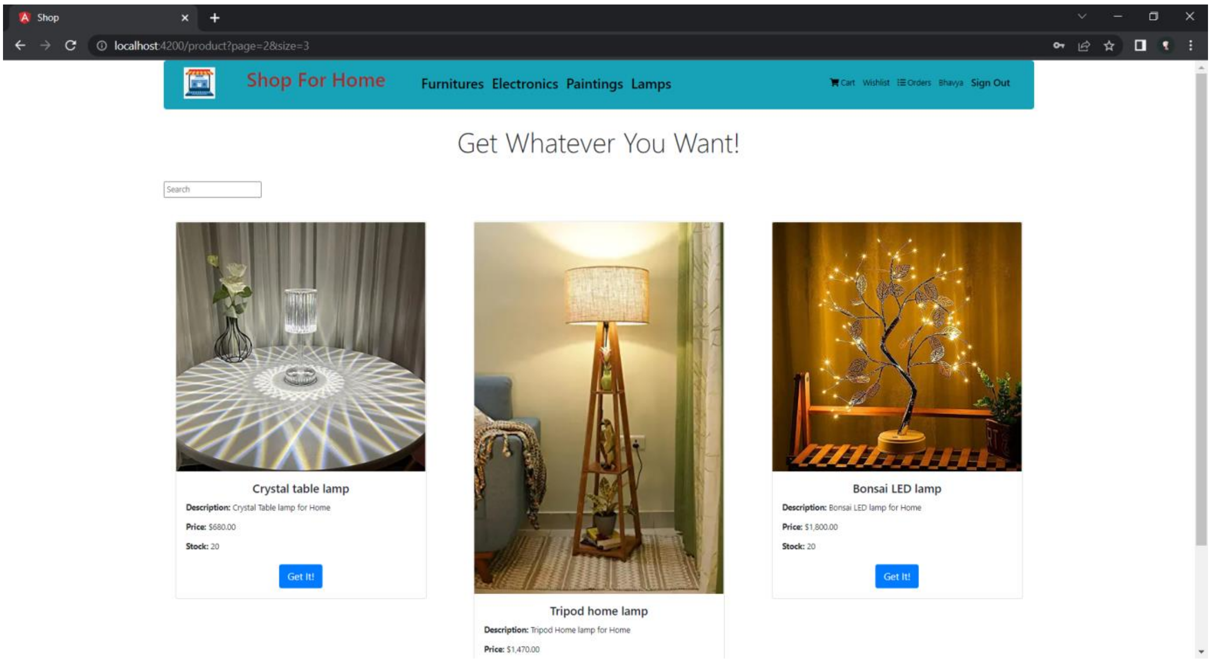
Sign Up

Sign In

8.1.3 (b) Sign In as an Admin

PRODUCT LIST:

User is able to see the products in different categories



Shop
localhost:4200/product?page=2&size=3
Shop For Home
Furnitures Electronics Paintings Lamps
Cart Wishlist Orders Bhavya Sign Out

Get Whatever You Want!

Search

Crystal table lamp

Description: Crystal Table lamp for Home

Price: $680.00

Stock: 20

Get It!

Tripod home lamp

Description: Tripod Home lamp for Home

Price: $1,470.00

Bonsai LED lamp

Description: Bonsai LED lamp for Home

Price: $1,800.00

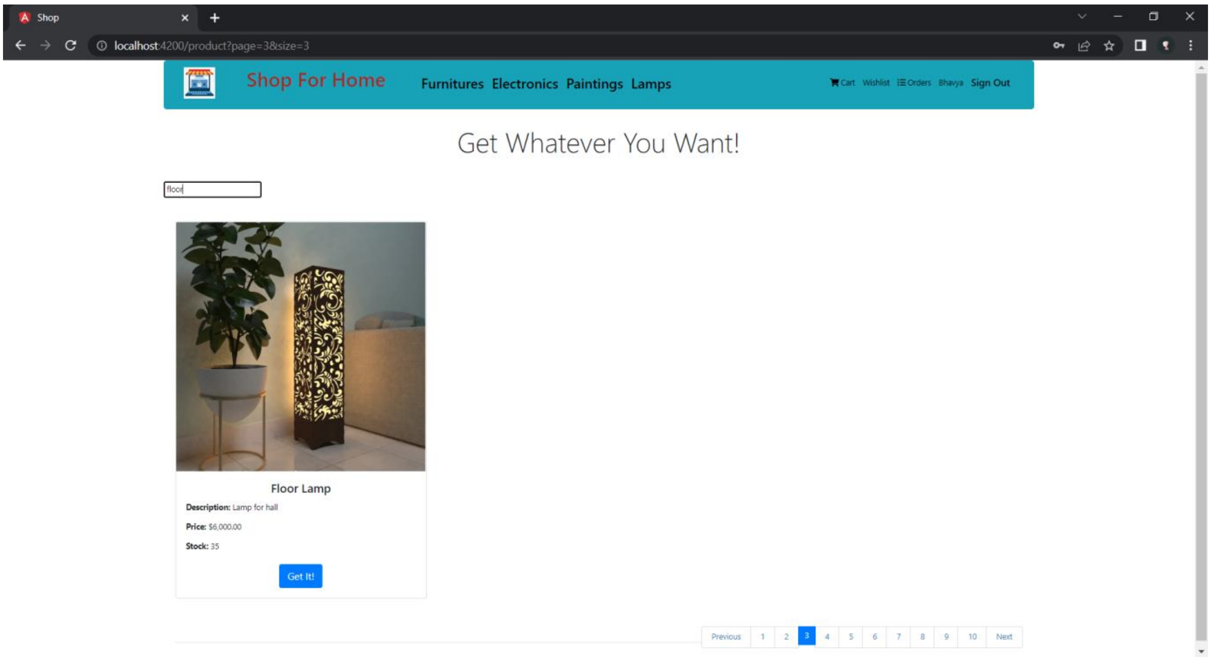
Stock: 20

Get It!

8.1.4 Products List

SEARCH

User can search different product items



Shop
localhost:4200/product?page=3&size=3
Shop For Home
Furnitures Electronics Paintings Lamps
Cart Wishlist Orders Bhavya Sign Out

Get Whatever You Want!

floor

Floor Lamp

Description: Lamp for hall

Price: $6,000.00

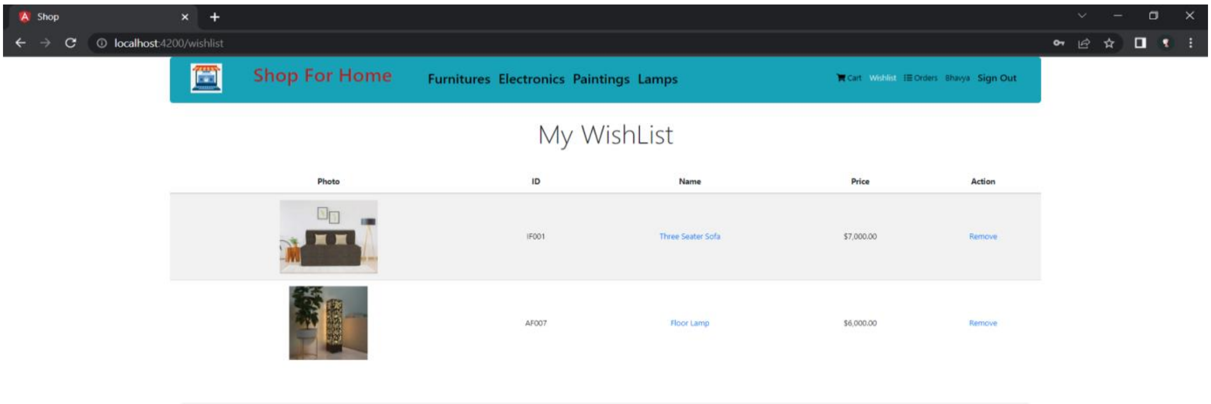
Stock: 35

Get It!
Previous 1 2 3 4 5 6 7 8 9 10 Next

8.1.5 Search

WISHLIST:

User is be able to get the Wish-list option to add those products which they but don’t want to order now**.**



Shop
localhost:4200/wishlist
Shop For Home
Furnitures Electronics Paintings Lamps
Cart Wishlist Orders Bhavya Sign Out

My WishList

Photo	ID	Name	Price	Action
	IF001	Three Seater Sofa	$7,000.00	Remove
	AF007	Floor Lamp	$6,000.00	Remove

8.1.6 Wishlist Option

BULK UPLOAD:

We can Upload many products at a time by uploading a .csv file with the product details.

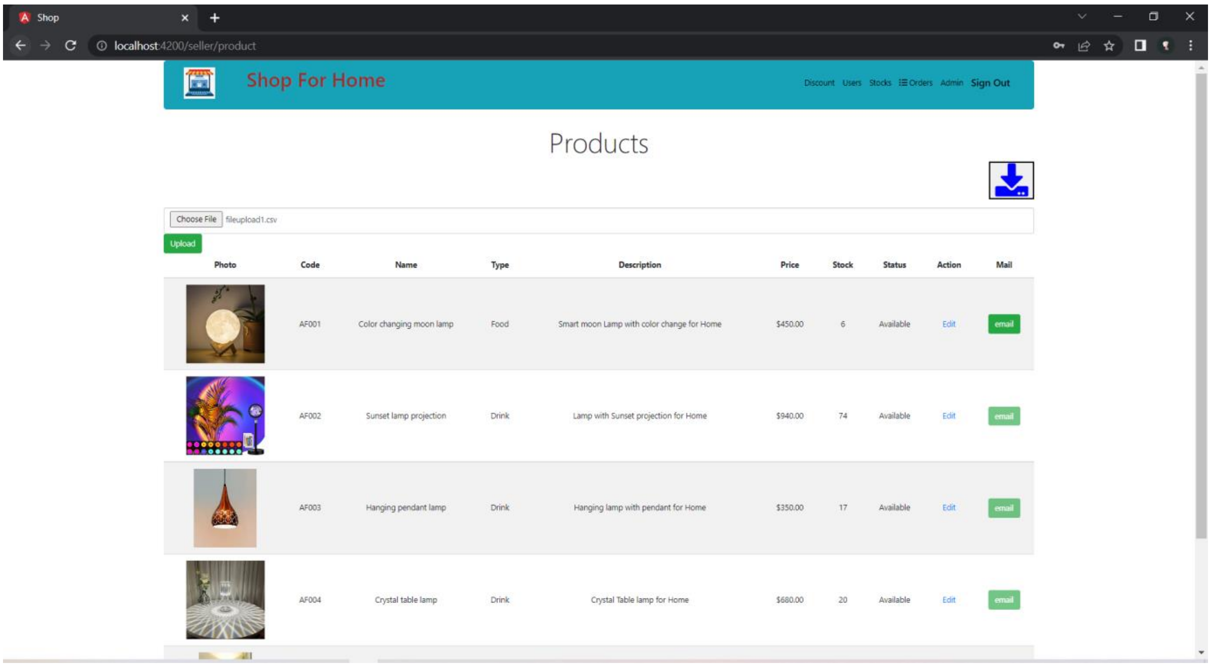


Photo	Code	Name	Type	Description	Price	Stock	Status	Action	Mail
	AF001	Color changing moon lamp	Food	Smart moon Lamp with color change for Home	$450.00	6	Available	Edit	email
	AF002	Sunset lamp projection	Drink	Lamp with Sunset projection for Home	$940.00	74	Available	Edit	email
	AF003	Hanging pendant lamp	Drink	Hanging lamp with pendant for Home	$350.00	17	Available	Edit	email
	AF004	Crystal table lamp	Drink	Crystal Table lamp for Home	$680.00	20	Available	Edit	email

8.1.7 Bulk Upload

DISCOUNT COUPONS:

User is able to get different discount coupons.

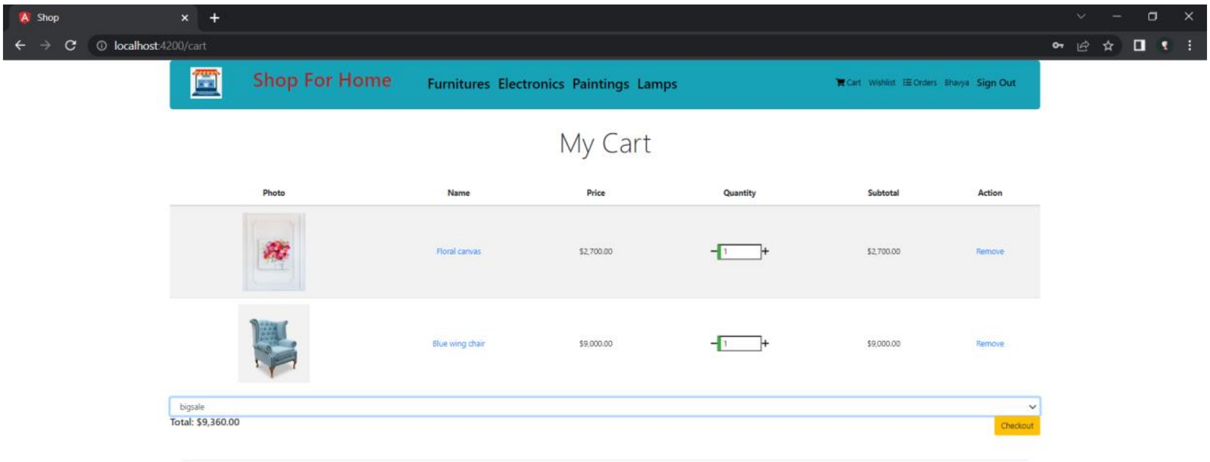


Photo	Name	Price	Quantity	Subtotal	Action
	Floral canvas	$2,700.00	1	$2,700.00	Remove
	Blue wing chair	$9,000.00	1	$9,000.00	Remove

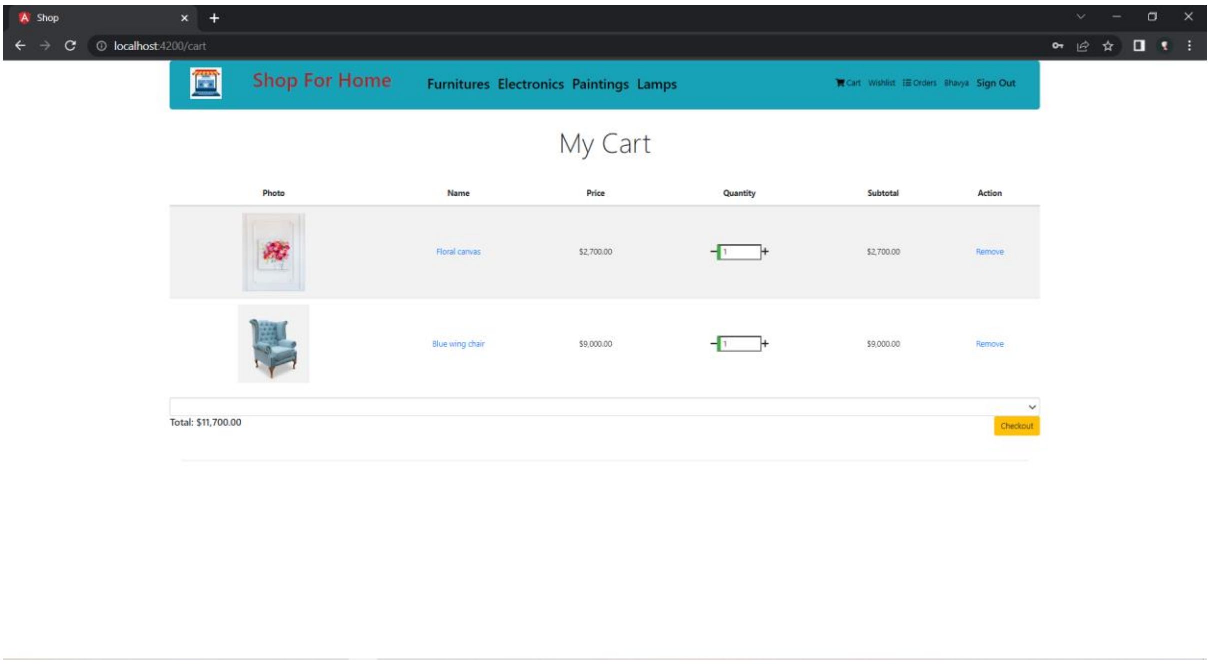
bigsale

Total: $9,360.00

8.1.8 Discount Option

CART OPTION:

User is able to add the products into the shopping , to increase or decrease the quantity added in the cart and to add “n” number of products in to the cart.


Shop
localhost:4200/cart
Shop For Home
Furnitures Electronics Paintings Lamps
Cart Wishlist Orders Bhavya Sign Out
Checkout

My Cart

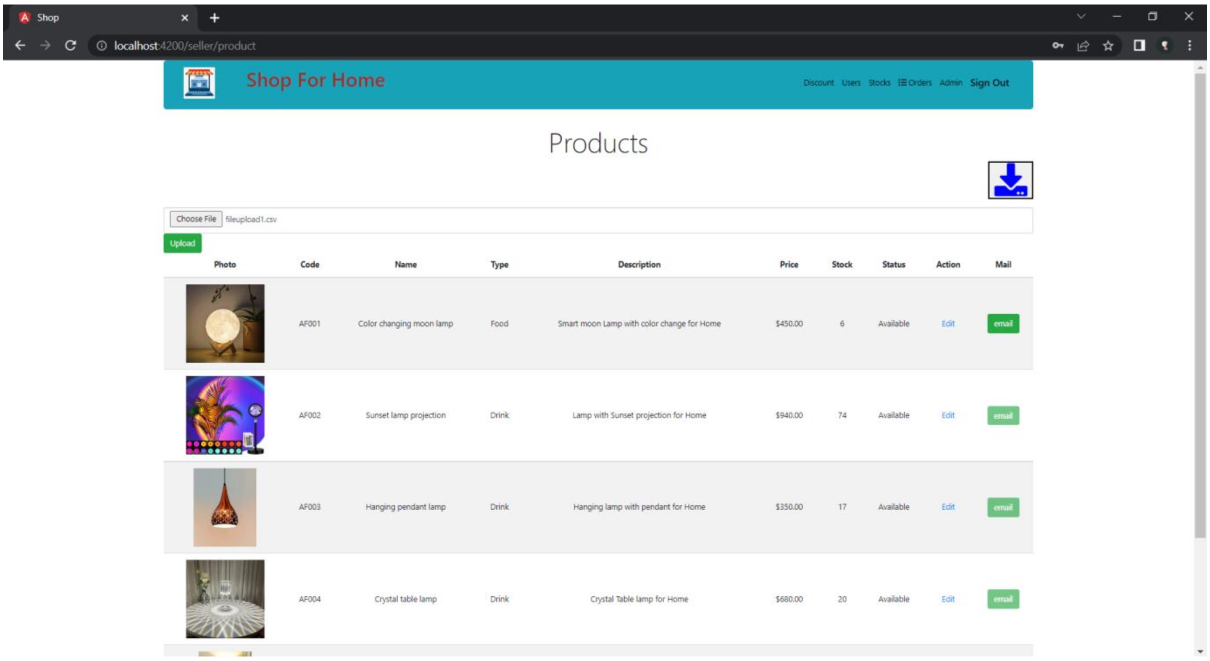
Photo	Name	Price	Quantity	Subtotal	Action
	Floral canvas	$2,700.00	1	$2,700.00	Remove
	Blue wing chair	$9,000.00	1	$9,000.00	Remove

Total: $11,700.00

8.1.9 Cart Option

STOCK AND SALES REPORT:

Admin is able to get the sales report of a specific duration.


Shop
localhost:4200/seller/product
Shop For Home
Discount Users Stocks Orders Admin Sign Out
Choose File
Upload

Products

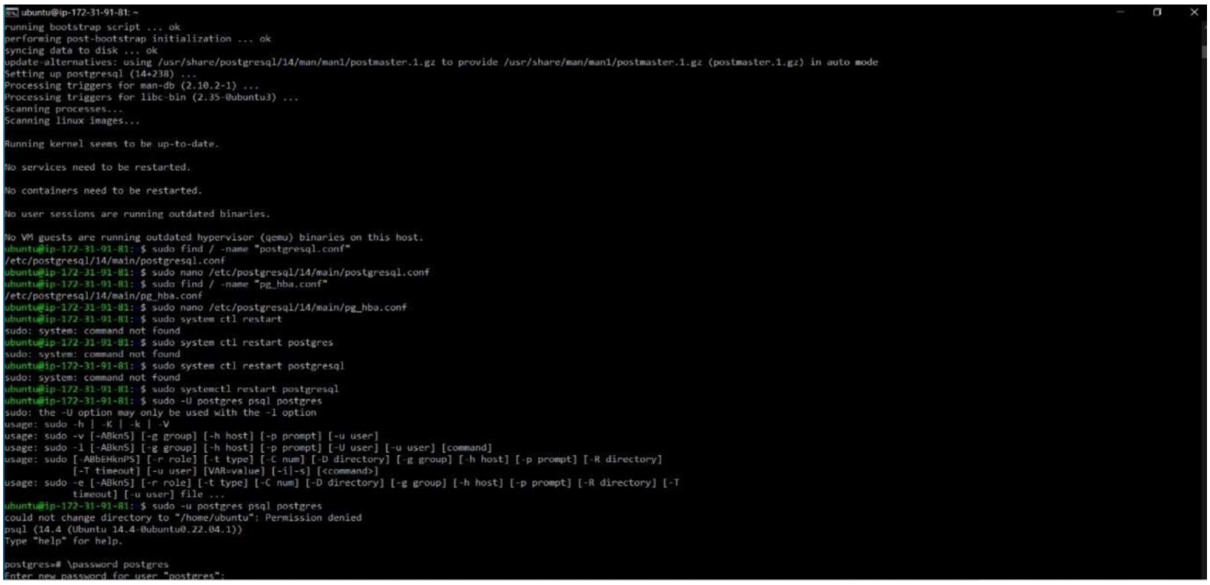
fileupload1.csv

Photo	Code	Name	Type	Description	Price	Stock	Status	Action	Mail
	AF001	Color changing moon lamp	Food	Smart moon Lamp with color change for Home	$450.00	6	Available	Edit	email
	AF002	Sunset lamp projection	Drink	Lamp with Sunset projection for Home	$940.00	74	Available	Edit	email
	AF003	Hanging pendant lamp	Drink	Hanging lamp with pendant for Home	$350.00	17	Available	Edit	email
	AF004	Crystal table lamp	Drink	Crystal Table lamp for Home	$680.00	20	Available	Edit	email

8.1.10 Stock and sales Reports

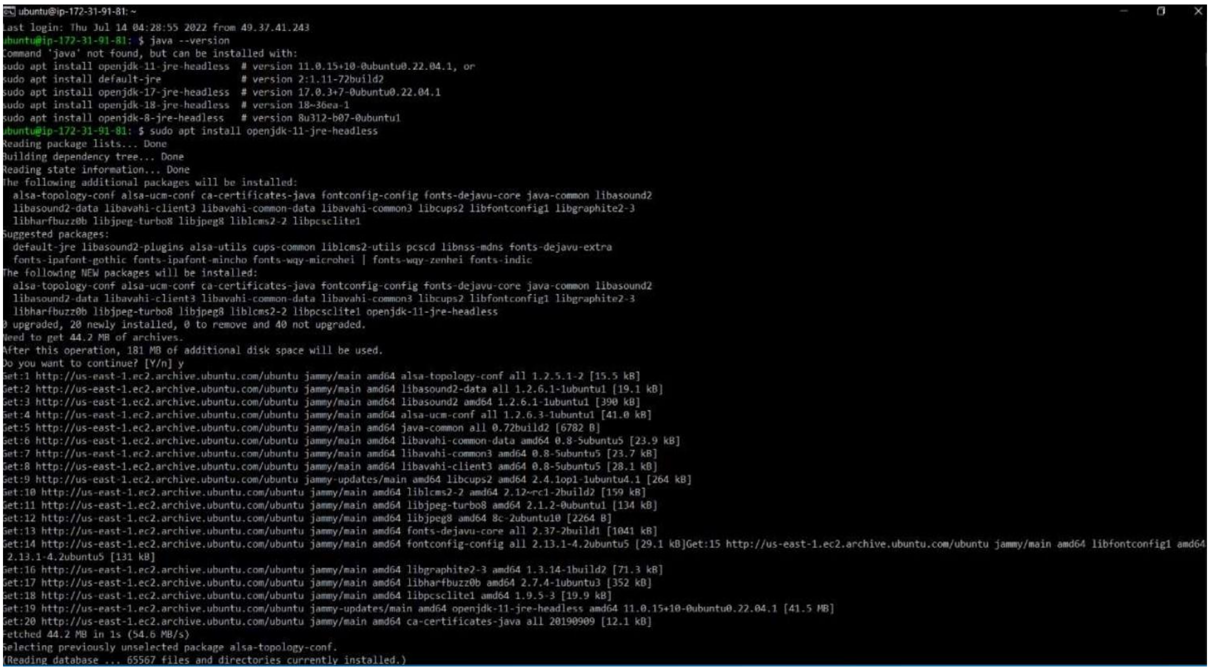
8.2 Cloud Deployment

Installing PostgreSQL in Backend Instance



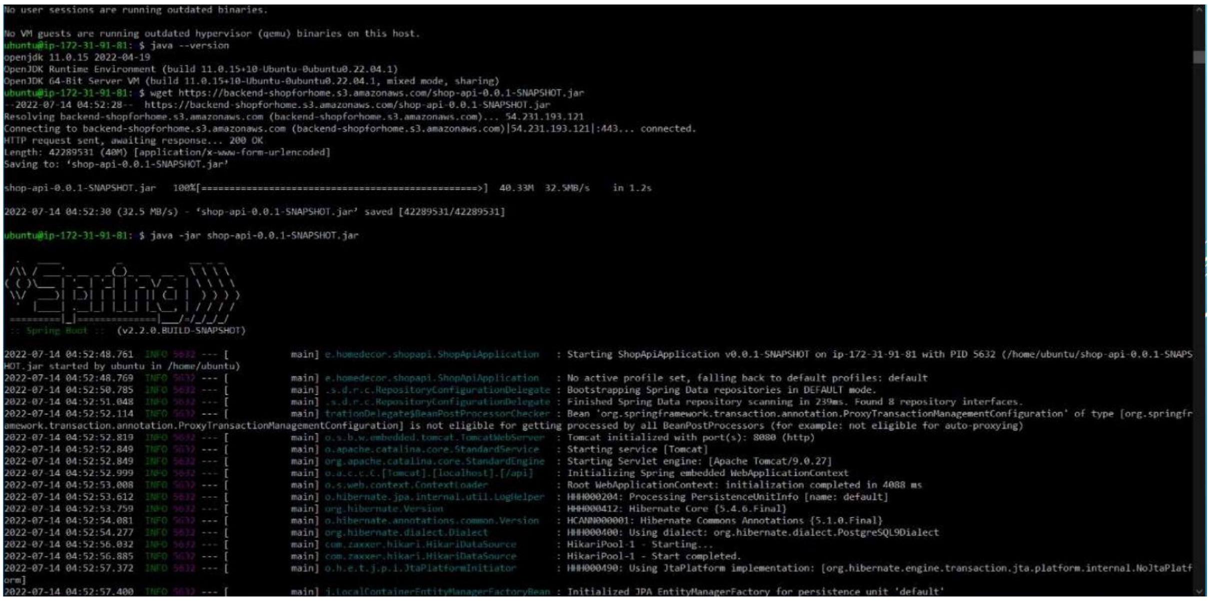
```
running bootstrap script ... ok
performing post-bootstrap initialization ... ok
syncing data to disk ... ok
update-alternatives: using /usr/share/postgresql/14/man/man1/postmaster.1.gz to provide /usr/share/man/man1/postmaster.1.gz (postmaster.1.gz) in auto mode
Setting up postgresql (14+238) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-91-81: $ sudo find / -name "postgresql.conf"
/etc/postgresql/14/main/postgresql.conf
ubuntu@ip-172-31-91-81: $ sudo nano /etc/postgresql/14/main/postgresql.conf
ubuntu@ip-172-31-91-81: $ sudo find / -name "pg_hba.conf"
/etc/postgresql/14/main/pg_hba.conf
ubuntu@ip-172-31-91-81: $ sudo nano /etc/postgresql/14/main/pg_hba.conf
ubuntu@ip-172-31-91-81: $ sudo system ctl restart
sudo: system: command not found
ubuntu@ip-172-31-91-81: $ sudo system ctl restart postgres
sudo: system: command not found
ubuntu@ip-172-31-91-81: $ sudo system ctl restart postgresql
sudo: system: command not found
ubuntu@ip-172-31-91-81: $ sudo systemctl restart postgresql
ubuntu@ip-172-31-91-81: $ sudo -U postgres psql postgres
sudo: the -U option may only be used with the -l option
usage: sudo -h | -K | -k | -V
usage: sudo -v [-ABknS] [-g group] [-h host] [-p prompt] [-u user]
usage: sudo -l [-ABknS] [-g group] [-h host] [-p prompt] [-U user] [-u user] [command]
usage: sudo [-ABbEHknPS] [-r role] [-t type] [-C num] [-D directory] [-g group] [-h host] [-p prompt] [-R directory]
            [-T timeout] [-u user] [VAR=value] [-i|-s] [<command>]
usage: sudo -e [-ABknS] [-r role] [-t type] [-C num] [-D directory] [-g group] [-h host] [-p prompt] [-R directory] [-T
            timeout] [-u user] file ...
ubuntu@ip-172-31-91-81: $ sudo -u postgres psql postgres
could not change directory to "/home/ubuntu": Permission denied
psql (14.4 (Ubuntu 14.4-0ubuntu0.22.04.1))
Type "help" for help.

postgres=# \password postgres
Enter new password for user "postgres":
```

Installing JDK in Backend Instance

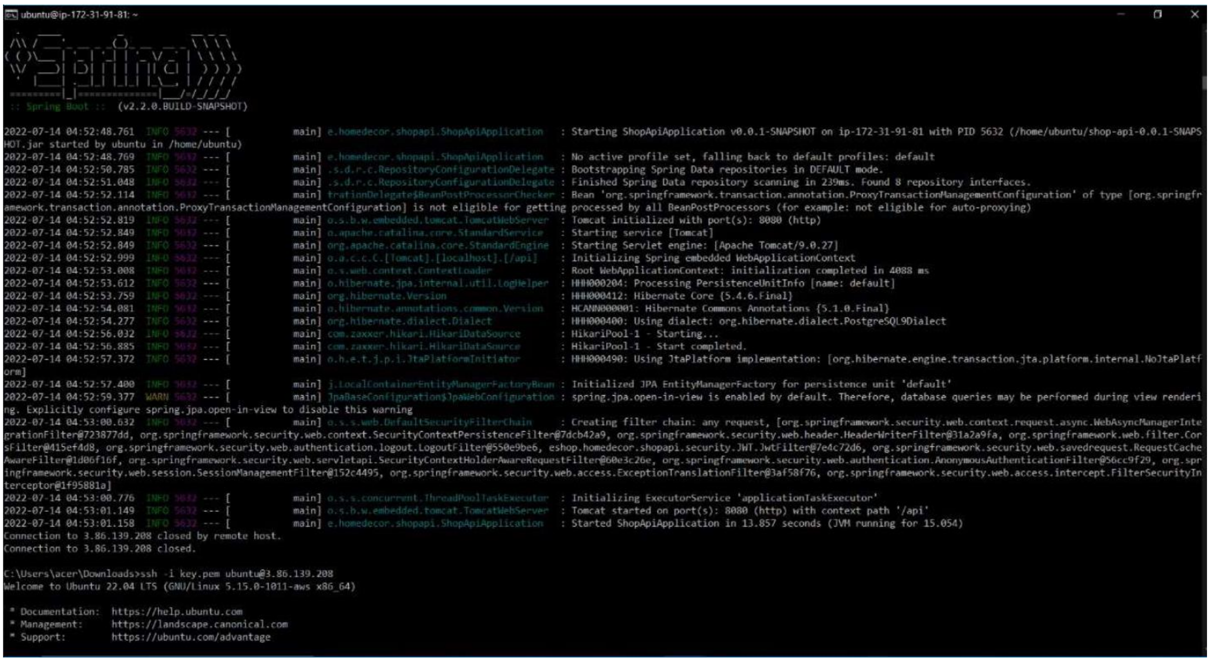


```
Last login: Thu Jul 14 04:28:55 2022 from 49.37.41.243
ubuntu@ip-172-31-91-81: $ java --version
Command 'java' not found, but can be installed with:
sudo apt install openjdk-11-jre-headless  # version 11.0.15+10-0ubuntu0.22.04.1, or
sudo apt install default-jre              # version 2:1.11-72build2
sudo apt install openjdk-17-jre-headless  # version 17.0.3+7-0ubuntu0.22.04.1
sudo apt install openjdk-18-jre-headless  # version 18~36ea-1
sudo apt install openjdk-8-jre-headless   # version 8u312-b07-0ubuntu1
ubuntu@ip-172-31-91-81: $ sudo apt install openjdk-11-jre-headless
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  alsa-topology-conf alsa-ucm-conf ca-certificates-java fontconfig-config fonts-dejavu-core java-common libasound2
  libasound2-data libavahi-client3 libavahi-common-data libavahi-common3 libcups2 libfontconfig1 libgraphite2-3
  libharfbuzz0b libjpeg-turbo8 libjpeg8 liblcms2-2 libpcsclite1
Suggested packages:
  default-jre libasound2-plugins alsa-utils cups-common liblcms2-utils pcscd libnss-mdns fonts-dejavu-extra
  fonts-ipafont-gothic fonts-ipafont-mincho fonts-wqy-microhei | fonts-wqy-zenhei fonts-indic
The following NEW packages will be installed:
  alsa-topology-conf alsa-ucm-conf ca-certificates-java fontconfig-config fonts-dejavu-core java-common libasound2
  libasound2-data libavahi-client3 libavahi-common-data libavahi-common3 libcups2 libfontconfig1 libgraphite2-3
  libharfbuzz0b libjpeg-turbo8 libjpeg8 liblcms2-2 libpcsclite1 openjdk-11-jre-headless
0 upgraded, 20 newly installed, 0 to remove and 40 not upgraded.
Need to get 44.2 MB of archives.
After this operation, 181 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 jammy/main amd64 alsa-topology-conf all 1.2.5.1-2 [15.5 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libasound2-data all 1.2.6.1-1ubuntu1 [19.1 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libasound2 amd64 1.2.6.1-1ubuntu1 [390 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 alsa-ucm-conf all 1.2.6.3-1ubuntu1 [41.0 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 java-common all 0.72build2 [6782 B]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libavahi-common-data amd64 0.8-5ubuntu5 [23.9 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libavahi-common3 amd64 0.8-5ubuntu5 [23.7 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libavahi-client3 amd64 0.8-5ubuntu5 [28.1 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libcups2 amd64 2.4.1op1-1ubuntu4.1 [264 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 liblcms2-2 amd64 2.12~rc1-2build2 [159 kB]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libjpeg-turbo8 amd64 2.1.2-0ubuntu1 [134 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libjpeg8 amd64 8c-2ubuntu10 [2264 B]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 fonts-dejavu-core all 2.37-2build1 [1041 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 fontconfig-config all 2.13.1-4.2ubuntu5 [29.1 kB]Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libfontconfig1 amd64
 2.13.1-4.2ubuntu5 [131 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libgraphite2-3 amd64 1.3.14-1build2 [71.3 kB]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libharfbuzz0b amd64 2.7.4-1ubuntu3 [352 kB]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libpcsclite1 amd64 1.9.5-3 [19.9 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 openjdk-11-jre-headless amd64 11.0.15+10-0ubuntu0.22.04.1 [41.5 MB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 ca-certificates-java all 20190909 [12.1 kB]
Fetched 44.2 MB in 1s (54.6 MB/s)
Selecting previously unselected package alsa-topology-conf.
(Reading database ... 65567 files and directories currently installed.)
```

Deploying Spring Boot Backend Application In Backend Instance

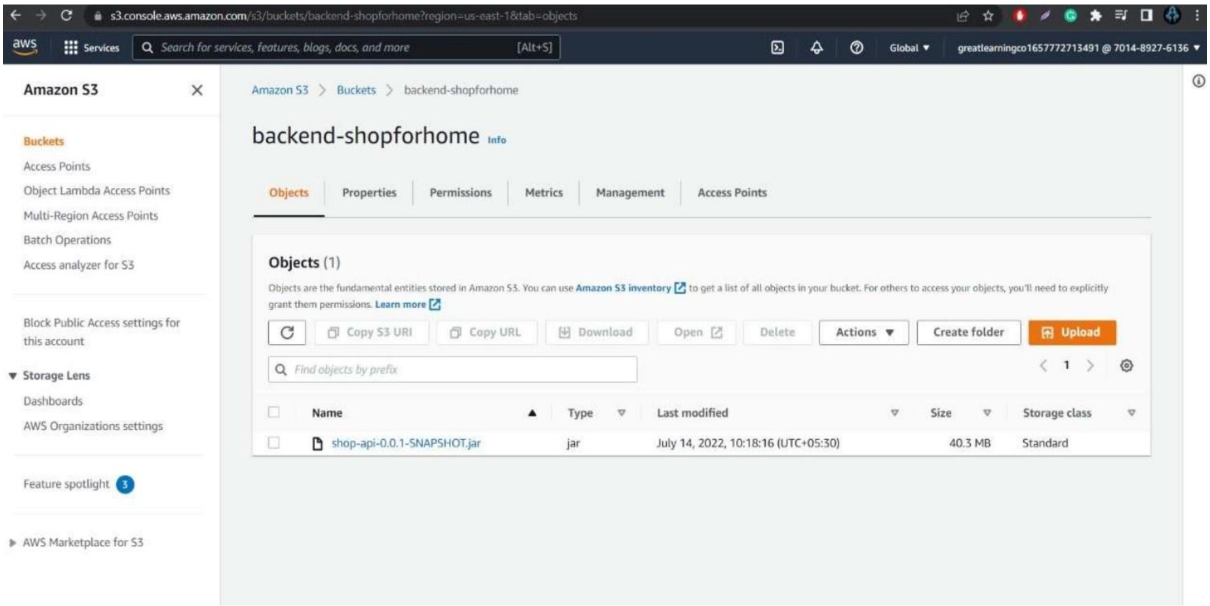


```
No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-91-81: $ java --version
openjdk 11.0.15 2022-04-19
OpenJDK Runtime Environment (build 11.0.15+10-Ubuntu-0ubuntu0.22.04.1)
OpenJDK 64-Bit Server VM (build 11.0.15+10-Ubuntu-0ubuntu0.22.04.1, mixed mode, sharing)
ubuntu@ip-172-31-91-81: $ wget https://backend-shopforhome.s3.amazonaws.com/shop-api-0.0.1-SNAPSHOT.jar
--2022-07-14 04:52:28--  https://backend-shopforhome.s3.amazonaws.com/shop-api-0.0.1-SNAPSHOT.jar
Resolving backend-shopforhome.s3.amazonaws.com (backend-shopforhome.s3.amazonaws.com)... 54.231.193.121
Connecting to backend-shopforhome.s3.amazonaws.com (backend-shopforhome.s3.amazonaws.com)|54.231.193.121|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 42289531 (40M) [application/x-www-form-urlencoded]
Saving to: 'shop-api-0.0.1-SNAPSHOT.jar'

shop-api-0.0.1-SNAPSHOT.jar   100%[===============================================>]  40.33M  32.5MB/s    in 1.2s

2022-07-14 04:52:30 (32.5 MB/s) - 'shop-api-0.0.1-SNAPSHOT.jar' saved [42289531/42289531]

ubuntu@ip-172-31-91-81: $ java -jar shop-api-0.0.1-SNAPSHOT.jar

  .   ____          _            __ _ _
 /\\ / ___'_ __ _ _(_)_ __  __ _ \ \ \ \
( ( )\___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
 =========|_|==============|___/=/_/_/_/
 :: Spring Boot ::  (v2.2.0.BUILD-SNAPSHOT)

2022-07-14 04:52:48.761  INFO 5632 --- [           main] e.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
HOT.jar started by ubuntu in /home/ubuntu)
2022-07-14 04:52:48.769  INFO 5632 --- [           main] e.homedecor.shopapi.ShopApiApplication   : No active profile set, falling back to default profiles: default
2022-07-14 04:52:50.785  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 04:52:52.114  INFO 5632 --- [           main] trationDelegate$BeanPostProcessorChecker : Bean 'org.springframework.transaction.annotation.ProxyTransactionManagementConfiguration' of type [org.springfr
amework.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] org.apache.catalina.core.StandardEngine  : Starting Servlet engine: [Apache Tomcat/9.0.27]
2022-07-14 04:52:52.999  INFO 5632 --- [           main] o.a.c.c.C.[Tomcat].[localhost].[/api]    : Initializing 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.hibernate.jpa.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] o.hibernate.annotations.common.Version   : HCANN000001: Hibernate Commons Annotations {5.1.0.Final}
2022-07-14 04:52:54.277  INFO 5632 --- [           main] org.hibernate.dialect.Dialect            : HHH000400: 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.NoJtaPlatf
orm]
2022-07-14 04:52:57.400  INFO 5632 --- [           main] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence unit 'default'
```



```
  .   ____          _            __ _ _
 /\\ / ___'_ __ _ _(_)_ __  __ _ \ \ \ \
( ( )\___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
 =========|_|==============|___/=/_/_/_/
 :: Spring Boot ::  (v2.2.0.BUILD-SNAPSHOT)

2022-07-14 04:52:48.761  INFO 5632 --- [           main] e.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
HOT.jar started by ubuntu in /home/ubuntu)
2022-07-14 04:52:48.769  INFO 5632 --- [           main] e.homedecor.shopapi.ShopApiApplication   : No active profile set, falling back to default profiles: default
2022-07-14 04:52:50.785  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 04:52:52.114  INFO 5632 --- [           main] trationDelegate$BeanPostProcessorChecker : Bean 'org.springframework.transaction.annotation.ProxyTransactionManagementConfiguration' of type [org.springfr
amework.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] org.apache.catalina.core.StandardEngine  : Starting Servlet engine: [Apache Tomcat/9.0.27]
2022-07-14 04:52:52.999  INFO 5632 --- [           main] o.a.c.c.C.[Tomcat].[localhost].[/api]    : Initializing 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.hibernate.jpa.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] o.hibernate.annotations.common.Version   : HCANN000001: Hibernate Commons Annotations {5.1.0.Final}
2022-07-14 04:52:54.277  INFO 5632 --- [           main] org.hibernate.dialect.Dialect            : HHH000400: 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.NoJtaPlatf
orm]
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 renderi
ng. Explicitly configure spring.jpa.open-in-view to disable this warning
2022-07-14 04:53:00.632  INFO 5632 --- [           main] o.s.s.web.DefaultSecurityFilterChain     : Creating filter chain: any request, [org.springframework.security.web.context.request.async.WebAsyncManagerInte
grationFilter@723877dd, org.springframework.security.web.context.SecurityContextPersistenceFilter@7dcb42a9, org.springframework.security.web.header.HeaderWriterFilter@31a2a9fa, org.springframework.web.filter.Cor
sFilter@415ef4d8, org.springframework.security.web.authentication.logout.LogoutFilter@550e9be6, eshop.homedecor.shopapi.security.JWT.JwtFilter@7e4c72d6, org.springframework.security.web.savedrequest.RequestCache
AwareFilter@1d06f16f, org.springframework.security.web.servletapi.SecurityContextHolderAwareRequestFilter@60e3c26e, org.springframework.security.web.authentication.AnonymousAuthenticationFilter@56cc9f29, org.spr
ingframework.security.web.session.SessionManagementFilter@152c4495, org.springframework.security.web.access.ExceptionTranslationFilter@3af58f76, org.springframework.security.web.access.intercept.FilterSecurityIn
terceptor@1f95881a]
2022-07-14 04:53:00.776  INFO 5632 --- [           main] o.s.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
```

Backend Jar File on S3 Bucket



s3.console.aws.amazon.com/s3/buckets/backend-shopforhome?region=us-east-1&tab=objects
Services
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Global ▼
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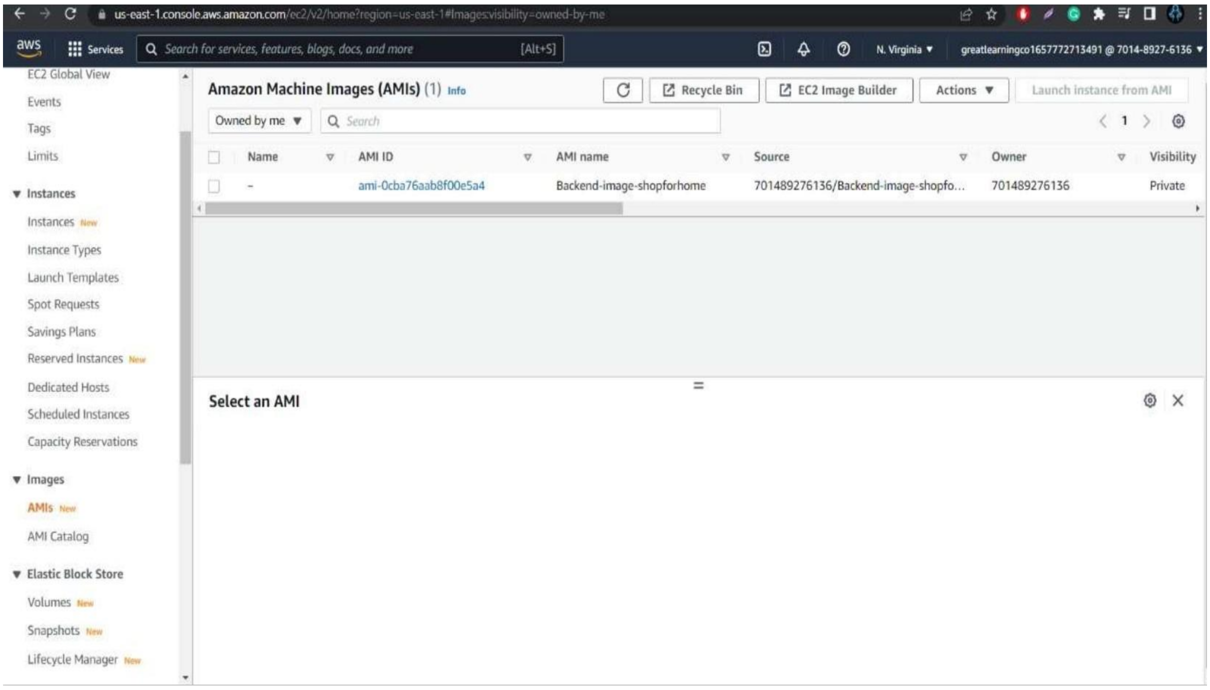
Amazon S3
Buckets
Access Points
Object Lambda Access Points
Multi-Region Access Points
Batch Operations
Access analyzer for S3
Block Public Access settings for this account
Storage Lens
Dashboards
AWS Organizations settings
Feature spotlight 3
AWS Marketplace for S3
Amazon S3 > Buckets > backend-shopforhome
backend-shopforhome Info
Objects
Properties
Permissions
Metrics
Management
Access Points
Copy S3 URI
Copy URL
Download
Open
Delete
Actions ▼
Create folder
Upload
Find objects by prefix

Objects (1)

Objects are the fundamental entities stored in Amazon S3. You can use Amazon S3 inventory to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. Learn more

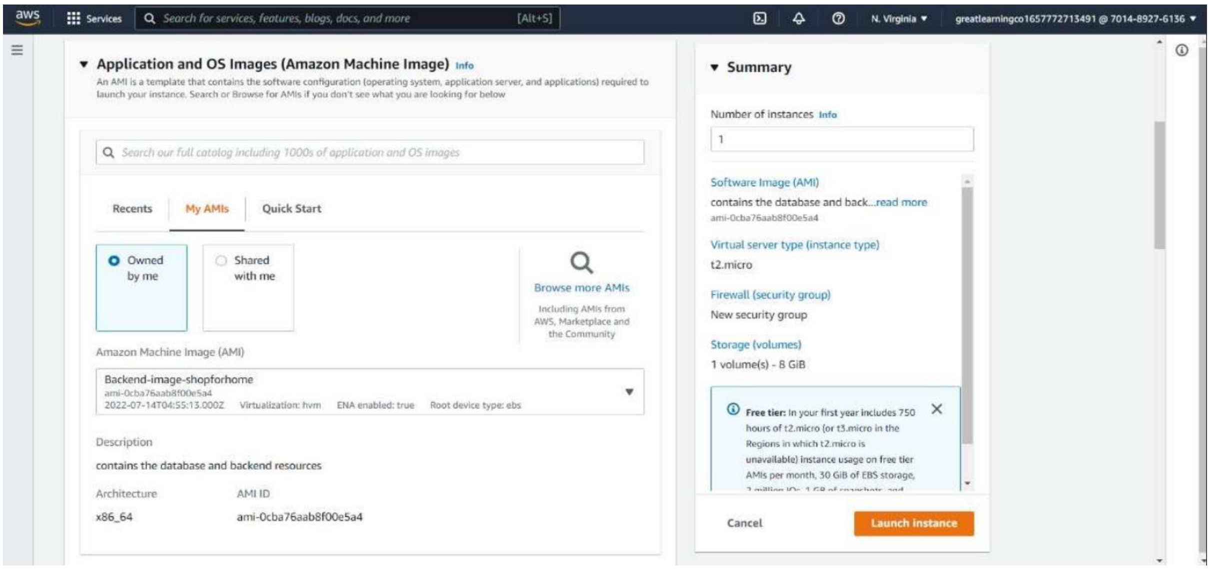
	Name	Type	Last modified	Size	Storage class
□	shop-api-0.0.1-SNAPSHOT.jar	jar	July 14, 2022, 10:18:16 (UTC+05:30)	40.3 MB	Standard

AMI Created from Backend Instance to use in AutoScaling



	Name	AMI ID	AMI name	Source	Owner	Visibility
□	-	ami-0cba76aab8f00e5a4	Backend-image-shopforhome	701489276136/Backend-image-shopfo...	701489276136	Private

Creating instance with ami and user-data script



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Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Recents
My AMIs
Quick Start

● Owned by me   ○ Shared with me

Amazon Machine Image (AMI)

Backend-image-shopforhome
ami-0cba76aab8f00e5a4
2022-07-14T04:55:13.000Z   Virtualization: hvm   ENA enabled: true   Root device type: ebs

Description

contains the database and backend resources

Architecture: x86_64

AMI ID: ami-0cba76aab8f00e5a4

Summary

Number of instances Info: 1

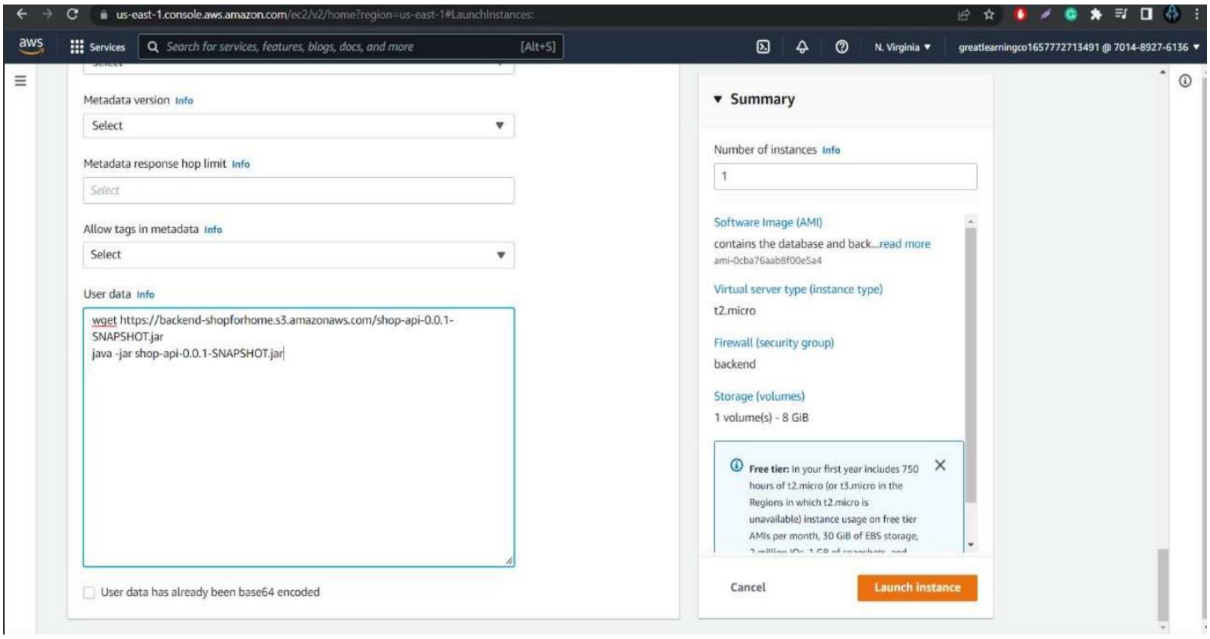
Software Image (AMI)
contains the database and back...read more
ami-0cba76aab8f00e5a4

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage,



us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstances:
aws
Services
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Metadata version Info: Select

Metadata response hop limit Info: Select

Allow tags in metadata Info: Select

User data Info

```
wget https://backend-shopforhome.s3.amazonaws.com/shop-api-0.0.1-
SNAPSHOT.jar
java -jar shop-api-0.0.1-SNAPSHOT.jar
```

□ User data has already been base64 encoded

Summary

Number of instances Info: 1

Software Image (AMI)
contains the database and back...read more
ami-0cba76aab8f00e5a4

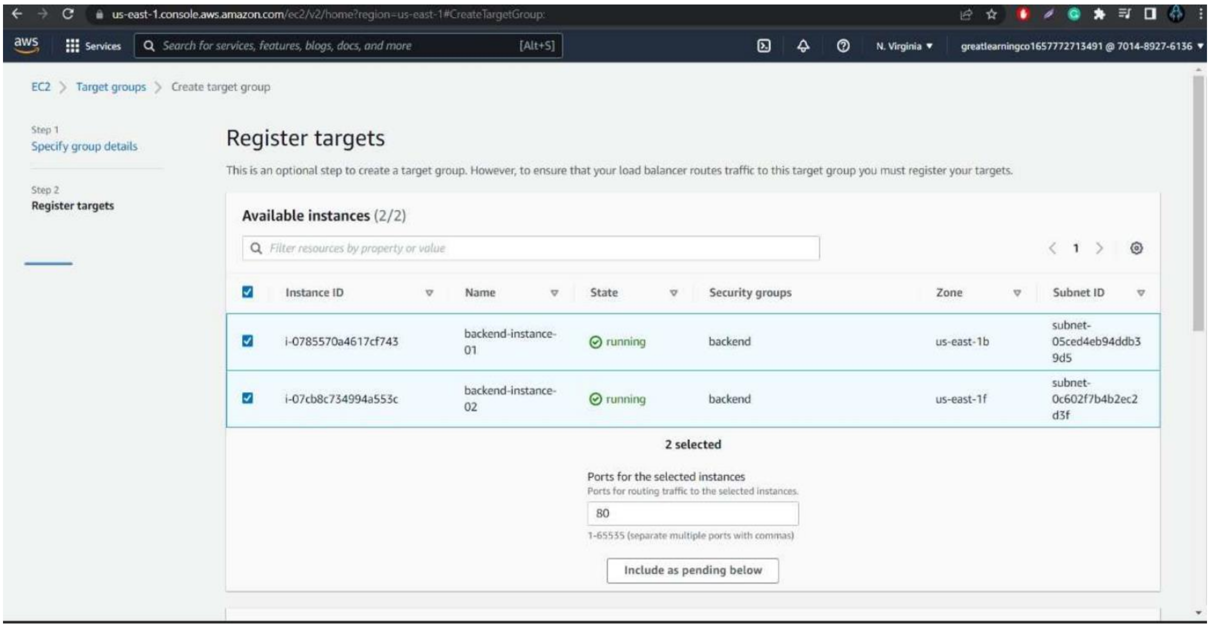
Virtual server type (instance type)
t2.micro

Firewall (security group)
backend

Storage (volumes)
1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage,

Creating target group



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

EC2 > Target groups > Create target group

Step 1
Specify group details

Step 2
Register targets

Register targets

This is an optional step to create a target group. However, to ensure that your load balancer routes traffic to this target group you must register your targets.

Available instances (2/2)

☑	Instance ID	Name	State	Security groups	Zone	Subnet ID
☑	i-0785570a4617cf743	backend-instance-01	running	backend	us-east-1b	subnet-05ced4eb94ddb39d5
☑	i-07cb8c734994a553c	backend-instance-02	running	backend	us-east-1f	subnet-0c602f7b4b2ec2d3f

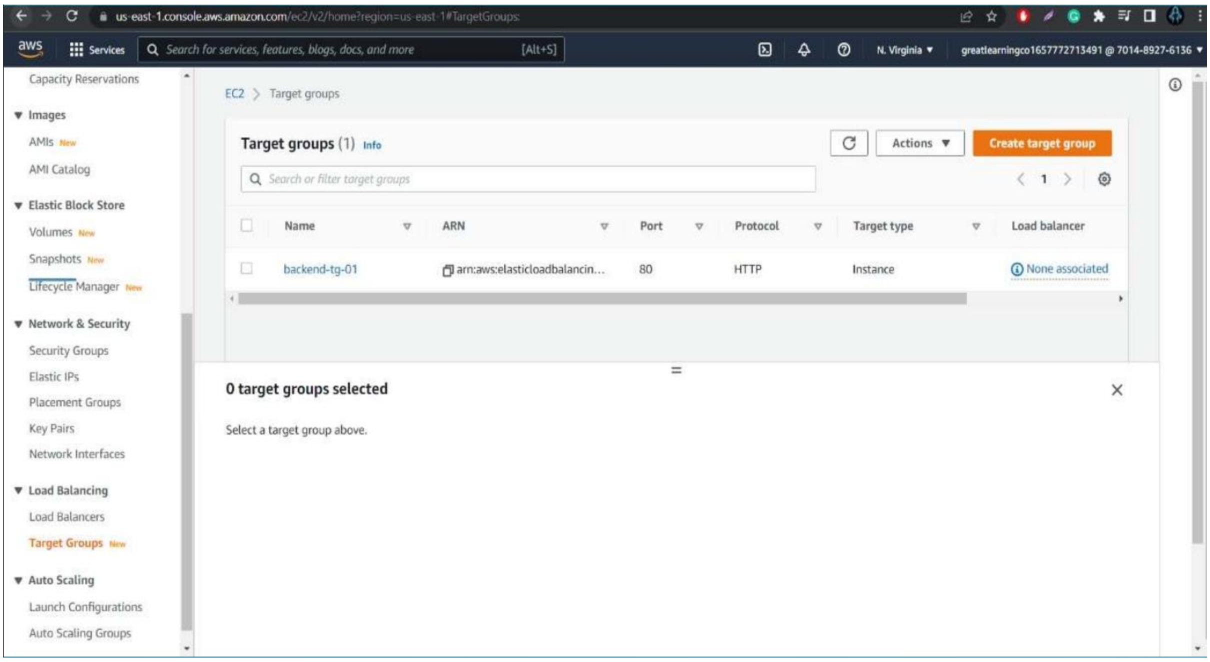
2 selected

Ports for the selected instances
Ports for routing traffic to the selected instances.

80

1-65535 (separate multiple ports with commas)

Include as pending below



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

EC2 > Target groups

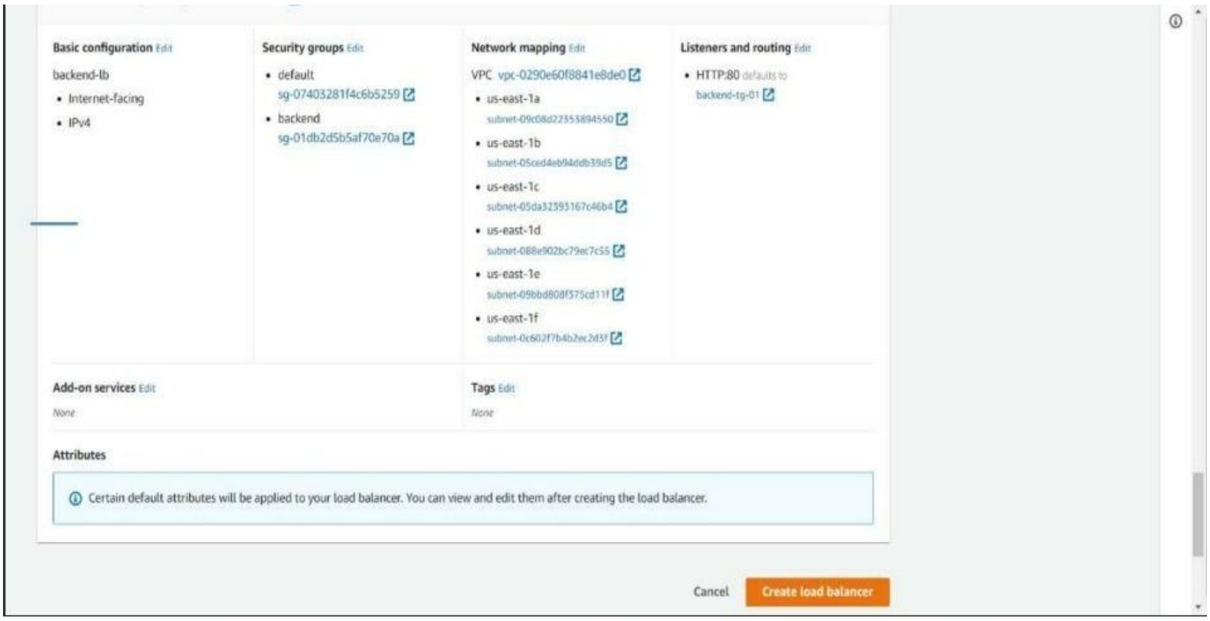
Target groups (1) Info

□	Name	ARN	Port	Protocol	Target type	Load balancer
□	backend-tg-01	arn:aws:elasticloadbalancin...	80	HTTP	Instance	None associated

0 target groups selected

Select a target group above.

Creating load balancer



Basic configuration Edit

backend-lb
- Internet-facing
- IPv4

Security groups Edit

- default sg-07403281f4c6b5259
- backend sg-01db2d5b5af70e70a

Network mapping Edit

VPC vpc-0290e60f8841e8de0
- us-east-1a subnet-09c08d22353894550
- us-east-1b subnet-05ced4eb94ddb39d5
- us-east-1c subnet-05da32393167c46b4
- us-east-1d subnet-088e902bc79ec7c55
- us-east-1e subnet-09bbd808f375cd11f
- us-east-1f subnet-0c602f7b4b2ec2d3f

Listeners and routing Edit

- HTTP:80 defaults to backend-tg-01

Add-on services Edit

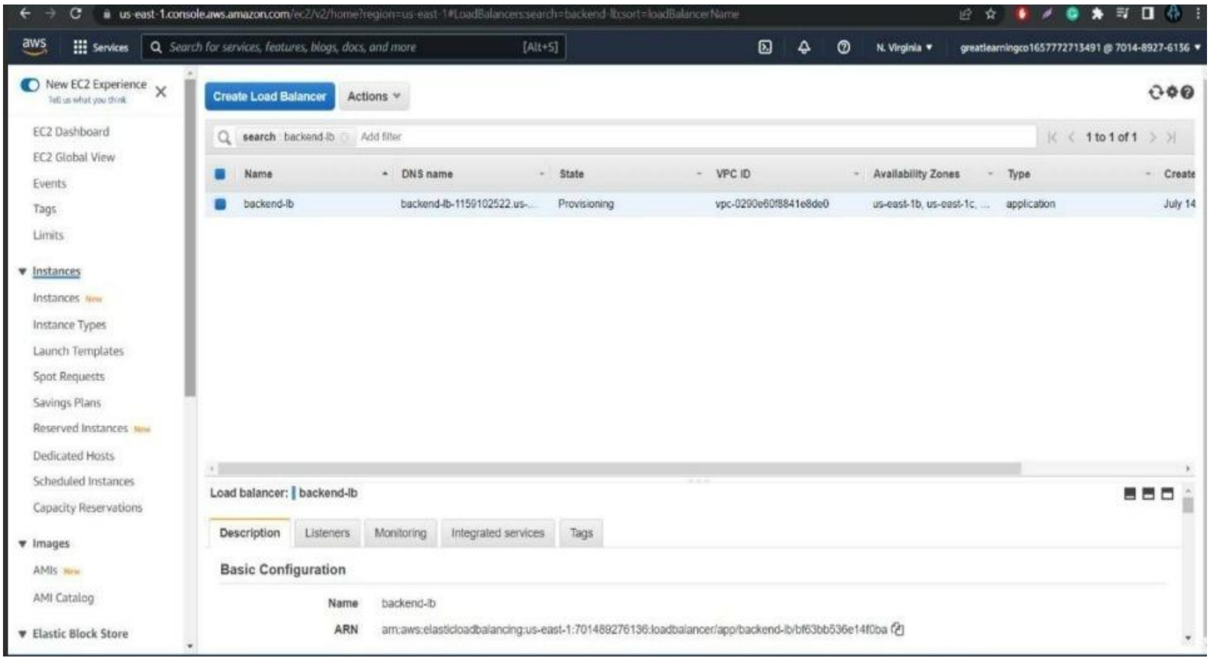
None

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.



Name	DNS name	State	VPC ID	Availability Zones	Type	Create
backend-lb	backend-lb-1159102522.us-...	Provisioning	vpc-0290e60f8841e8de0	us-east-1b, us-east-1c, ...	application	July 14

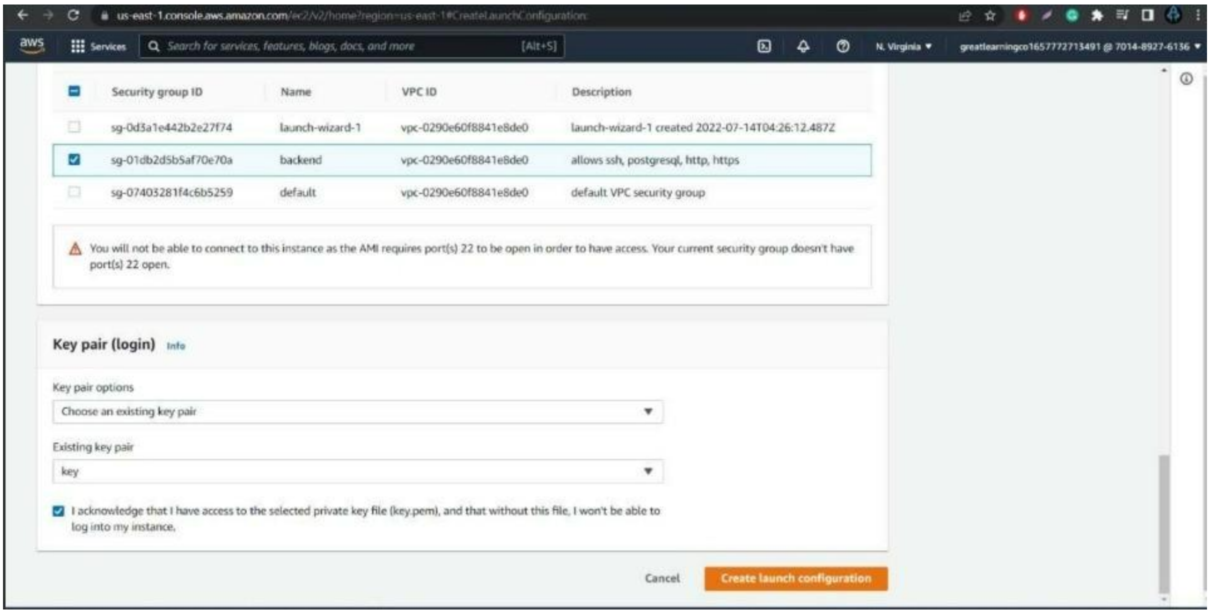
Load balancer: backend-lb

Basic Configuration

Name backend-lb

ARN arn:aws:elasticloadbalancing:us-east-1:701489276136:loadbalancer/app/backend-lb/bf63bb536e14f0ba

Creating launch configuration



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

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	Security group ID	Name	VPC ID	Description
□	sg-0d3a1e442b2e27f74	launch-wizard-1	vpc-0290e60f8841e8de0	launch-wizard-1 created 2022-07-14T04:26:12.487Z
☑	sg-01db2d5b5af70e70a	backend	vpc-0290e60f8841e8de0	allows ssh, postgresql, http, https
□	sg-07403281f4c6b5259	default	vpc-0290e60f8841e8de0	default VPC security group

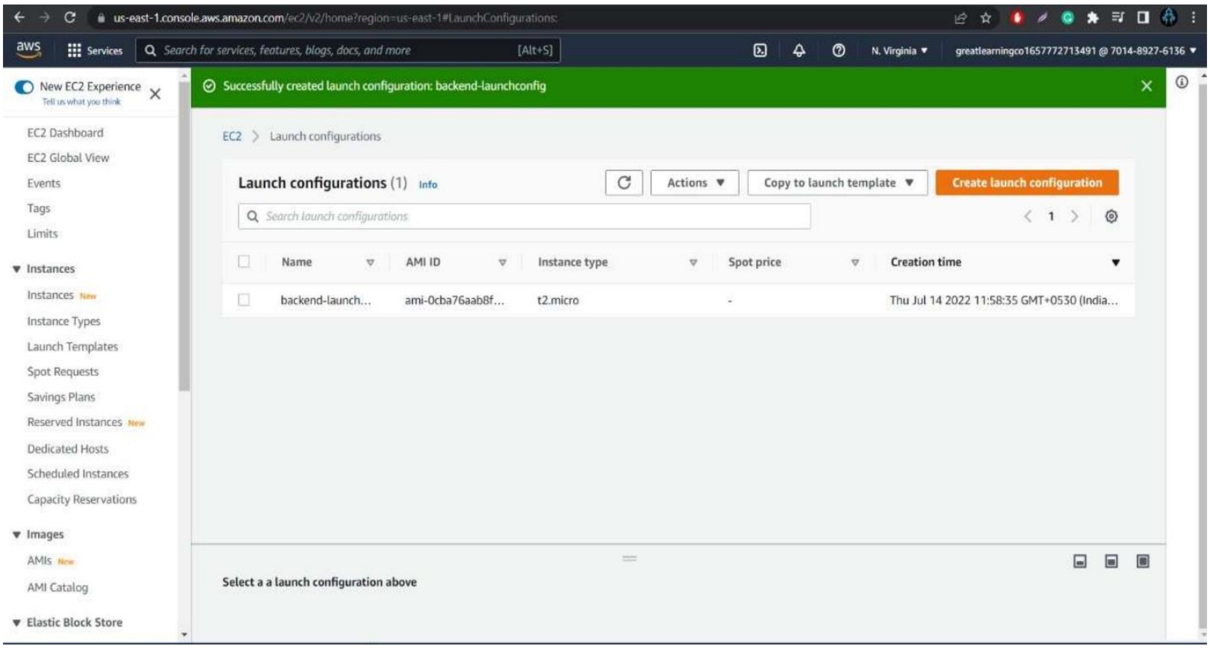
⚠ You will not be able to connect to this instance as the AMI requires port(s) 22 to be open in order to have access. Your current security group doesn't have port(s) 22 open.

Key pair (login) Info

Key pair options: Choose an existing key pair

Existing key pair: key

☑ I acknowledge that I have access to the selected private key file (key.pem), and that without this file, I won't be able to log into my instance.



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

Successfully created launch configuration: backend-launchconfig

EC2 > Launch configurations

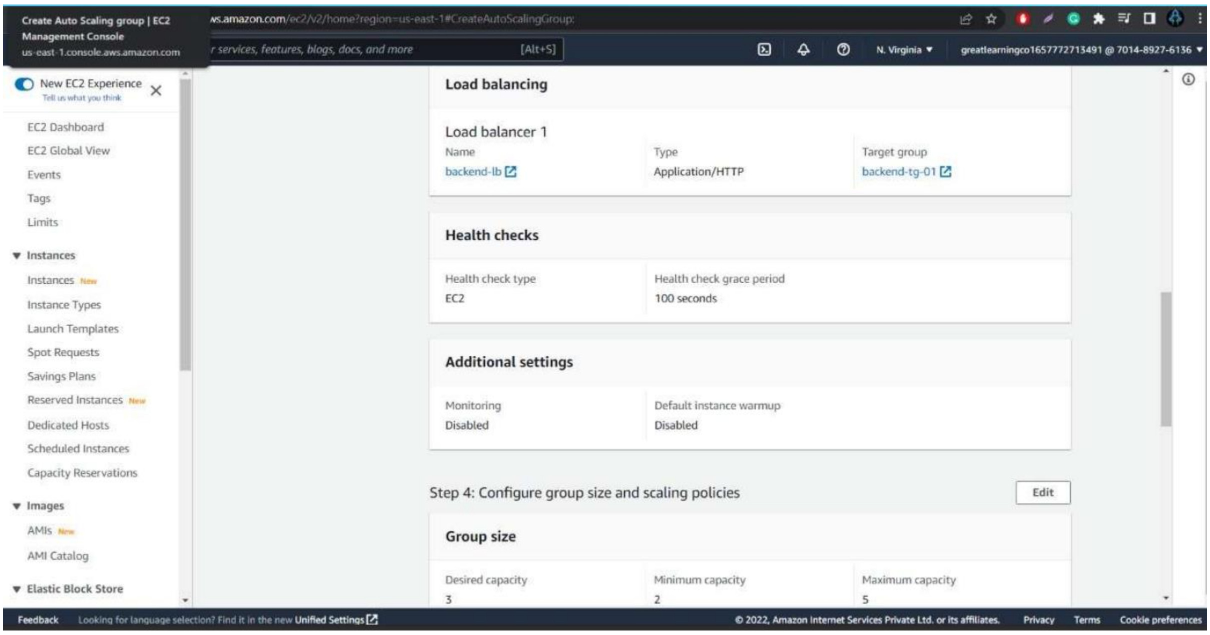
Launch configurations (1) Info

Actions ▾
Copy to launch template ▾
Create launch configuration
Search launch configurations
1

□	Name	AMI ID	Instance type	Spot price	Creation time
□	backend-launch...	ami-0cba76aab8f...	t2.micro	-	Thu Jul 14 2022 11:58:35 GMT+0530 (India...

Select a a launch configuration above

Creating auto-scaling group


Create Auto Scaling group | EC2 Management Console
us-east-1.console.aws.amazon.com
ws.amazon.com/ec2/v2/home?region=us-east-1#CreateAutoScalingGroup:
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Load balancing

Load balancer 1

Name	Type	Target group
backend-lb	Application/HTTP	backend-tg-01

Health checks

Health check type	Health check grace period
EC2	100 seconds

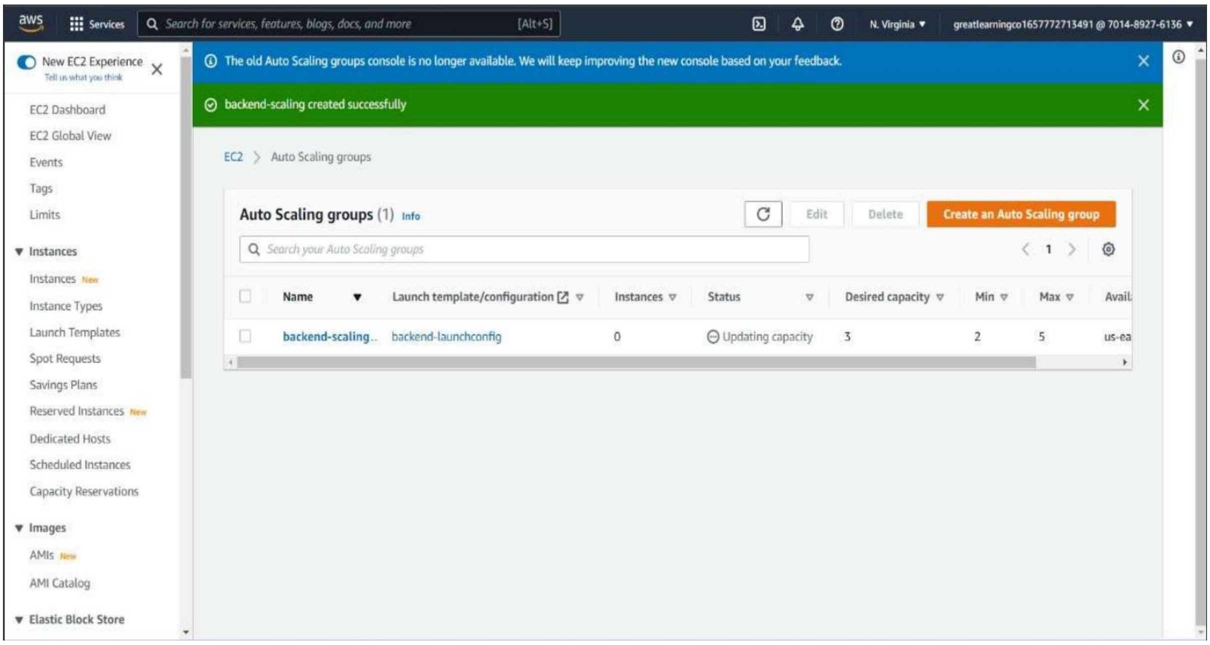
Additional settings

Monitoring	Default instance warmup
Disabled	Disabled

Step 4: Configure group size and scaling policies

Group size

Desired capacity	Minimum capacity	Maximum capacity
3	2	5



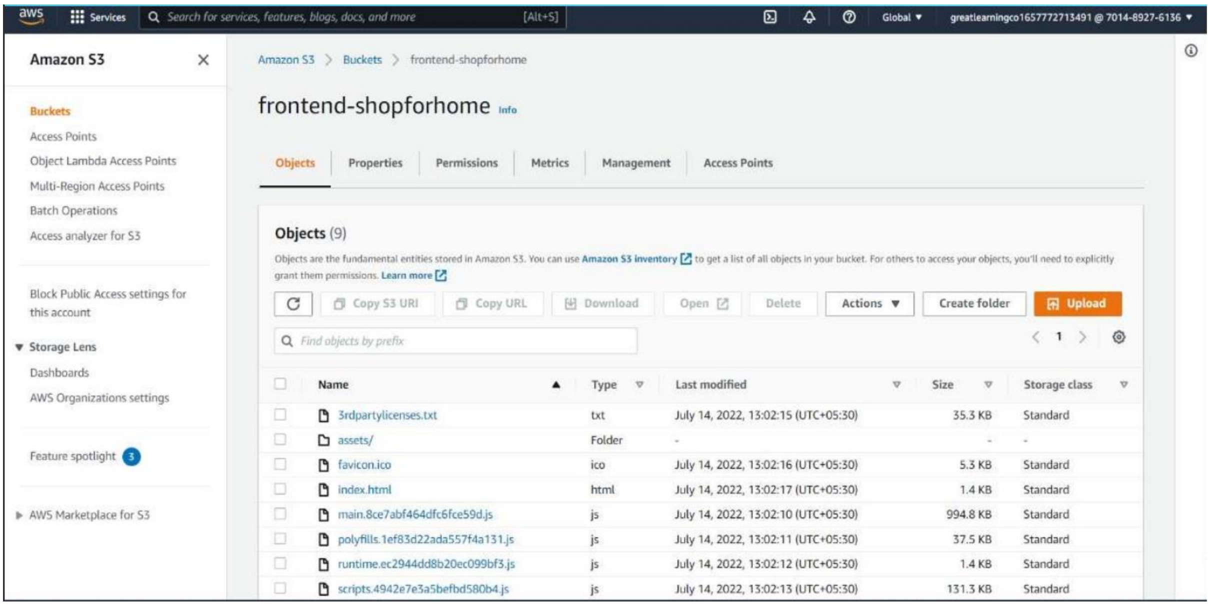
The old Auto Scaling groups console is no longer available. We will keep improving the new console based on your feedback.

backend-scaling created successfully

Auto Scaling groups (1) Info

Name	Launch template/configuration	Instances	Status	Desired capacity	Min	Max	Avail
backend-scaling..	backend-launchconfig	0	Updating capacity	3	2	5	us-ea

Creating frontend S3 bucket

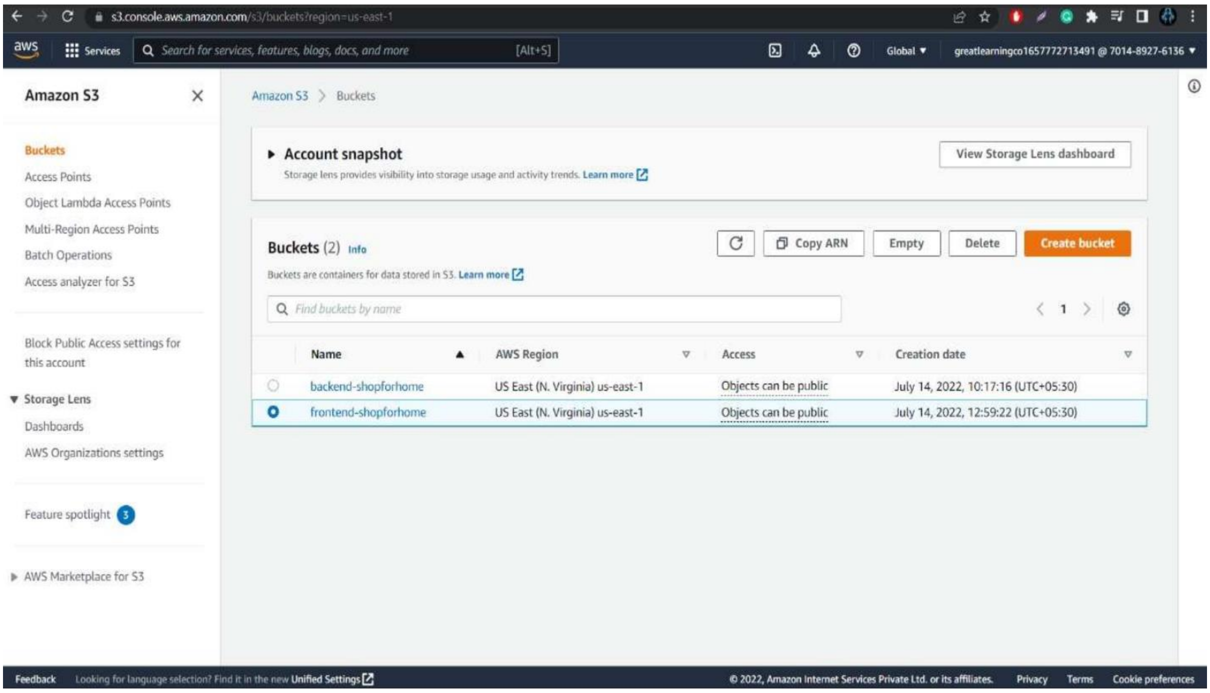


frontend-shopforhome Info

Objects (9)

Objects are the fundamental entities stored in Amazon S3. You can use Amazon S3 inventory to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. Learn more

□	Name ▲	Type	Last modified	Size	Storage class
□	3rdpartylicenses.txt	txt	July 14, 2022, 13:02:15 (UTC+05:30)	35.3 KB	Standard
□	assets/	Folder	-	-	-
□	favicon.ico	ico	July 14, 2022, 13:02:16 (UTC+05:30)	5.3 KB	Standard
□	index.html	html	July 14, 2022, 13:02:17 (UTC+05:30)	1.4 KB	Standard
□	main.8ce7abf464dfc6fce59d.js	js	July 14, 2022, 13:02:10 (UTC+05:30)	994.8 KB	Standard
□	polyfills.1ef83d22ada557f4a131.js	js	July 14, 2022, 13:02:11 (UTC+05:30)	37.5 KB	Standard
□	runtime.ec2944dd8b20ec099bf3.js	js	July 14, 2022, 13:02:12 (UTC+05:30)	1.4 KB	Standard
□	scripts.4942e7e3a5befbd580b4.js	js	July 14, 2022, 13:02:13 (UTC+05:30)	131.3 KB	Standard



s3.console.aws.amazon.com/s3/buckets?region=us-east-1
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Feature spotlight 3
▶ AWS Marketplace for S3
Amazon S3 > Buckets
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Copy ARN
Empty
Delete
Create bucket
Find buckets by name
Feedback
Looking for language selection? Find it in the new Unified Settings
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▶ Account snapshot

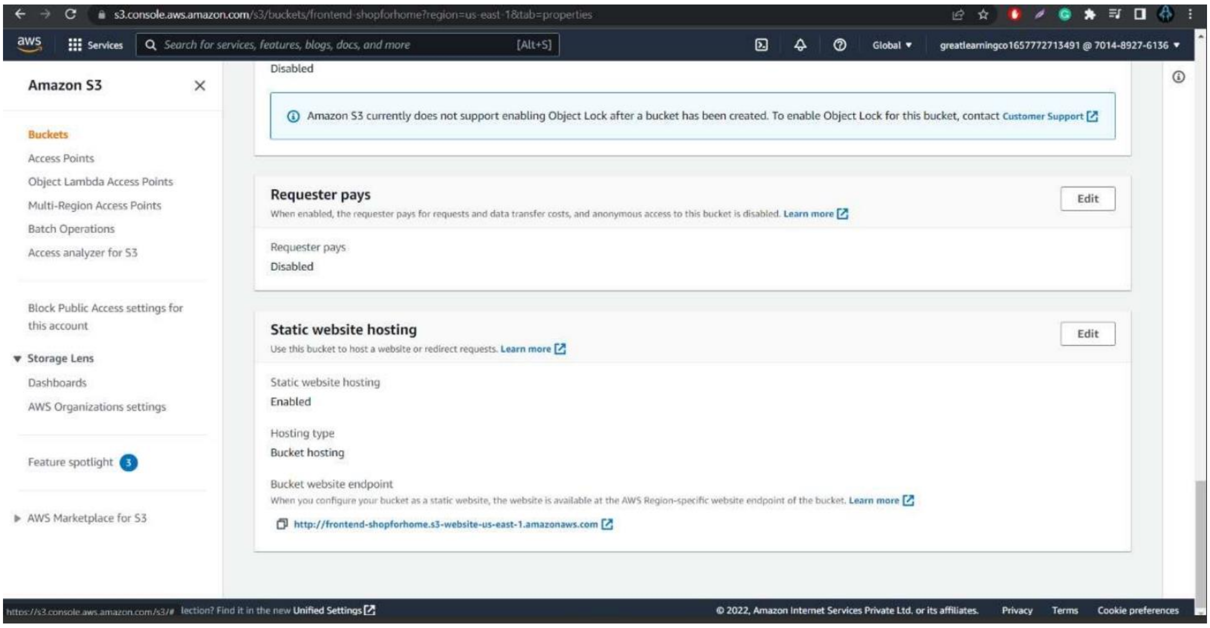
Storage lens provides visibility into storage usage and activity trends. Learn more

Buckets (2) Info

Buckets are containers for data stored in S3. Learn more

	Name ▲	AWS Region	Access	Creation date
○	backend-shopforhome	US East (N. Virginia) us-east-1	Objects can be public	July 14, 2022, 10:17:16 (UTC+05:30)
●	frontend-shopforhome	US East (N. Virginia) us-east-1	Objects can be public	July 14, 2022, 12:59:22 (UTC+05:30)

Static hosting frontend S3 bucket


s3.console.aws.amazon.com/s3/buckets/frontend-shopforhome?region=us-east-1&tab=properties
aws
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Batch Operations
Access analyzer for S3
Block Public Access settings for this account
▾ Storage Lens
Dashboards
AWS Organizations settings
Feature spotlight 3
▸ AWS Marketplace for S3
Edit
Edit
https://s3.console.aws.amazon.com/s3/#
Privacy
Terms
Cookie preferences

Disabled

Amazon S3 currently does not support enabling Object Lock after a bucket has been created. To enable Object Lock for this bucket, contact Customer Support

Requester pays

When enabled, the requester pays for requests and data transfer costs, and anonymous access to this bucket is disabled. Learn more

Requester pays
Disabled

Static website hosting

Use this bucket to host a website or redirect requests. Learn more

Static website hosting
Enabled

Hosting type
Bucket hosting

Bucket website endpoint
When you configure your bucket as a static website, the website is available at the AWS Region-specific website endpoint of the bucket. Learn more

http://frontend-shopforhome.s3-website-us-east-1.amazonaws.com

lection? Find it in the new Unified Settings

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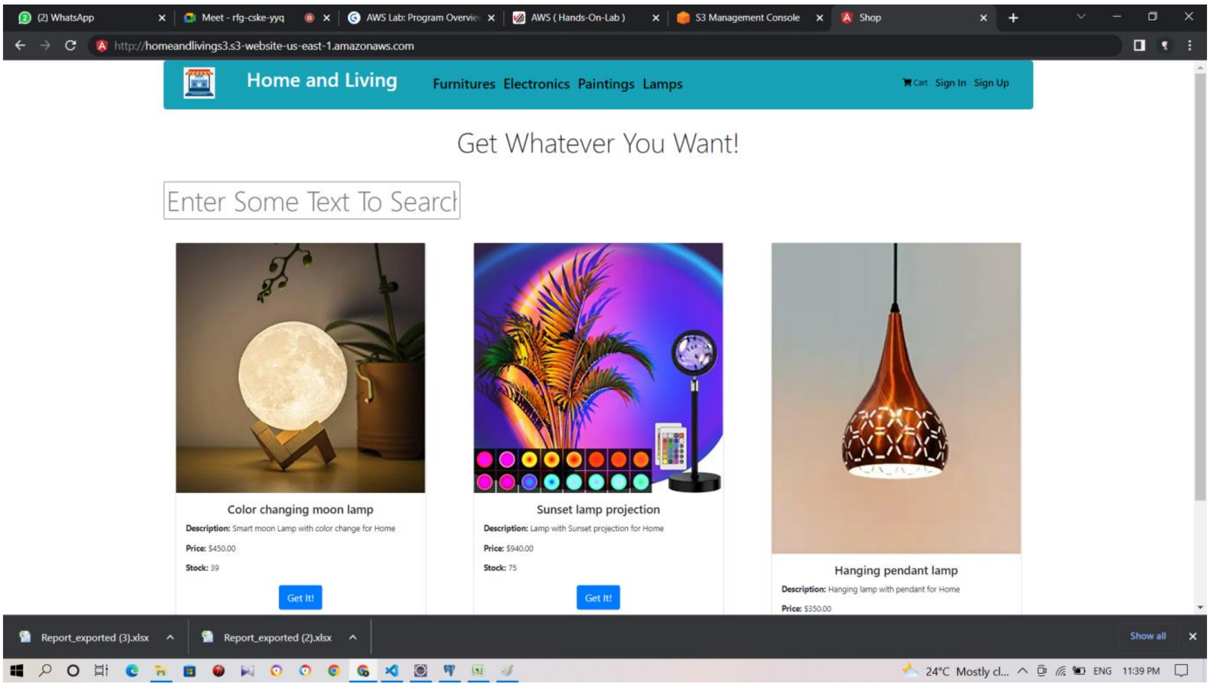

Get Whatever You Want!

Color changing moon lamp

Description: Smart moon Lamp with color change for Home

Price: $450.00

Stock: 39

Sunset lamp projection

Description: Lamp with Sunset projection for Home

Price: $940.00

Stock: 75

Hanging pendant lamp

Description: Hanging lamp with pendant for Home

Price: $350.00

9 Conclusion And Future Scope

9.1 Conclusion

E-Commerce has undeniably become an important part of our society. The successful companies of the future will be those that take E-Commerce seriously, dedicating sufficient resources to its development. E-Commerce is not an IT issue but a whole business undertaking. Companies that use it as a reason for completely re-designing their business processes are likely to reap the greatest benefits. Moreover, E-Commerce is a helpful technology that gives the consumer access to business and companies all over the world.

9.2 Future Scope

The e-commerce industry saw major traction in 2020. Technology innovation, easy scalability, increased internet penetration and changed user habits due to COVID-19 let the industry improve experiences and compete against brick-and-mortar shops.

Engaging customers directly is top priority for brands, and in this era of widespread awareness and cutthroat competition, the only way to survive is to stay ahead of the curve, identify lagging areas and capture evolving trends at the onset.