



PROJECT REPORT

ON

RETRO GADGETS E-COMMERCE PLATFORM

SUBMITTED

TO

ROURKELA INSTITUTE OF MANAGEMENT STUDIES

(As a partial fulfilment of the requirement for the award of Degree)

FOR

MASTER IN COMPUTER APPLICATION

SUBMITTED BY

M.SMRITY REDDY

REGD NO: 2305260010

MCA 4TH SEMESTER (2023-2025)

**ROURKELA INSTITUTE OF MANAGEMENT
STUDIES**

(Affiliated to Biju Patnaik University of Technology)



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CERTIFICATE OF EXAMINATON

This is to certify that this project report entitled "**“RETRO GADGETS E-COMMERCE PLATFORM”**" submitted by **M. SMRITY REDDY** of 4th semester, **Rourkela Institute of Management Studies, Rourkela**, is accepted as partial fulfillment of requirements for the degree in Master in Computer Applications, under **Biju Patnaik University of Technology, Rourkela** this has been verified by us and found be original up to our satisfaction.

Examiner



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DEAN ACADEMIC RIMS, ROURKELA



Prof. Bibhudendu Panda Head of The
Department, MCA

Rourkela Institute of Management Studies
Rourkela

CERTIFICATE

This is to certify that **M.SMRITY REDDY** student of **MCA, Rourkela Institute of Management Studies, Rourkela, Odisha** of Session 2023-2025 has completed the project successfully.

I wish all success in her life.

(Prof. Bibhudendu Panda)



DECLARATION

I **M.SMRITY REDDY**, hereby declare that the project report entitled "**RETRO GADGETS E-COMMERCE PLATFORM**" is of my work. The above work I submitted to "**Biju Patnaik University of Technology, Rourkela**" for the award of "**Master in Computer Applications**" Degree.

To the best of my knowledge, this work has not been submitted or published anywhere for the award of any degree.

M.SMRITY REDDY



ACKNOWLEDGEMENT

I would like to express my gratitude to **Mr. Rashmi kanta Das (JAVA TECHOCRAT)** and **Mr. Smruti Ranjan Nayak** for his guidance and support during the project work.

I am deeply indebted to **Rourkela Institute of Management Studies, Chhend, Rourkela**, for providing me an opportunity to undertake a project work entitled "**"RETRO GADGETS E-COMMERCE PLATFORM"**".

I am grateful to my project guide **Prof. Bibhudendu Panda** without his guidance it would not have been possible on my part to complete the project.

I acknowledge the help and co-operation received from all my team members in making this project.

I consider myself fortunate that I have successfully completed this project; I acknowledge my sincere gratitude to all those works and ideas that had helped me in writing this project.

M.SMRITY REDDY

University Roll No: 2305260010

MCA (2023-2025)

Rourkela Institute of Management

Studies, ROURKELA, ODISHA.

ABSTRACT

The Retro Gadgets e-commerce platform aims to enhance the online shopping experience by integrating a structured Product Listing Page (PLP), a refined Shopping Cart, and a feature-rich Seller Dashboard. Traditional e-commerce models often struggle with inefficiencies in product management and user navigation. This project leverages modern web technologies such as HTML, CSS, JavaScript, and Spring Boot to create an interactive and responsive platform. The PLP ensures smooth product discovery, while the Shopping Cart is optimized for a seamless purchasing process.

The Seller Dashboard empowers sellers with functionalities such as adding, editing, deleting products, toggling product status (Active/Inactive), and displaying Seller ID, Name, and Store Name. By improving user interaction and product accessibility, this project aims to offer a more precise and efficient e-commerce solution, enhancing the overall buying and selling process.

GANNT CHART

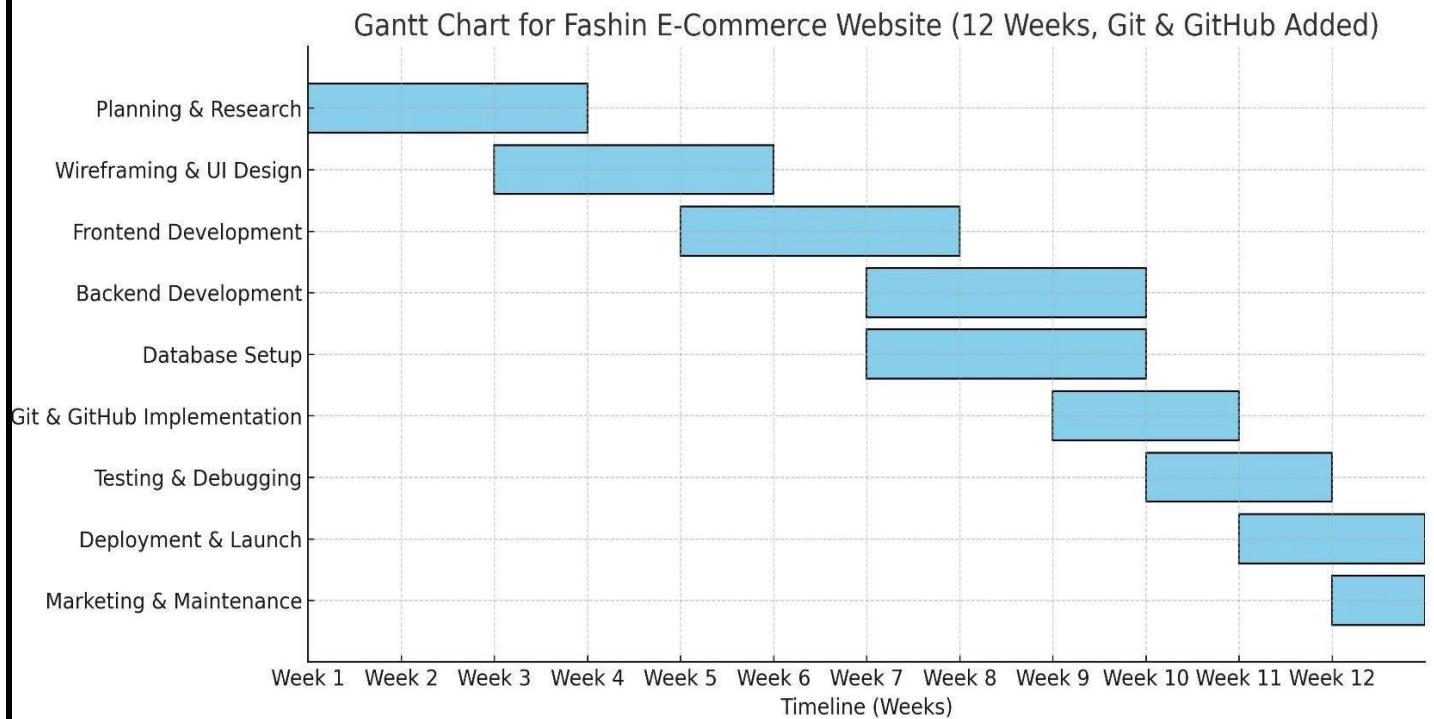


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CHAPTER-1

INTRODUCTION

1.1 Preface

The Vintronics E-Commerce Website is designed to provide a seamless and stylish online shopping experience focused on retro-vintage products. This project plan outlines the various stages involved in developing the website, from initial research to final deployment. The structured timeline ensures an organized workflow, covering frontend and backend development, database setup, and essential integrations like Git and GitHub for version control.

This document presents a Gantt chart that visually represents the tasks and their respective timelines, helping track progress and ensuring that the project stays on schedule. With a strong foundation in design, functionality, and user experience, Vintronics aims to establish itself as a reliable and engaging online shopping platform.

2. Understanding the Problem Statement

With the rise of online shopping, consumers expect a seamless and user-friendly platform to browse, purchase, and engage with retro-vintage electronic products. The primary challenge is to design an e-commerce website that not only meets these expectations but also provides a visually appealing interface, efficient navigation.

Key problems to address include:

- Creating a responsive and aesthetically pleasing design that attracts customers.
- Ensuring smooth frontend and backend interactions for an optimal shopping experience.
- Implementing a robust database structure to manage products, users, and orders efficiently.
- Utilizing Git and GitHub for version control and collaborative development.

By addressing these challenges, Vintronics aims to deliver a high-quality shopping experience that enhances customer satisfaction and engagement

3. Motivation for Work

1. Building Something Unique – we're creating a powerful e-commerce platform with a well-structured PLP, shopping cart, and Seller Dashboard—tailored exactly how you envision it. This is your chance to stand out!

2. Real-World Impact – Your platform could help sellers grow their business and provide buyers with an efficient shopping experience—all designed by you!
3. Tech Mastery – By working with Spring Boot, HTML, CSS, and JavaScript, you’re strengthening your skills, which will give you a competitive edge in backend and full-stack development.
4. Resume Booster – A fully functional PLP and Seller Dashboard will look amazing in your portfolio, making you an even stronger candidate for future opportunities.
5. Creative Control – Since you’re deciding the features and UI/UX, this is a great opportunity to experiment and push your creativity.

4. Project Overview

The Vintronics E-Commerce Website is a comprehensive online shopping platform focused on delivering high-quality retro-vintage electronic products. The project encompasses various aspects of web development, ensuring a feature-rich and user-friendly experience.

Key Objectives:

- Develop a visually appealing and responsive website layout for seamless browsing.
- Implement a robust backend system for efficient order processing and user management.
- Establish a secure and scalable database structure to store product and customer information.
- Utilize Git and GitHub for effective version control and team collaboration.
- Conduct rigorous testing to enhance security, performance, and usability.

Core Features:

- User Authentication – Secure login and registration system.
- Product Catalogue – Well-organized display of retro electronic products.
- Responsive Design – Mobile-friendly interface for an optimized shopping experience.
- Admin Panel – Tools for managing inventory, users, and orders.

With a structured development approach, Fashin aims to offer an innovative and engaging online shopping platform that meets modern user expectations.

4. Purpose

Vintronics aims to revolutionize the tech e-commerce experience by enhancing user experience, empowering sellers with efficient product management, leveraging modern technology for scalability, and streamlining product discovery and shopping.

Primary Purposes:

- **Enhancing User Experience:** Delivering a seamless, intuitive, and visually appealing shopping experience for tech enthusiasts.
- **Increasing Business Reach:** Providing a feature-rich Seller Dashboard to efficiently manage products, toggle statuses, and oversee inventory.
- **Leveraging Technology for Growth:** Utilizing modern web development tools, databases, and version control systems like Git and GitHub to ensure a scalable and maintainable solution.
- **Facilitating Inventory & Order Management:** Offering an easy-to-use backend system for managing products, customers.

By focusing on these purposes Vintronics aims to redefine the fashion e-commerce experience while providing a sustainable and growth-oriented business model.

Project Scope

The scope of the Vintronics E-Commerce Website encompasses all the essential aspects of development, design, implementation, and maintenance to ensure a functional and successful online shopping platform.

In-Scope:

• Website Development:

- Frontend design using HTML, CSS, JavaScript (including responsive design elements).
- Backend development using SpringBoot and MySQL.
- Database integration for efficient product and user management.

• User Features:

- Secure authentication (login, signup).
- User-friendly product browsing and filtering.
- Shopping cart, checkout functionalities.

• Admin Features:

- Product and inventory management.
- Order and user management dashboard.

• Security Measures:

- Data encryption and user authentication protocols.

• Version Control & Collaboration:

- Git and GitHub implementation for tracking changes and team collaboration.

• Testing & Deployment:

Unit testing, performance testing.

5. Project Goals and Objectives

Project Goals:

- 1. Create a User-Friendly E-Commerce Platform** – Develop an intuitive, easy-to-navigate website that offers a seamless shopping experience.
- 2. Offer a Wide Range of Fashion & Lifestyle Products** – Provide users with a curated collection of clothing, accessories, and lifestyle products.
- 3. Ensure a Responsive and Modern Design** – Make the website visually appealing and fully functional across all devices (desktop, tablet, and mobile).
- 4. Optimize Performance & Speed** – Build a fast-loading platform to reduce bounce

Project Objectives:

- 1. Develop the Core Website Structure** – Build a homepage, product listing pages, product details pages, and a user dashboard.
- 2. Integrate a Shopping Cart and Checkout System** – Allow users to add items to their cart and complete purchases seamlessly.
- 3. Enable User Registration & Profile Management** – Provide customers with account creation.
- 4. Implement Search** – Help users find products easily using categories, and search bars.
- 5. Ensure Mobile Optimization & Cross-Browser Compatibility** – Ensure the website works smoothly on different devices and browsers.
- 6. Set Up Admin Dashboard for Product & Order Management** – Provide an easy-to-use admin panel for managing inventory, orders, and customer queries.

Requirements Specifications

➤ RAM-4 Gb or Higher

➤ HDD-1TB

➤ SSD-120Gb

➤ Processor-i3 or Higher

Software Specifications

➤ Windows- win-7, win-10, win-11

➤ Frontend Language- HTML, CSS, JAVASCRIPT

➤ Backend Language- Java

- Database: MySql
- Framework: SpringBoot
- Source Controller- Git & Github

CHAPTER-2

LITERATURE SURVEY

Literature Survey on E-commerce in Fashion and Lifestyle

1. Introduction

E-commerce has transformed the electronics and gadgets industry by providing a convenient, accessible, and technology-driven shopping experience. With the increasing demand for online shopping, consumers now prefer digital platforms for purchasing tech products, including retro gadgets, gaming consoles, and audio equipment. This literature survey explores key aspects of e-commerce in electronics, focusing on trends, consumer behavior, and technological advancements.

2. Evolution of E-commerce in Fashion and Lifestyle

The shift from physical electronics stores to online marketplaces has significantly impacted the industry. Early platforms like Amazon and eBay introduced online tech retail, followed by specialized electronics stores such as Best Buy, Newegg, and Flipkart Electronics. Advancements in mobile commerce, AI-driven recommendations, and omnichannel retailing have further improved the online shopping experience, making it more interactive and personalized.

3. Consumer Behavior in Online Shopping

Research indicates that price comparison, product specifications, reviews, and brand reputation play a crucial role in consumer decision-making. Additionally, limited-time discounts, warranty policies, and flexible return options influence purchasing behavior. The rise of YouTube reviews, tech blogs, and influencer marketing has also shaped consumer preferences, making social proof a key factor in driving sales.

CHAPTER-3

PROJECT PLANNING

3.1 Members and Capabilities

3.1: Table of Capabilities

SR. No	Name of Member	Capabilities
1	Simran Nayak	Backend and Security
2	Simran Nayak	UI Design

Work Breakdown Structure

- All of the members are equally important in developing the project.
- We work on a different part of the project based on one's capability.
- Firstly, we came up with documentation, and based on the documentation we set our goal and created a blueprint.
- We then started going hands-on with the project to develop it according to the flow as decided earlier

3.2 Roles and Responsibilities

Table 3.2: Table of Responsibilities

SR. No	Name of Member	Role	Responsibilities
1	Suhasini Padhi	Member	Backend & Security
2	M,Smrity Reddy	Member	HTML, CSS, JS

Assumptions

- Consumers are willing to shift towards online shopping for fashion and lifestyle products.
- Internet accessibility and smartphone penetration will continue to increase, making e-commerce more accessible.
- Social media and influencer marketing will remain crucial in driving fashion trends and sales.
- Consumers will prefer a mix of affordability, sustainability, and personalization when shopping for fashion items.

Constraints

- Logistical Challenges:** Delivery delays, high shipping costs, and issues with international shipping.
- Consumer Trust Issues:** Customers may hesitate to purchase due to concerns about product quality and fraud.
- Regulatory Compliance:** Fashion e-commerce businesses must comply with data protection laws, taxation policies, and sustainability regulations.
- Sustainability Limitations:** Ethical sourcing and eco-friendly practices may increase production

3. Project Management Approach

- a) Planning of project
- b) Defining the scope of the project.
- c) Estimation of time and It's management.
- d) Creating Gantt Charts and properly assigning tasks to members
- e) Reporting the progress of project with the guide.

4. Ground Rules for the Project

- a) Properly planning and gathering relevant information is very important.
- b) Developing a Blueprint of the project and work accordingly.
- c) All the members should report to the guide whenever required
- d) Setting up small goals every week.
- e) Achieving the small goal within that span of time.
- f) Keeping tracks of the progress towards project.

5. Project Budget

- a. It is moderate project with high end technology.
- b. Cost of the project is low and efficient.
- c. Time-consuming as it is on latest technologies.

CHAPTER-4

ENVIRONMENT SETTINGS

Prerequisite

- Java (jdk.17)
- JavaScript (ecmaScript 6)
- HTML, CSS, JS(es6)
- SpringBoot
- Thymeleaf
- Microsoft Visual Studio Code
- Git and GitHub
- SpringBoot Dependencies:
 1. SpringWeb
 2. Spring JPA
 3. Spring Security
 4. Spring DevTool
 5. Validation
 6. Thymeleaf
 7. Mysql Driver
 8. Lombok

Developed any Project need a IDLE (Integrated Development Environment), so Developer can easily Create, Run, Compile and Execute Programs.

How to Install Visual Studio Code on Windows?

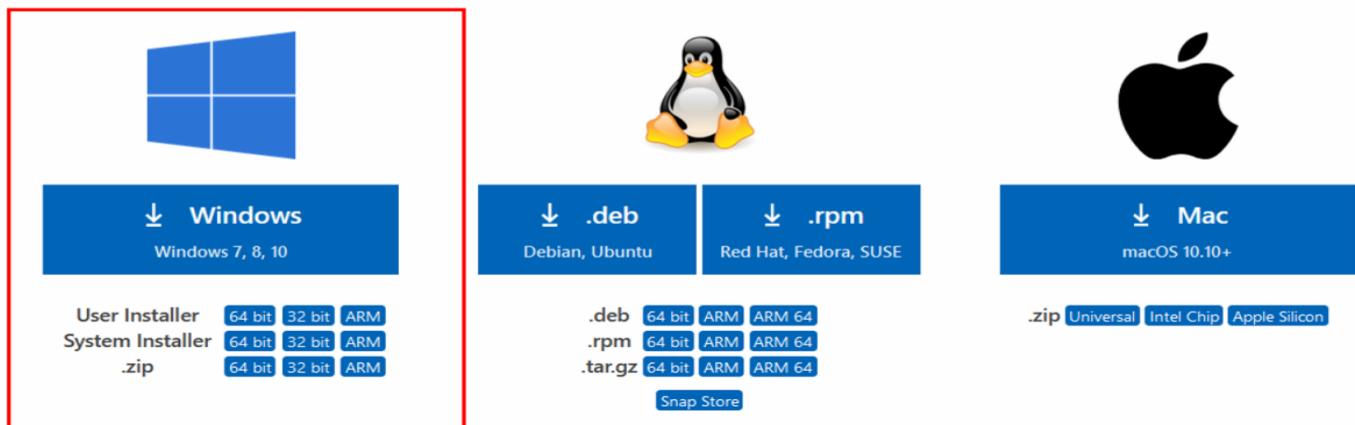
Firstly, download the Visual Studio Code installer for Windows. Once it is downloaded, run the installer (*VSCodeUserSetup-{version}.exe*). It will only take a minute.

Visit: <https://code.visualstudio.com/download>

Download Visual Studio Code

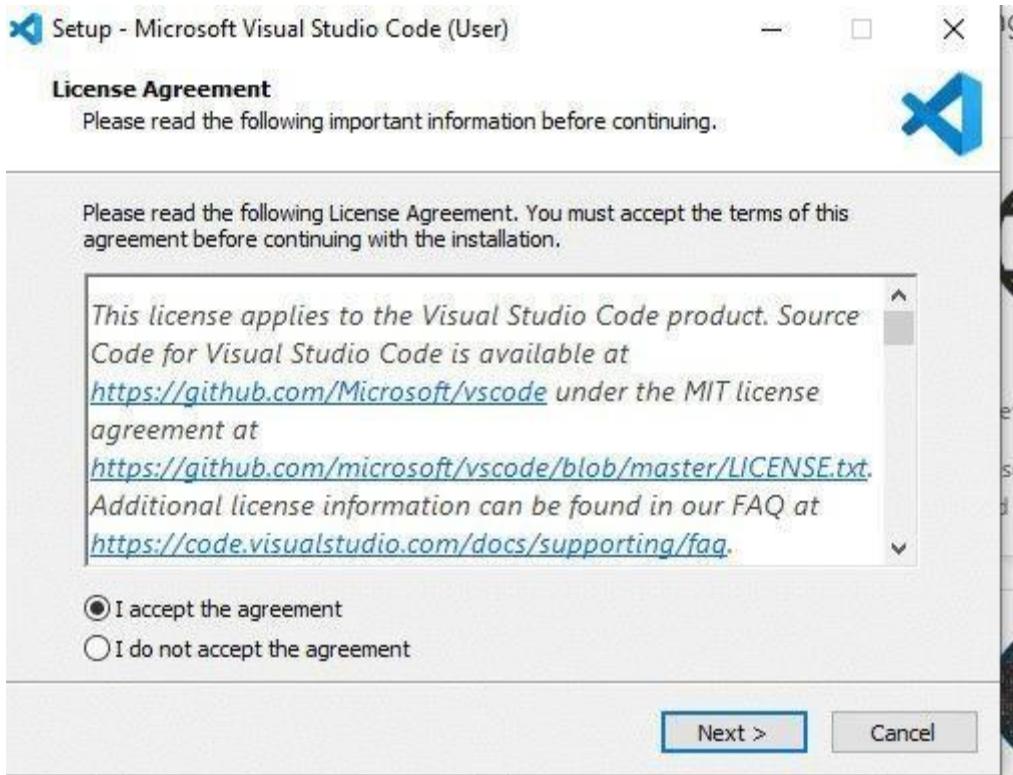
Free and built on open source. Integrated Git, debugging and extensions.

How to Install Visual Studio Code on Windows and Run Python Programs

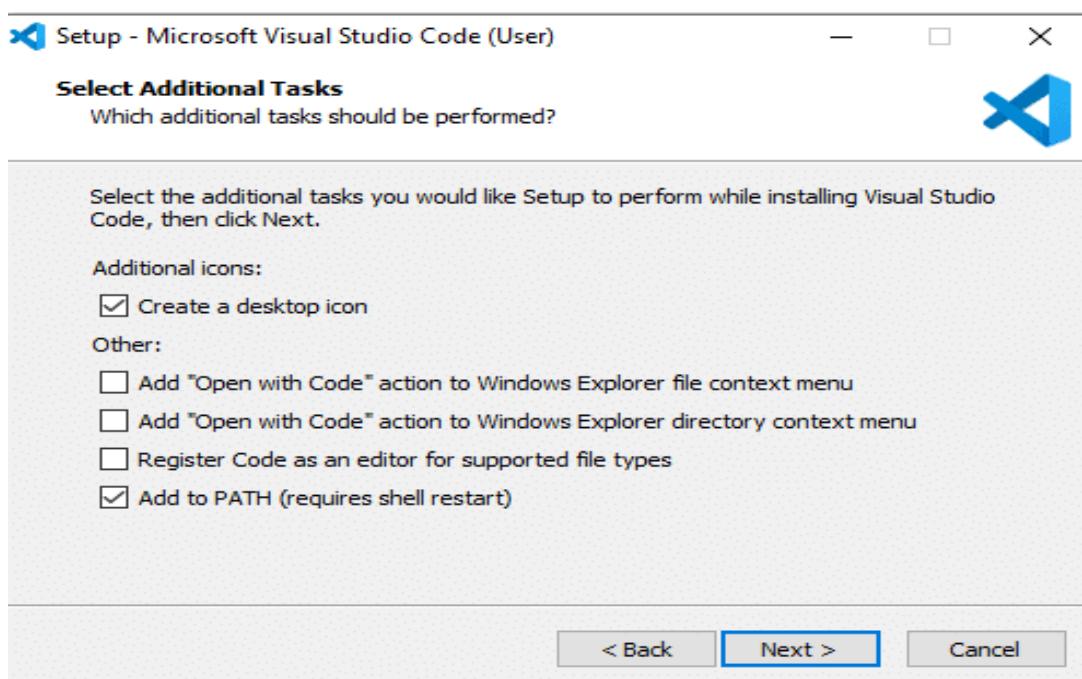


Then double Click on Download folder .exe file and Follow the step by step instruction Process .

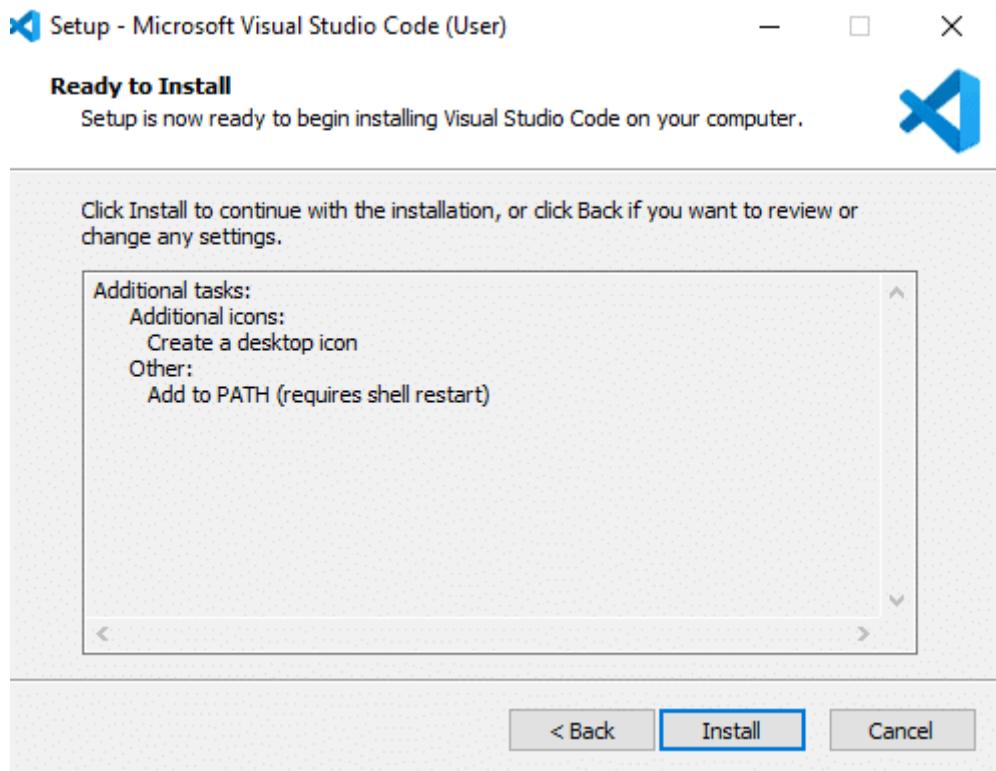
Secondly, accept the agreement and click on next.



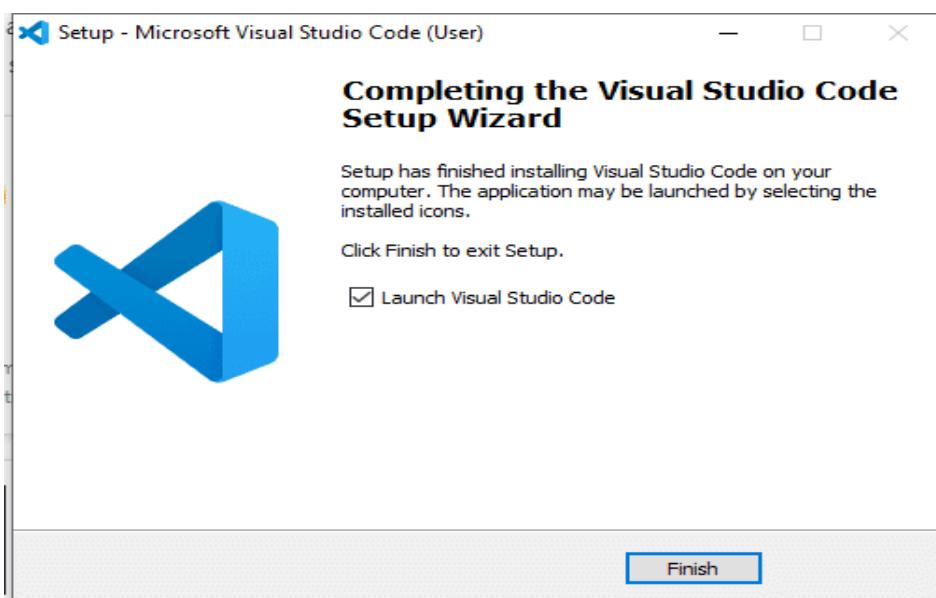
Thirdly, click on “create a desktop icon” so that it can be accessed from desktop and click on Next.



After that, click on the install button.



Finally, after installation completes, click on the finish button, and the visual studio code will get open.



How to initiate SpringBoot by adding Dependencies

Method 1: Using Spring Initializr (Recommended)

1. Go to Spring Initializr

Open <https://start.spring.io/>

The screenshot shows the Spring Initializr interface with the following configuration:

- Project:** Maven (selected)
- Language:** Java (selected)
- Spring Boot:** 3.4.4 (selected)
- Project Metadata:**
 - Group: edu-rims
 - Artifact: Fashln
 - Name: Fashln
 - Description: Demo project for Spring Boot
 - Package name: edu-rims.Fashln
 - Packaging: Jar (selected)
 - Java: 17 (selected)
- Dependencies:** No dependency selected.
- Buttons:** GENERATE (CTRL + ⌘), EXPLORE (CTRL + SPACE), and a three-dot menu button.

2. Select Project Type & Language

- **Project:** Maven (or Gradle if you prefer)
- **Language:** Java
- **Spring Boot Version:** Latest stable version (e.g., 3.x.x)

3. Fill in Project Metadata

- **Group:** edu-rims (or your package name)
- **Artifact:** FashIn (name of your project)
- **Name:** FashIn
- **Package Name:** Project for Spring Boot
- **Packaging:** Zip
- **Java Version:** 17 (or as per your system compatibility)

4. Add Dependencies

Click on "Add Dependencies" and search for each dependency:

- **✓ Spring Web** (For building REST APIs and web applications)
- **✓ Spring Data JPA** (For database interaction using JPA)
- **✓ Spring Security** (For authentication & authorization)
- **✓ Spring Boot DevTools** (For live reload & development support)
- **✓ Spring Boot Validation** (For data validation)
- **✓ Thymeleaf** (For frontend templating)
- **✓ MySQL Driver** (For database connectivity)
- **✓ Lombok** (For reducing boilerplate code like getters & setters)



The screenshot shows the Spring Initializr interface with the following configuration:

- Project:** Maven
- Language:** Java
- Spring Boot:** 3.4.4
- Project Metadata:**
 - Group: edu-rims
 - Artifact: FashIn
 - Name: FashIn
 - Description: Demo project for Spring Boot
 - Package name: edu-rims.FashIn
 - Packaging: Jar
 - Java: 17
- Dependencies:**
 - Spring Web** (WEB): Build web, including RESTful, applications using Spring MVC. Uses Apache Tomcat as the default embedded container.
 - Spring Boot DevTools** (DEVELOPER TOOLS): Provides fast application restarts, LiveReload, and configurations for enhanced development experience.
 - Spring Data JPA** (SQL): Persist data in SQL stores with Java Persistence API using Spring Data and Hibernate.
 - Spring Security** (SECURITY): Highly customizable authentication and access-control framework for Spring applications.
 - Lombok** (DEVELOPER TOOLS): Java annotation library which helps to reduce boilerplate code.
 - MySQL Driver** (SQL): MySQL JDBC driver.
 - Thymeleaf** (TEMPLATE ENGINES): A modern server-side Java template engine for both web and standalone environments. Allows HTML to be correctly displayed in browsers and as static prototypes.
 - Validation** (I/O): Bean Validation with Hibernate validator.

At the bottom, there are buttons for **GENERATE** (CTRL + D) and **EXPLORE** (CTRL + SPACE), and a **...** button.

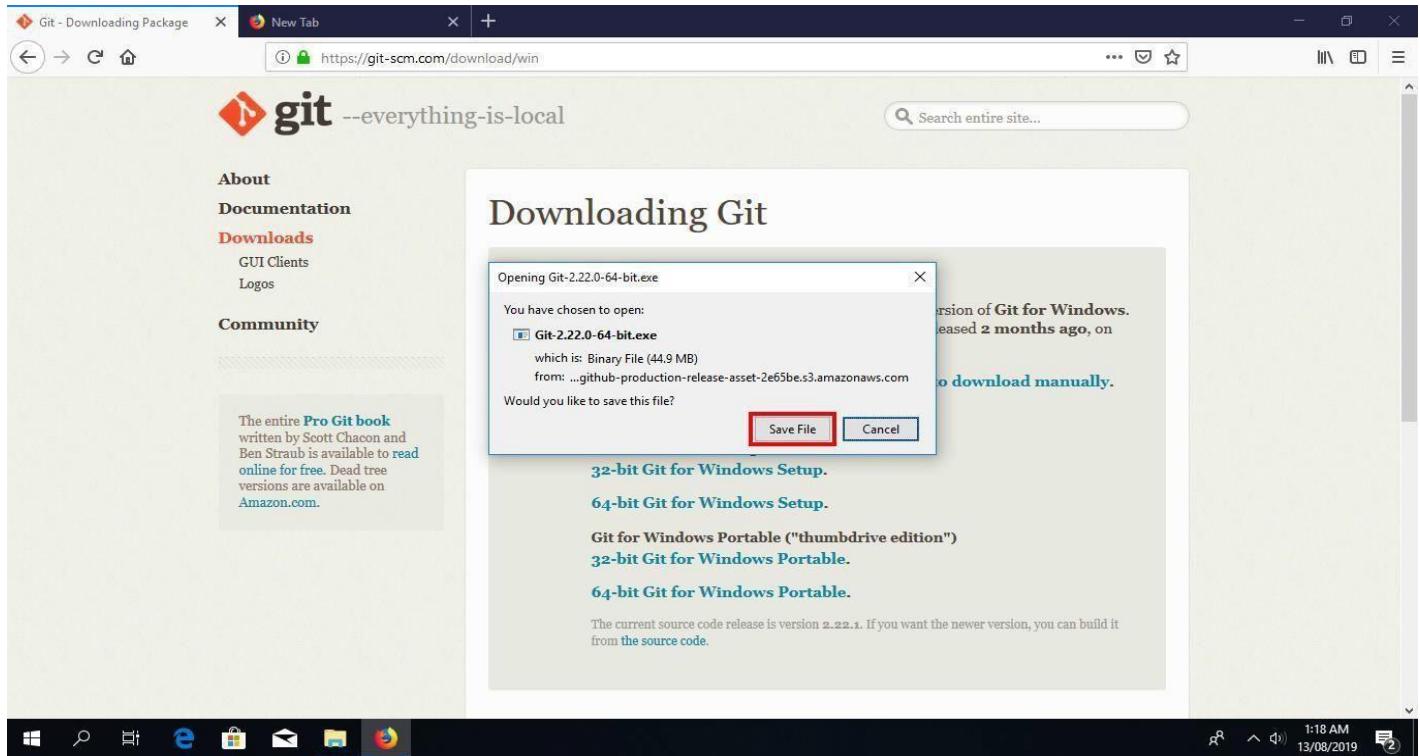
5. Generate the Project

- Click on **Generate**
- It will download a **zip file**
- Extract the zip and open the project in **IntelliJ IDEA, Eclipse, or VS Code**

Install Git

1. Download Git

- Go to the [official Git website](#).
- Download the latest version for your operating system (Windows, macOS, or Linux).

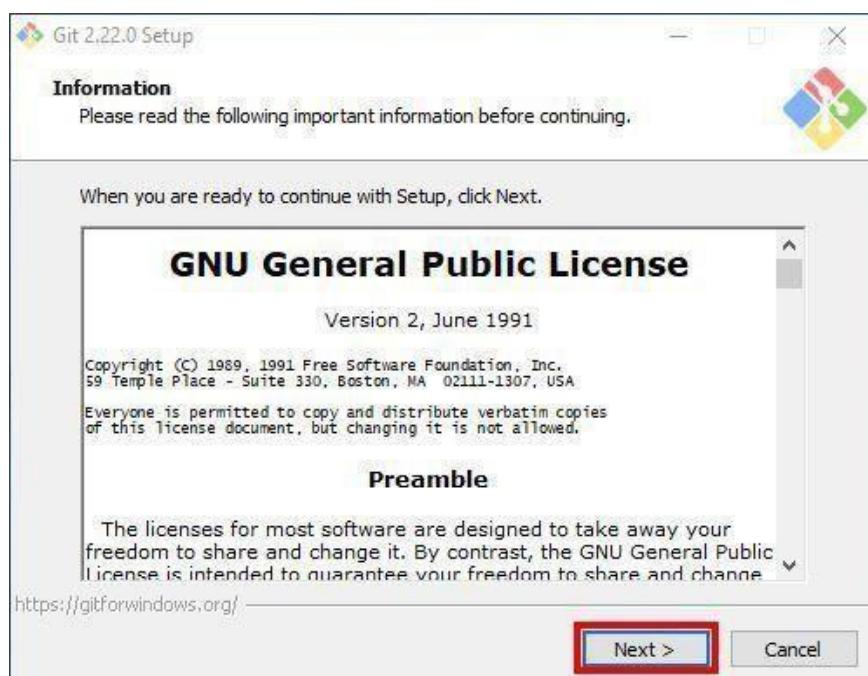


Click on “Save File” to start downloading the executable.

2. Install Git Bash

Run the Installer

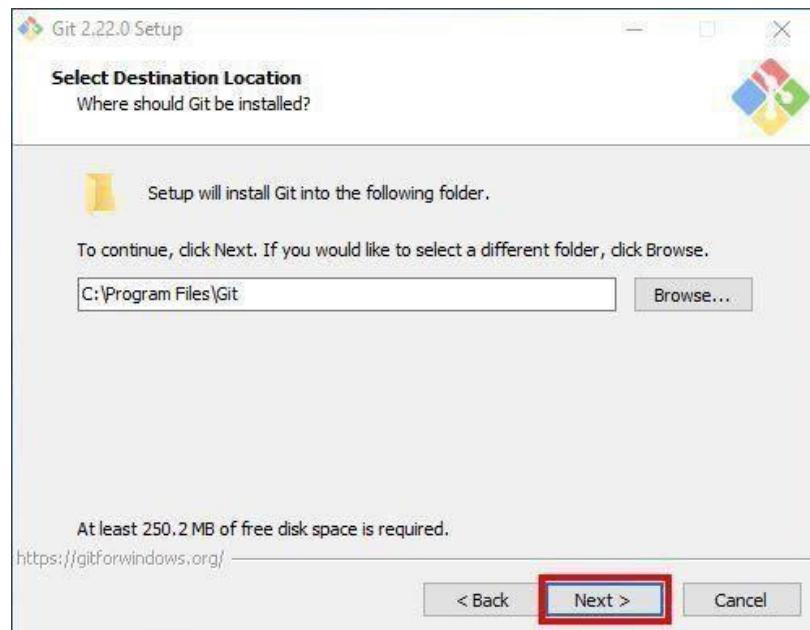
Once you have downloaded the Git Click “Next” after you have read the license Bash executable.



Click “Next” after you have read the license.

Step 4: Select Destination Location Permalink

Next, select the location you want to install Git Bash. I would recommend you just leave the default option as it is, and click “Next”.



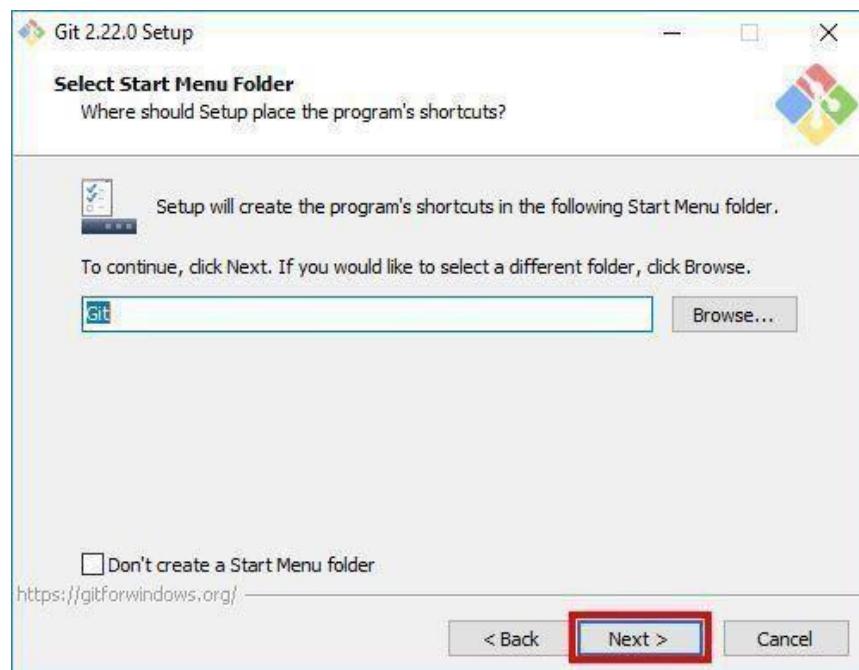
Step 5: Select Components

Choose the components you want to install, or you can just proceed with the default options and click “Next”. I prefer selecting the “Additional icons” component which creates a Git Bash shortcut on the desktop.



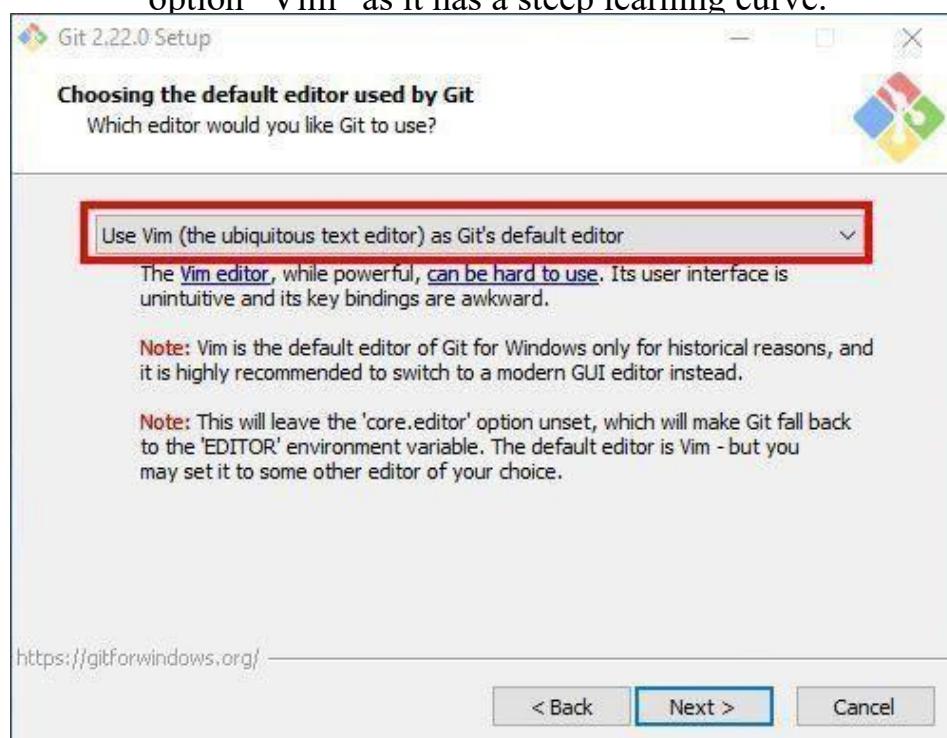
Step 6: Select Start Menu Folder

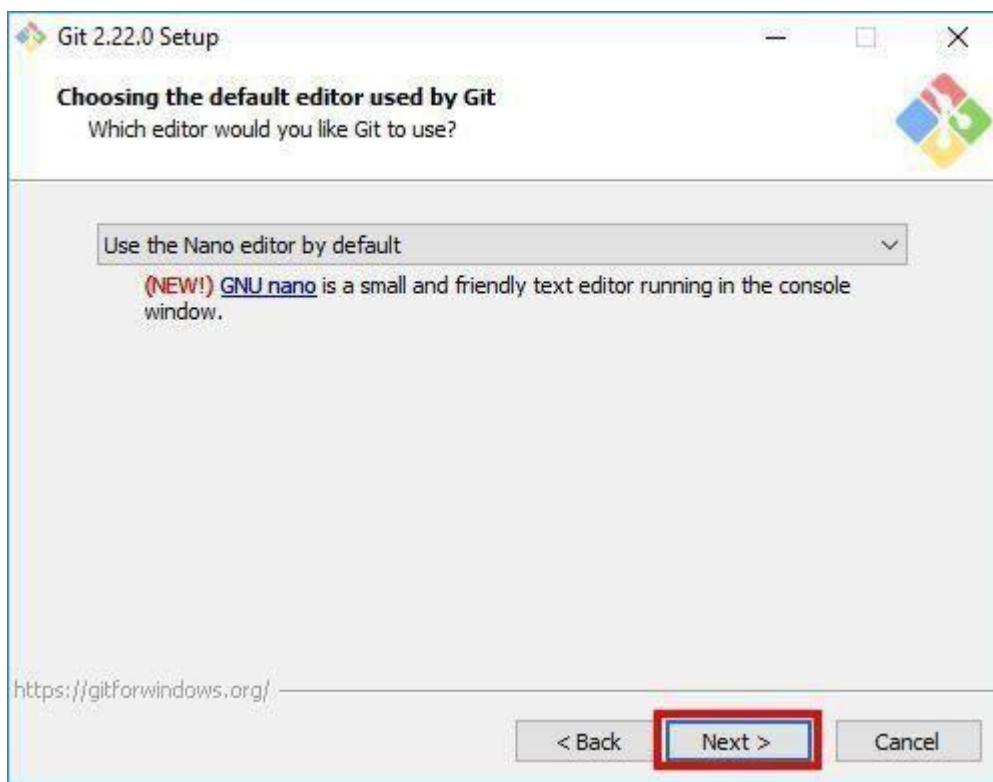
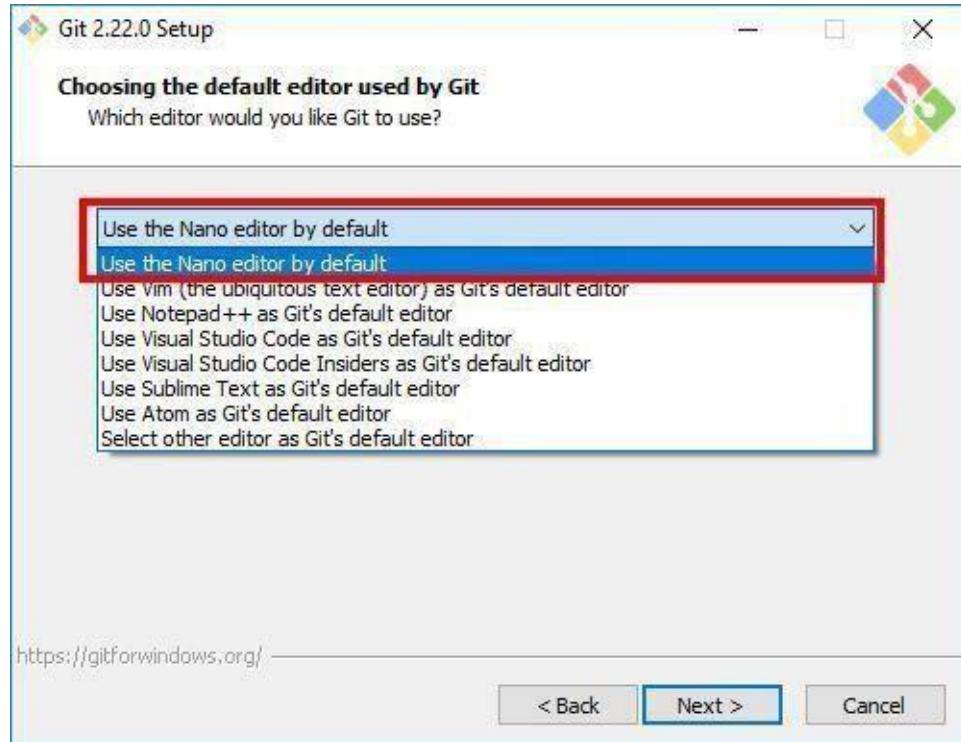
You can change the name of start menu folder here if you want, or just leave the default name and click “Next”.



Step 7: Choose the Default Editor used by Git

Next, select the default editor for Git to use. Choose the one you like and click “Next”. I would recommend you proceed with **Nano** or **Notepad++**. Don’t proceed with the default option “Vim” as it has a steep learning curve.





Step 8: Adjust your PATH Environment

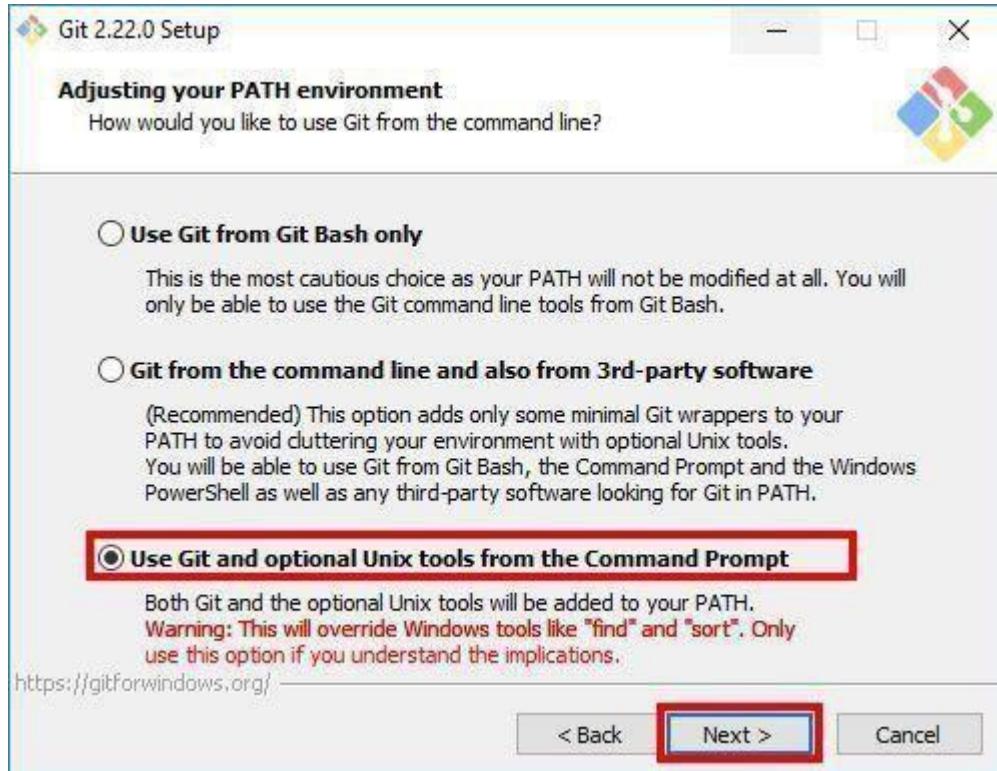
Choose the option you want depending on where you want to use Git and click “Next”. Select **“Use Git from Git Bash only”** option if want to run Git and Bash commands from Git Bash only. This means that you won’t be able to run Git commands such as `git status` on Windows Command Prompt or Powershell. They will only be found on Git Bash.

Select **“Git from the command line and also from 3rd-party software”** option if you want to run Git commands on Windows Command Prompt or Powershell.

Notice: Bash commands won't work on Command Prompt or Powershell with this option, but only Git commands will work.

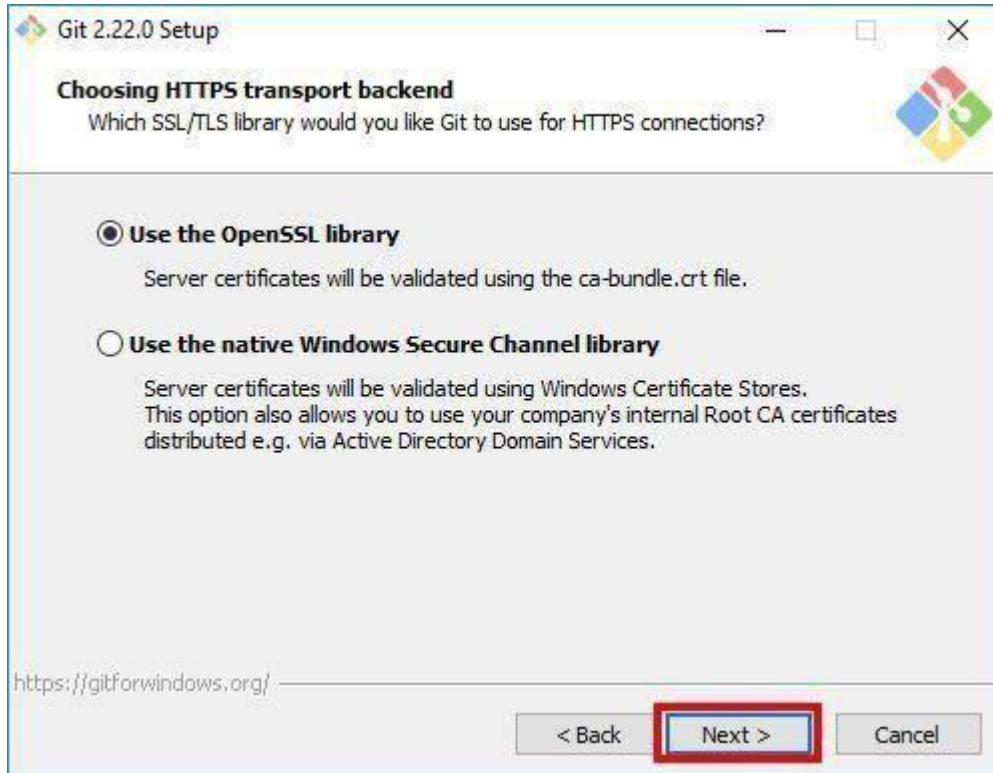
Tip: If you need run bash commands, you will have to open the Git Bash. So go ahead with this option if that is what you want.

Select “**Use Git and optional Unix tools from the Command Prompt**” option if you want to use both Git and Bash commands on Windows Command Prompt or Powershell. This option will override some default Windows Command Prompt tools like find and sort. I don’t use CMD or Powershell that much to worry about that. So I will go ahead with this option by clicking “Next”.



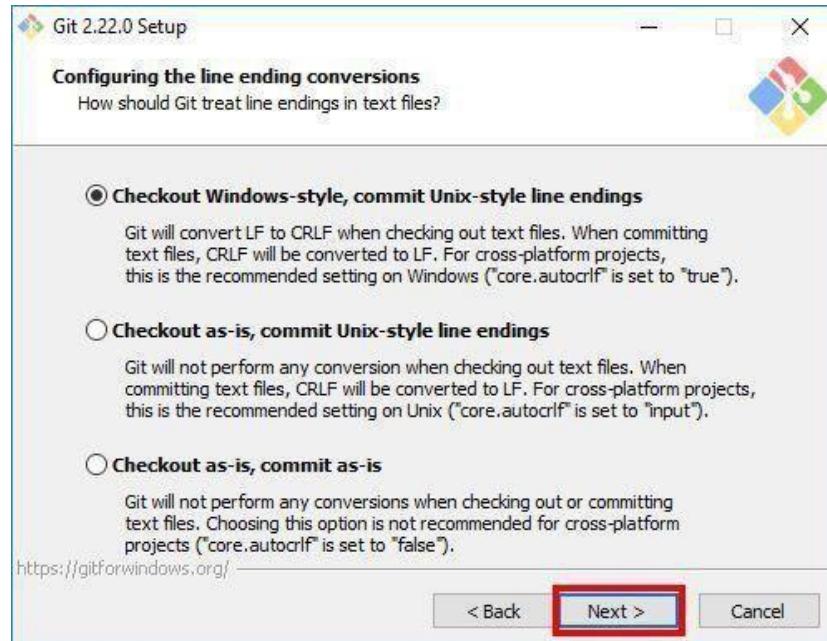
Step 9: Choose HTTPS Transport Backend [Permalink](#)

Next, select “Use the OpenSSL library” and click “Next”.



Step 10: Configure the Line Ending Conversions

Select how Git should treat line endings in text files. It's probably safe to go with the default option "Checkout Windows-Style, commit Unix-style line endings". Click "Next" to proceed.



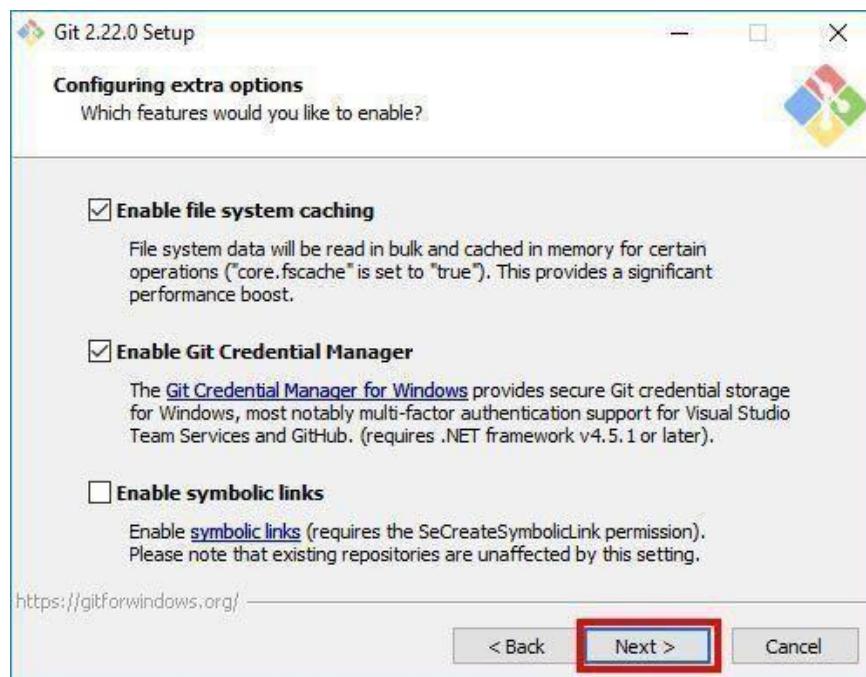
Step 11: Configure the Terminal Emulator to use with Git [BshPermalink](#)

Next, select the terminal emulator you want Git Bash to use. I will proceed with the default option "Use MinTTY(the default terminal of MSYS2) and click "Next".



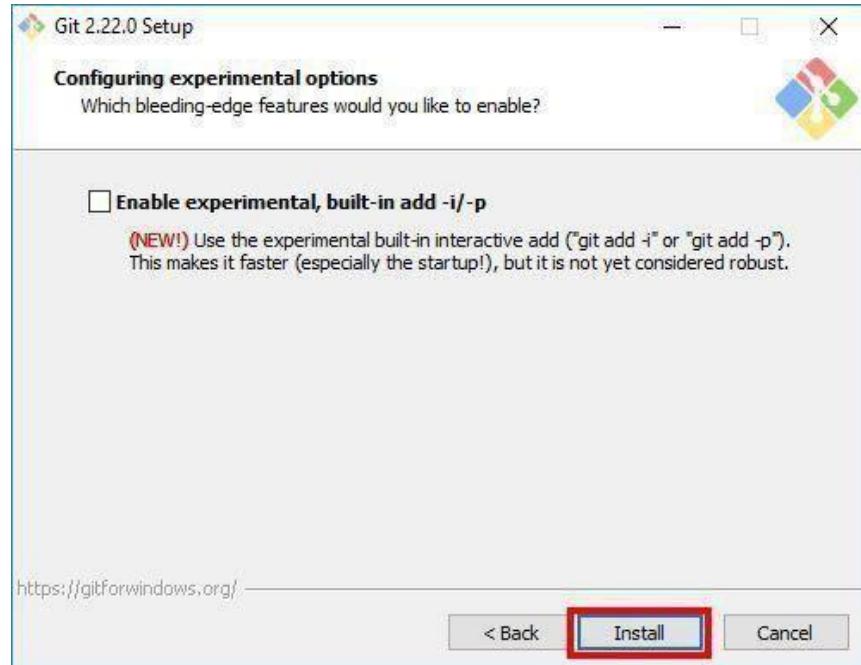
Step 12: Configuring Extra Options

Select the features you want (the default options are fine) and click “Next”.



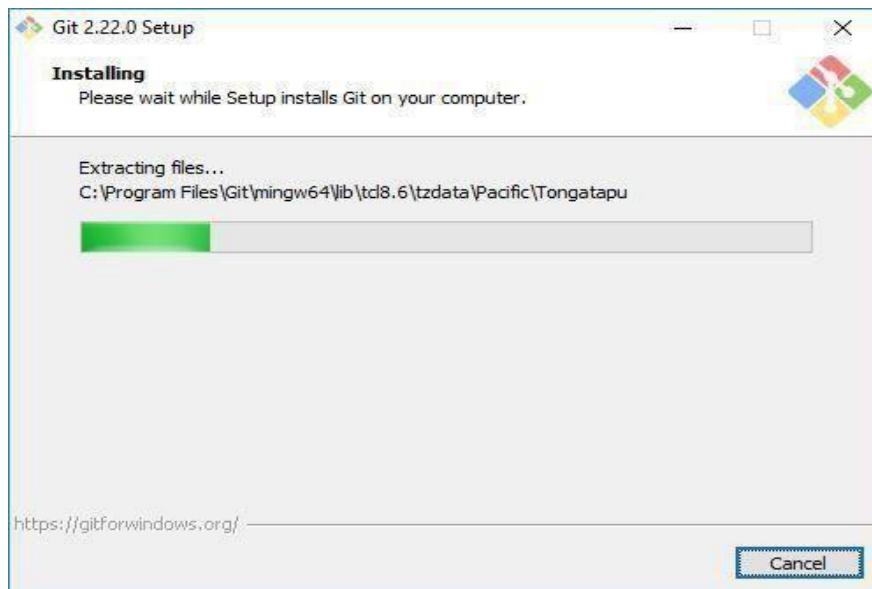
Step 13: Configuring Extra Options

Enable experimental options if you want. Enabling them allows you to try out newer features that are still in development. I don't enable this, so I will just proceed by clicking “Install” to start the installation process.



Step 14: Wait for Installation

Now, wait for a few minutes as the Setup Wizard installs Git on your computer.



Step 15: Complete the Git Setup Wizard

After the installation has finished, check the “Launch Git Bash” and click “Finish” launching Git Bash.



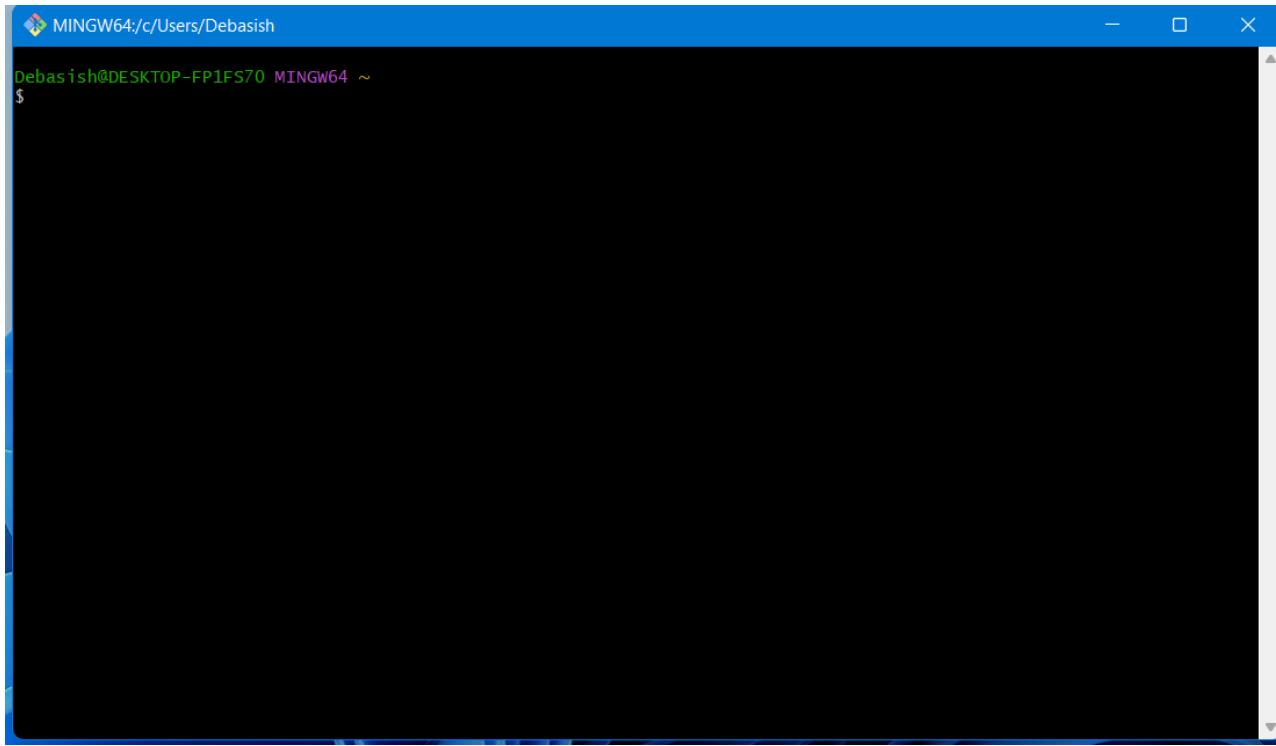
Git –version

Run this command in command prompt to know the git version and git is successfully installed or not.

A screenshot of a Windows Command Prompt window titled 'Command Prompt'. The window shows the command 'git --version' being run in a virtual environment named '(venv)'. The output of the command is 'git version 2.37.2.windows.2'. The prompt then changes to '(venv) C:\Users\Debasish\Desktop\Major Project\Project>'.

```
(venv) C:\Users\Debasish\Desktop\Major Project\Project>git --version
git version 2.37.2.windows.2
(venv) C:\Users\Debasish\Desktop\Major Project\Project>
```

The Git Bash terminal will now open and you will be able to enter Git and Bash commands.

A screenshot of a Git Bash terminal window. The title bar at the top shows "MINGW64:/c/Users/Debasish". The main window is black and contains a single character: a dollar sign (\$) in white, indicating the command prompt. There are no other commands or output visible.

```
MINGW64:/c/Users/Debasish
Debasish@DESKTOP-FP1FS70 MINGW64 ~
$
```

Congratulations on successfully installing Git Bash.

CHAPTER-5

Selected Software or Platform

What is Visual Studio Code?

Visual Studio Code (famously known as **VS Code**) is a free open-source text editor by Microsoft. VS Code is available for Windows, Linux, and macOS. Although the editor is relatively lightweight, it includes some powerful features that have made VS Code one of the most popular development environment tools in recent times.

Why we use Visual Studio Code.

Edit, build, and debug with ease

At its heart, Visual Studio Code features a lightning-fast source code editor, perfect for day-to-day use. With support for hundreds of languages, VS Code helps you be instantly productive with syntax highlighting, bracket-matching, auto-indentation, box-selection, snippets, and more. Intuitive keyboard shortcuts, easy customization and community-contributed keyboard shortcut mappings let you navigate your code with ease.

Make it your own

Customize every feature to your liking and install any number of third-party extensions. While most scenarios work "out of the box" with no configuration, VS Code also grows with you, and we encourage you to optimize your experience to suit your unique needs. VS Code is an open-source project so you can also contribute to the growing and vibrant community on GitHub.

Built with love for the Web

VS Code includes enriched built-in support for Node.js development with JavaScript and TypeScript, powered by the same underlying technologies that drive Visual Studio. VS Code also includes great tooling for web technologies such as JSX/React, HTML, CSS, SCSS, Less, and JSON.

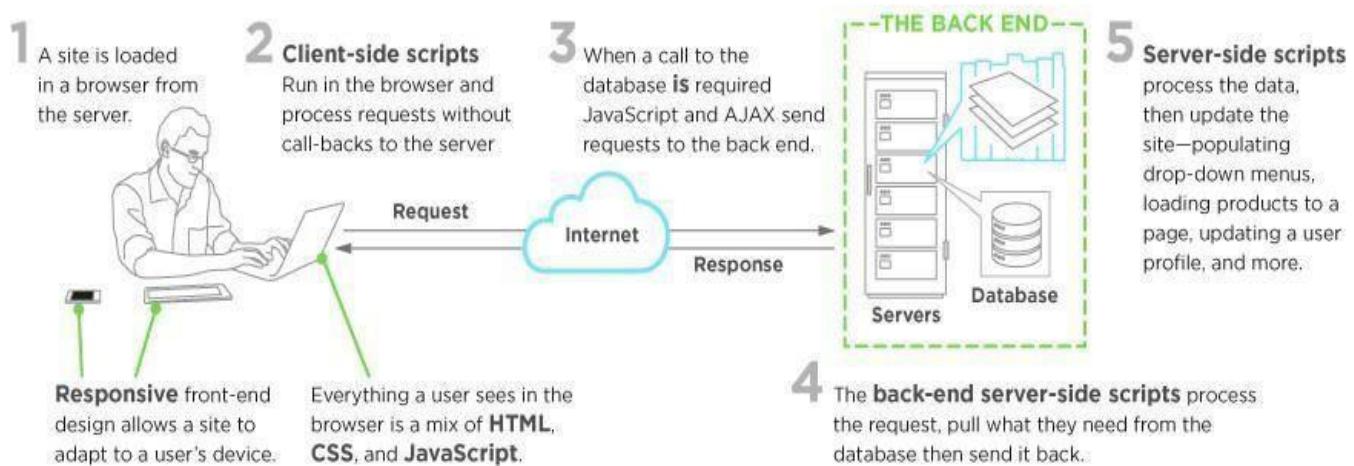
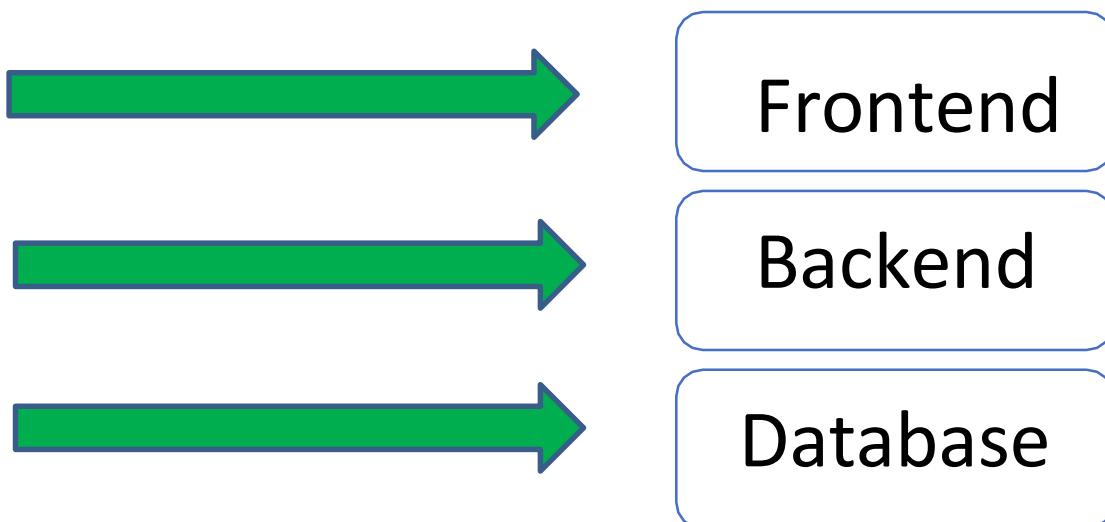
Robust and extensible architecture

Architecturally, Visual Studio Code combines the best of web, native, and language-specific technologies. Using Electron VS Code combines web technologies such as JavaScript and Node.js with the speed and flexibility of native apps. VS Code uses a newer, faster version of the same industrial-strength HTML-based editor that has powered the "Monaco" cloud editor, Internet Explorer's F12 Tools, and other projects. Additionally, VS Code uses a tools service architecture that enables it to integrate with many of the same technologies that power Visual Studio, including Roslyn for .NET, TypeScript, the Visual Studio debugging engine, and more.

Visual Studio Code includes a public extensibility model that lets developers build and use extensions, and richly customize their edit-build-debug experience.

How to Developed a Project.

In every Application Development or Project Development basically Follow Three basic step:-



Frontend Development

What is Front end Development ?

Front-end development is the process of building the **visual** and **interactive** parts of a website or web application—the parts that users see and interact with. It focuses on creating a smooth and engaging user experience.

The three main languages you need to know well are HTML, CSS, and JavaScript. From there you can focus on frameworks, libraries, and other useful tools.

HTML

HTML stands for Hypertext Markup Language. HTML displays the content on the page like buttons, links, headings, paragraphs, and lists.

CSS

CSS stands for Cascading Style Sheets. CSS is responsible for the style of your web page including colors, layouts, and animations.

JavaScript

JavaScript allows users to interact with the web page. Examples of JavaScript can be found in virtually any web page including the rimedu.com homepage.

Frameworks like [Bootstrap](#) allow you to add the catalogue of classes to your webpage. As a result, you end up with professional and mobile-friendly designs.

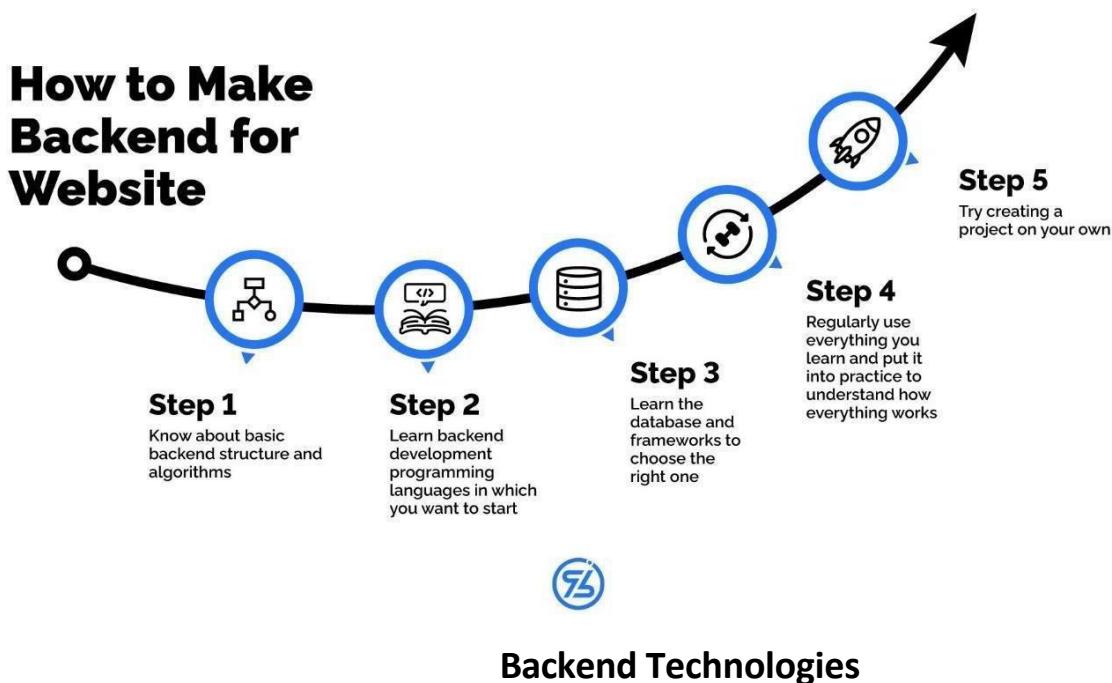
There are dozens of options on the market and you don't need to learn them all. It's often helpful

to look at jobs in your area and see what technologies they're using. Then you can focus on the most common/in-demand skills.

What is Backend Development?

Back-end development means working on server-side software, which focuses on everything you can't see on a website. Back-end developers ensure the website performs correctly, focusing on databases, back-end logic, application programming interface (APIs), architecture, and servers. They use code that helps browsers communicate with databases, store, understand, and delete data.

On a team, back-end developers collaborate with front-end developers, product managers, principal architects, and website testers to build the structure of a website or mobile app. Back-end developers must be familiar with many kinds of tools and frameworks, including languages such as Python, Java, and Ruby. They make sure the back-end performs quickly and responsively to front-end user requests.



Database

A **database** is an organized collection of data, so that it can be easily accessed and managed.

A database is a systematic collection of data. They support electronic storage and manipulation of data. Databases make data management easy.

Let us discuss a database example: An online telephone directory uses a database to store data of people, phone numbers, and other contact details. Your electricity service provider uses a database to manage billing, client-related issues, handle fault data, etc.

How to Design a Database?

It is important for a Software Development Professional to know how to design the Database. The main objective of the database design process is to build a robust database.

The database Design is a crucial step in the Software development life cycle (SDLC) that involves Database Operations. The database operations including storing, retrieving and manipulating the data.

The Database Design a specialist job that requires some special Skills in terms of planning the database and then actually building the database using a specific database management system.



Installation process of MySQL Workbench in windows.

Step 1: Download MySQL Workbench

Go to the official MySQL Workbench download page.

Select your operating system (Microsoft Windows).

Click on "Download" under the latest version.

If prompted, you can either log in or click "No thanks, just start my download."

The screenshot shows a web browser window with the URL dev.mysql.com/downloads/workbench/. The page title is "MySQL Community Downloads". Under "MySQL Workbench 8.0.41", there is a dropdown menu for "Select Operating System" set to "Microsoft Windows". A "Recommended Download" section features the "MySQL Installer for Windows" logo, which includes a grid of colored squares and a dolphin icon. Below the logo, it says "All MySQL Products. For All Windows Platforms. In One Package.". A "Windows (x86, 32 & 64-bit), MySQL Installer MSI" link is available, along with a "Go to Download Page >" button. Other download links listed include "Windows (x86, 64-bit), MSI Installer" and "(mysql-workbench-community-8.0.41-winx64.msi)". A note at the bottom encourages users to verify package integrity using MD5 checksums and GnuPG signatures.

Step 2: Install MySQL Workbench
Open the downloaded .msi installer.

Click Next to begin installation.

Select "Complete" installation and click Next.

Click Install and wait for the installation to complete.

Click Finish once the installation is done.



Step 3: Open MySQL Workbench
Search for MySQL Workbench in the Windows Start menu and open it.

To setup User Username And Password

Step 1: Open MySQL Workbench

Launch MySQL Workbench from the Start menu (Windows) or Applications (Mac/Linux).

Step 2: Connect to MySQL Server

Click on "Local instance MySQL" (or create a new connection).

If prompted for a password, leave it blank (if not set yet) and click OK.

If the connection fails, you may need to start MySQL Server:

Windows: Open Services, find MySQL80 (or similar), and start it.

Mac/Linux: Run:

`sudo systemctl start mysql`

Step 3: Set a Root Password

Method 1: Using MySQL Workbench

In MySQL Workbench, go to Server > Users and Privileges.

Select root under Users.

Click Change Password, enter a new password, and confirm.

Click Apply.

Method 2: Using SQL Command

Open a new SQL query tab.

Run this command:

```
ALTER USER 'root'@'localhost' IDENTIFIED BY 'YourNewPassword';
FLUSH PRIVILEGES;
```

Click Execute (the lightning icon).

Step 4: Allow Root Access from Anywhere (Optional)

By default, MySQL only allows root access from the local machine. To enable remote access:

```
ALTER USER 'root'@'%' IDENTIFIED BY 'YourNewPassword';
FLUSH PRIVILEGES;
```

Note: Enabling remote root access can be a security risk. Use it only if necessary.

Step 5: Restart MySQL Server

After setting the password, restart the MySQL server:

Windows: Restart the MySQL Service.

Mac/Linux:

```
sudo systemctl
```

Sql Queries:-

The screenshot shows a Windows desktop environment with a code editor window open. The window title bar includes 'File Edit Selection View Go Run ...' and various icons for file operations. The main area displays two tabs: 'tomer.html' and '# customer.css'. Below these are several other tabs: 'order.html', '# seller.order.css', '# payment.html', and '# seller.payment.css'. The content pane contains SQL script code for creating a schema and tables.

```
CREATE SCHEMA vintronics;
USE vintronics;
CREATE TABLE category (
    category_id VARCHAR(255) PRIMARY KEY ,
    category_title VARCHAR(255) NOT NULL,
    category_description TEXT NULL,
    category_image_url TEXT NOT NULL,
    category_status ENUM('ACTIVE', 'INACTIVE') DEFAULT 'ACTIVE',
    created_date DATETIME DEFAULT CURRENT_TIMESTAMP,
    updated_date DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
    created_by VARCHAR(255),
    updated_by VARCHAR(255)
);
CREATE TABLE product (
    product_id VARCHAR(255) PRIMARY KEY,
    category_id VARCHAR(255) ,
    seller_id INT NOT NULL,
    product_title VARCHAR(255) NOT NULL,
    product_description TEXT NULL,
    product_price DOUBLE NOT NULL CHECK (product_price >= 0),
    product_stock_quantity INT NOT NULL CHECK (product_stock_quantity >= 0),
    product_image_url TEXT NOT NULL,
    product_status ENUM('ACTIVE', 'INACTIVE') DEFAULT 'ACTIVE',
    created_date DATETIME DEFAULT CURRENT_TIMESTAMP,
    updated_date DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
    created_by VARCHAR(255),
    updated_by VARCHAR(255),
```

At the bottom of the screen, the taskbar shows the following icons: 'master' (with a dropdown menu), 'Java: Ready' (with a dropdown menu), 'Suhasini-140' (with a dropdown menu), a search bar containing 'Type here to search', and several pinned application icons: Microsoft Edge, File Explorer, myhp, Visual Studio Code, Microsoft Word, Google Chrome, and Microsoft Teams.

The screenshot shows a code editor interface with a dark theme. On the left, there is a vertical toolbar with various icons: a file icon, a search icon, a database icon, a refresh icon, a file list icon, a document icon, a settings gear icon, and a help icon.

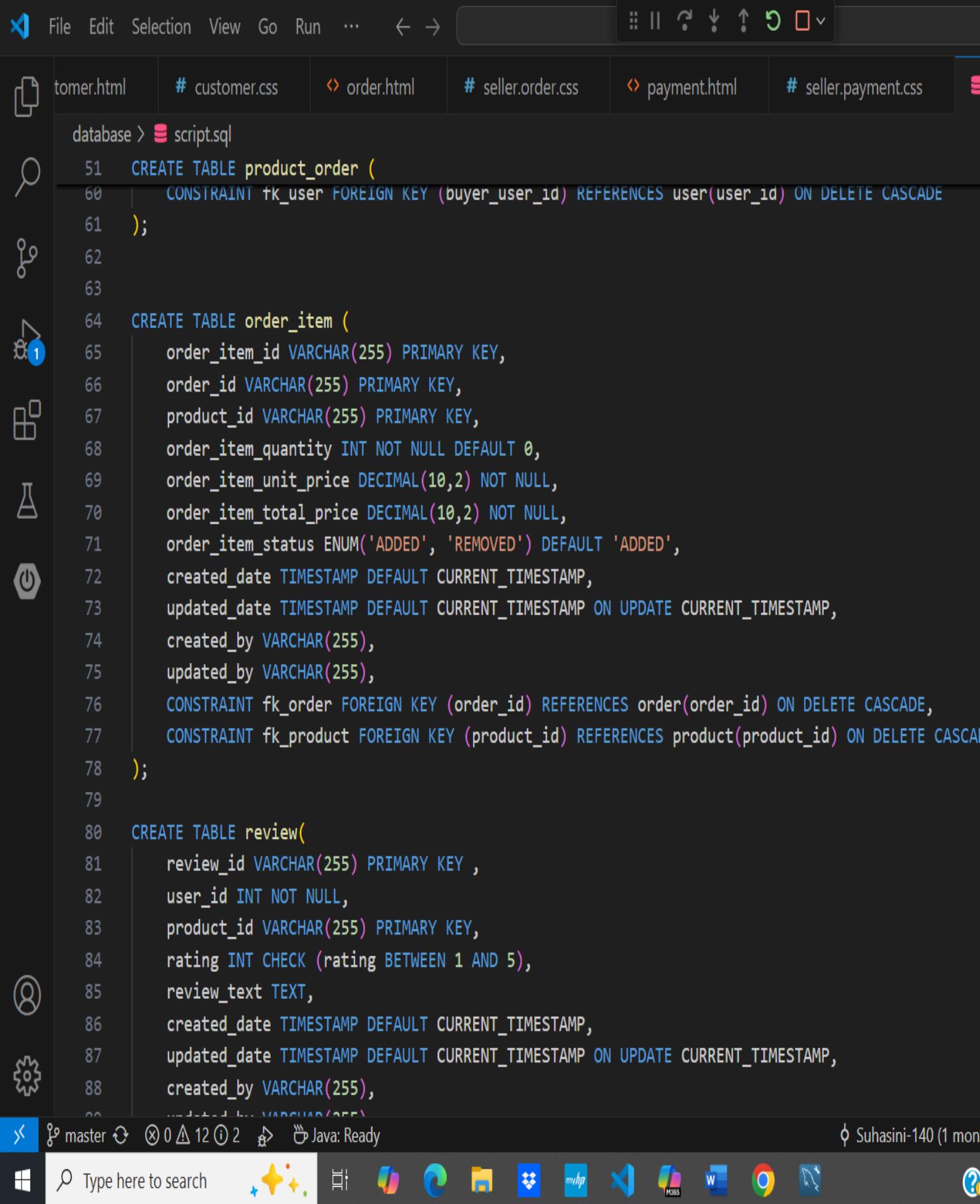
The main area displays three tabs at the top: "tomer.html", "# customer.css", and "script.sql". Below the tabs, the current file is "script.sql".

The code in "script.sql" contains three CREATE TABLE statements:

```
37 CREATE TABLE user (
38     user_id INT PRIMARY KEY AUTO_INCREMENT,
39     user_name VARCHAR(255) NOT NULL,
40     user_email VARCHAR(255) UNIQUE NOT NULL,
41     user_password VARCHAR(255) NOT NULL,
42     user_phone VARCHAR(20),
43     user_address TEXT,
44     user_role ENUM('CUSTOMER', 'ADMIN', 'SELLER') DEFAULT 'CUSTOMER',
45     created_date DATETIME DEFAULT CURRENT_TIMESTAMP,
46     updated_date DATETIME DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
47     created_by VARCHAR(255),
48     updated_by VARCHAR(255),
49 );
50
51 CREATE TABLE product_order (
52     order_id VARCHAR(255) PRIMARY KEY,
53     buyer_user_id INT NOT NULL,
54     order_total_price DECIMAL(10,2) NOT NULL,
55     order_status ENUM('PENDING', 'SHIPPED', 'DELIVERED', 'CANCELLED', 'CART') DEFAULT 'PENDING',
56     created_date TIMESTAMP NOT NULL DEFAULT CURRENT_TIMESTAMP,
57     updated_date TIMESTAMP NOT NULL DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
58     created_by VARCHAR(255),
59     updated_by VARCHAR(255),
60     CONSTRAINT fk_user FOREIGN KEY (buyer_user_id) REFERENCES user(user_id) ON DELETE CASCADE
61 );
62
63
64 CREATE TABLE order_item (
65     order_item_id VARCHAR(255) PRIMARY KEY,
66     order_id VARCHAR(255) PRIMARY KEY,
```

At the bottom of the editor, there is a status bar showing "master" and "Java: Ready". To the right of the status bar, a user profile indicates "Suhasini-140 (1 month ago)".

The taskbar at the bottom of the screen includes icons for File Explorer, Task View, Edge browser, and other system icons.



tomer.html

customer.css

order.html

seller.order.css

payment.html

seller.payment.css

script.sql

database > script.sql

104);

105

```
106 CREATE TABLE payment (
107     payment_id INT PRIMARY KEY AUTO_INCREMENT,
108     order_id VARCHAR(255) PRIMARY KEY,
109     payment_method ENUM('CREDIT_CARD', 'DEBIT_CARD', 'PAYPAL', 'UPI', 'COD') NOT NULL,
110     payment_status ENUM('PENDING', 'COMPLETED', 'FAILED') DEFAULT 'PENDING',
111     transaction_id VARCHAR(255) UNIQUE,
112     created_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
113     updated_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
114     created_by VARCHAR(255),
115     updated_by VARCHAR(255),
116     CONSTRAINT fk_payment_order FOREIGN KEY (order_id) REFERENCES order(order_id) ON DELETE CASCADE
117 );
118
```

119 CREATE TABLE seller_payment (

```
120     seller_payment_id INT AUTO_INCREMENT PRIMARY KEY,
121     seller_id INT NOT NULL,
122     order_id VARCHAR(255) PRIMARY KEY,
123     amount DECIMAL(10,2) NOT NULL,
124     seller_payment_status ENUM('PENDING', 'PROCESSING', 'COMPLETED', 'FAILED') NOT NULL DEFAULT 'PENDING',
125     seller_payment_method ENUM('BANK_TRANSFER', 'UPI', 'CHEQUE', 'OTHER') NOT NULL,
126     transaction_reference VARCHAR(255) NULL UNIQUE,
127     created_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
128     updated_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
129     created_by VARCHAR(255),
130     updated_by VARCHAR(255),
131     CONSTRAINT fk_seller FOREIGN KEY (seller_id) REFERENCES users(user_id) ON DELETE CASCADE,
132     CONSTRAINT fk_seller_order FOREIGN KEY (order_id) REFERENCES orders(order_id) ON DELETE CASCADE
133 );
```

134

master ⊞ ⑧ 0 △ 12 ① 2 ⌂ Java: Ready

∅ Suhasini-140 (1 month ago)

Type here to search



Software Requirements Specification

Purpose: Vintronics is an e-commerce platform specializing in retro gadgets, including classic cameras, gaming consoles, and audio equipment. The platform aims to provide a seamless shopping experience with attractive offers and a user-friendly interface. This document outlines the functional and non-functional requirements to guide the development of the application.

Scope: Vintronics allows users to browse, purchase, and manage retro electronic products efficiently. The platform will feature product listing pages, a shopping cart, and a seller dashboard, ensuring a streamlined buying and selling process.

Definitions, Acronyms, and Abbreviations

- **SRS** – Software Requirements Specification
- **UI** – User Interface
- **DBMS** – Database Management System
- **CRUD** – Create, Read, Update, Delete

References

- Web Technologies: HTML, CSS, JavaScript, Java (Spring Boot)
- Database: MySQL

Overview

This document covers functional and non-functional requirements, system features, constraints, and dependencies.

Overall Description

Product Perspective Vintronics is an independent web application for Retro electronics shopping.

It follows an e-commerce model with an integrated fashion blog to engage users.

1. Product Functions

- User Registration and Authentication
- Product Category
- Shopping Cart and Checkout
- Order Management

2. User Classes and Characteristics

- **Customers** – Browse and purchase fashion items.
- **Admin** – Manage products, orders, and edit or Delete Items.

3. Operating Environment

- Frontend: HTML, CSS, JavaScript
- Backend: Spring Boot (Java)
- Database: MySQL

4. Constraints

- Responsive design for mobile and desktop.
- Secure user authentication.

Specific Requirements

1. Functional Requirements

- **User Management:**
 - Users can Sign-Up, Sign-In their profiles.
- **Product Management:**
 - Admin can add, edit, or delete products.
- **Cart and Order Processing:**
 - Users can add/remove products from the cart.

2. System Features

- **Registration & Login:** Users can create accounts and log in.
- **Product Catalogue:** Users can browse fashion products and view detailed descriptions.
- **Shopping Cart & Checkout:** Users can add products to the cart.
- **Admin Dashboard:** Admins can manage products and orders.

CHAPTER-7

SYSTEM DESIGN

System Requirements Definition

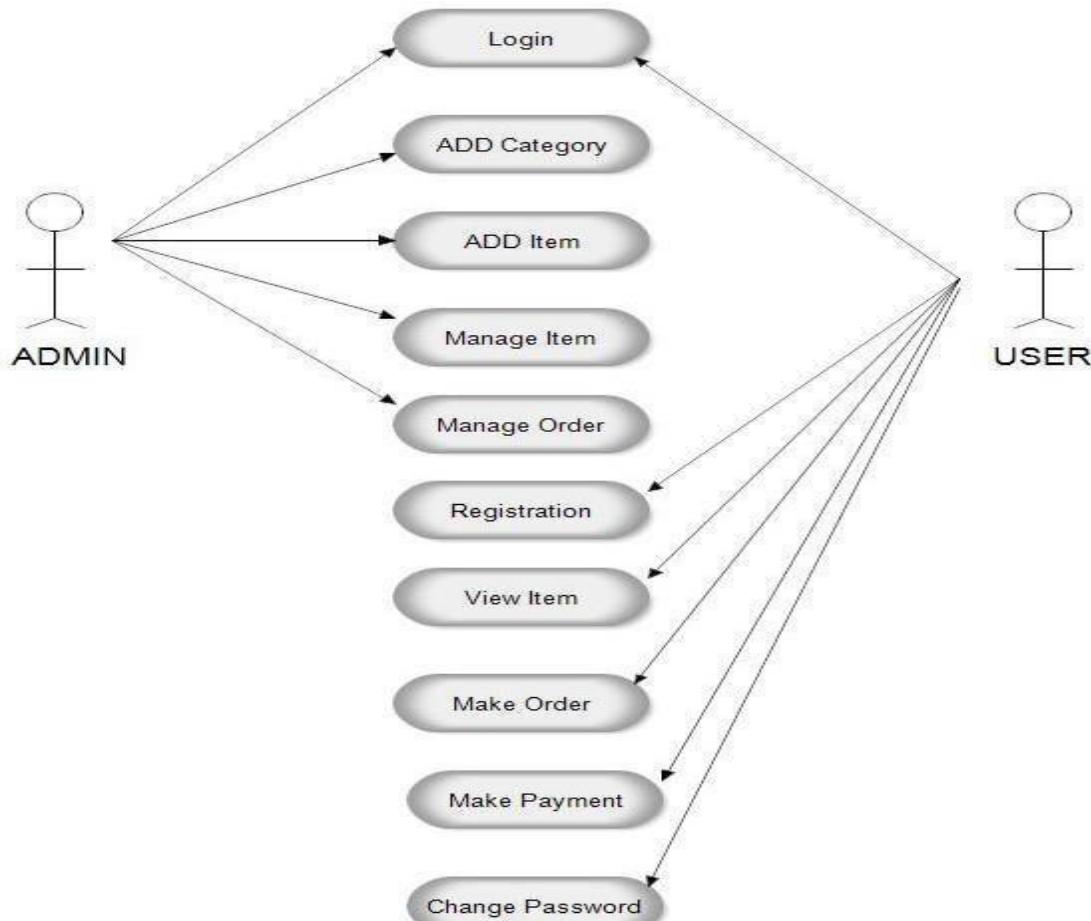
System requirement definitions specify what the system should do, its functionality and its essential and desirable system properties. The techniques applied to elicit and collect information in order to create system specifications and requirement definitions involve consultations, interviews, requirements workshop with customers and end users. The objective of the requirements definition phase is to derive the two types of requirement:

Functional requirements

They define the basic functions that the system must provide and focus on the need goals of the end users.

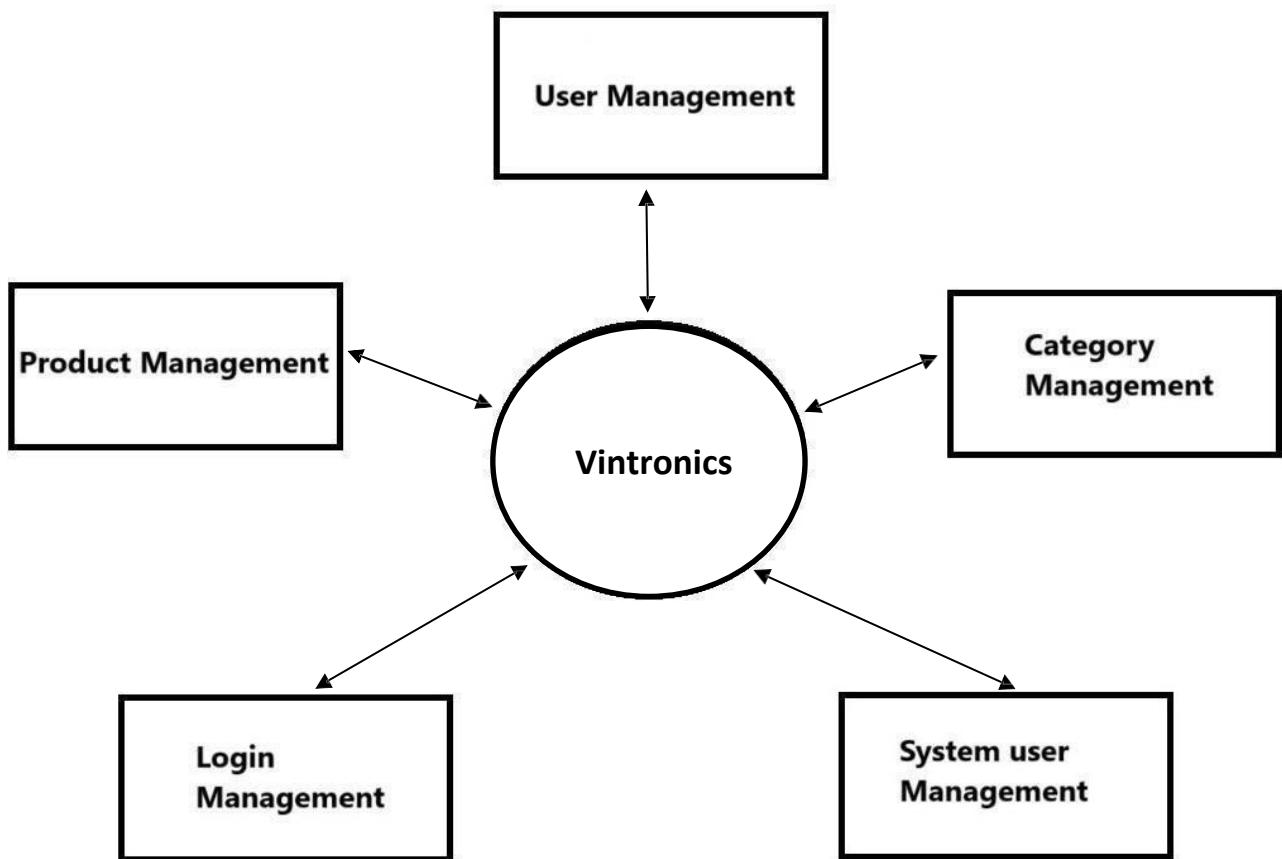
Use-case Diagram

A use case diagram at its simplest is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved. In our system User will interact with use cases like Capture Image, Audio Input, Save text, Retrieve Text, Audio output.

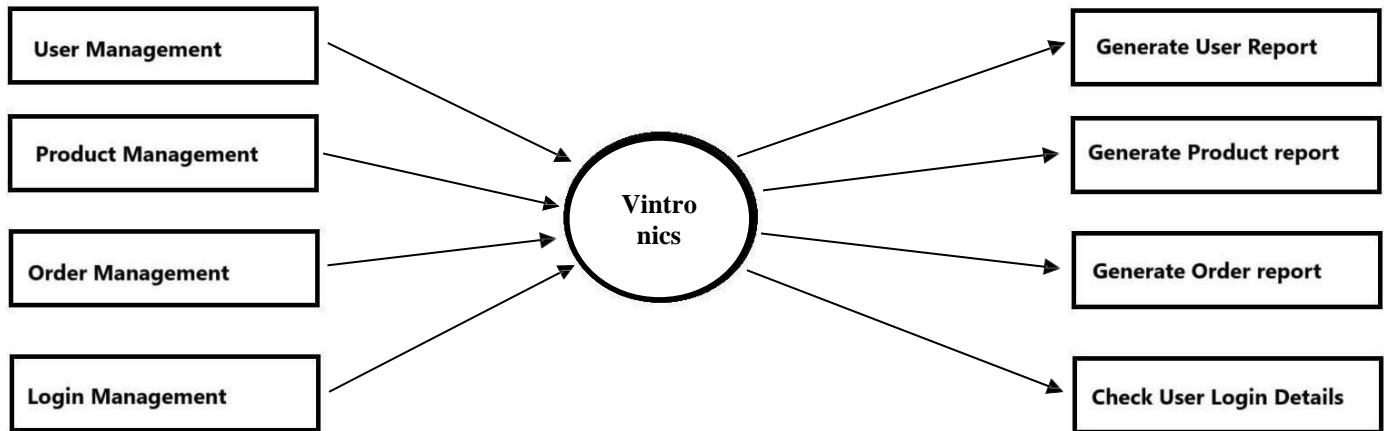


Data-flow Diagram

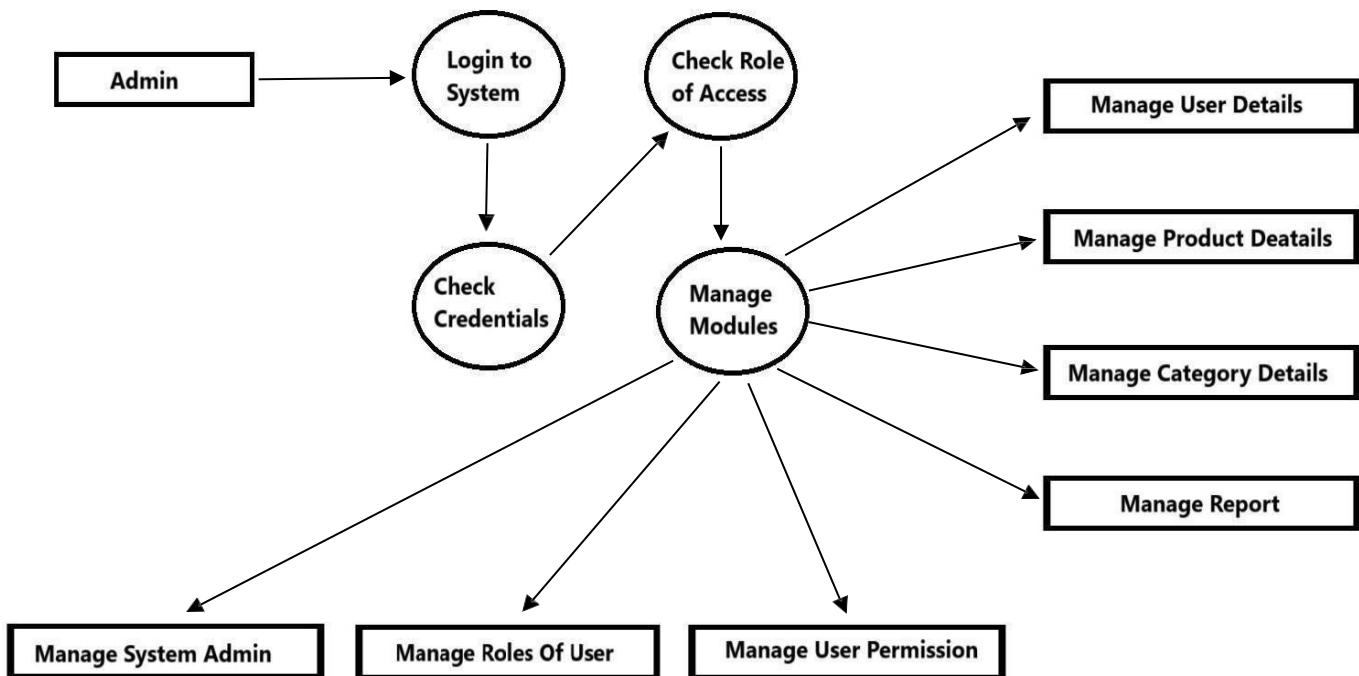
A data-flow diagram is a way of representing a flow of a data of a process or a system. The DFD also provides information about the outputs and inputs of each entity and the process itself. Given below is Level 0 Level 1 and Level 2 DFD of system.



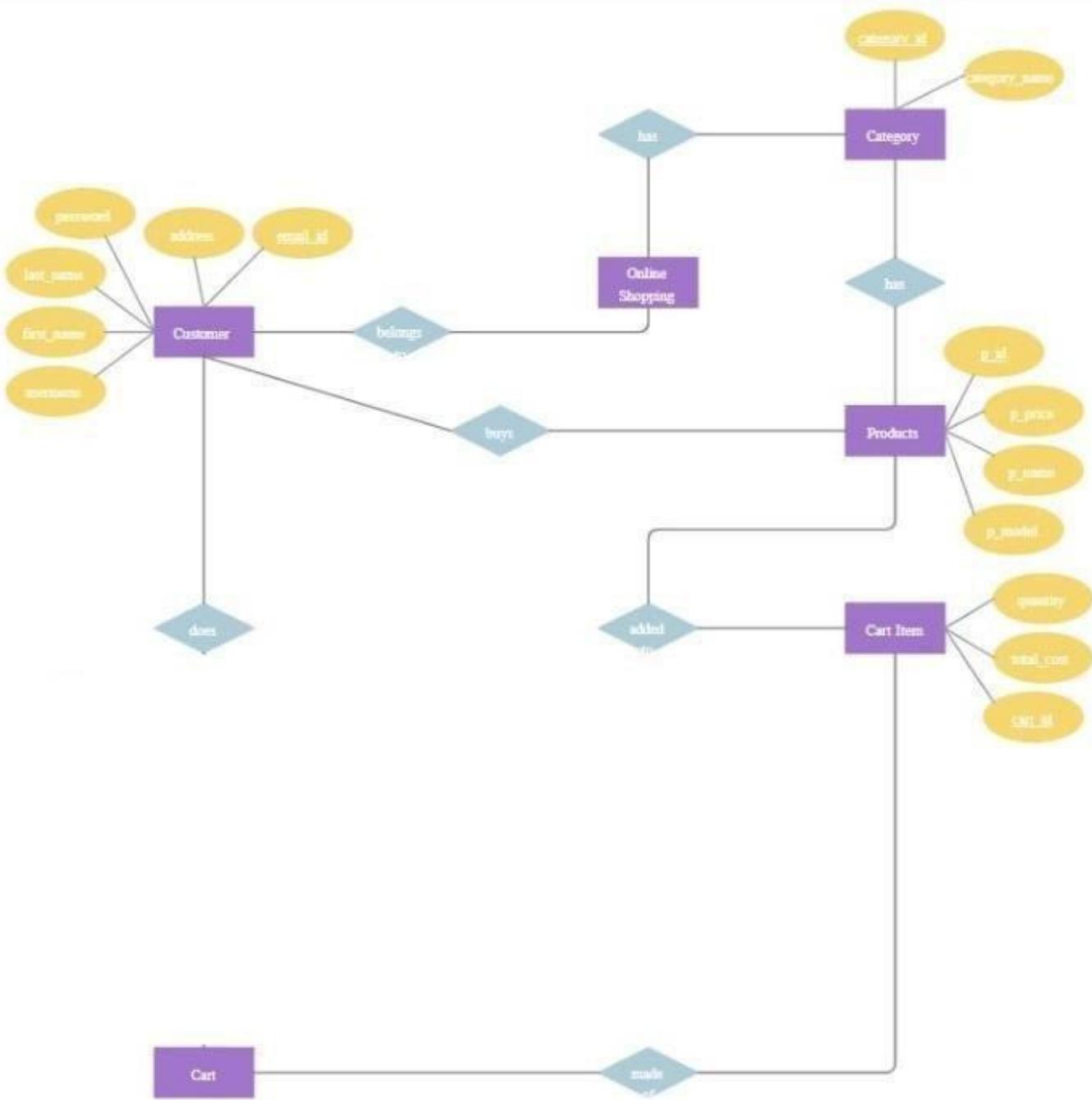
0 Level DFD Diagram



Level 1 DFD Diagram



Level 2 DFD Diagram



ER Diagram

System requirements (non-functional requirements)

These are non-functional system properties such as availability, performance and safety etc. They define functions of a system, services and operational constraints in detail.

VintronicsApplication.java

```
src > main > resources > templates > customer > home.html > html > body.bg-gray-100.flex.justify-center.items-center.h-screen >
```

```
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head data-th-replace="~{fragment/common::head}"></head>
5
6  <body class="bg-gray-100 flex justify-center items-center h-screen">
7      <link rel="stylesheet" href="/style/customer/home.css">
8
9      <header data-th-replace="~{fragment/common::header}"></header>
10
11     <!-- Hero Section -->
12     <section class="hero">
13         <video class="herobackground-video" autoplay loop muted>
14             <source src="/video/background-video.mp4">
15         </video>
16         <div class="hero-content">
17             <h1>Welcome to Vintronics</h1>
18             <p>Discover timeless technology and bring back the charm of the past!</p>
19             <button class="hero-button">Explore Now</button>
20         </div>
21     </section>
22
23     <nav class="navbar">
24         <ul class="nav-lists">
25             <div class="dropdown">
26                 <button>All Categories <span><i class="fa-solid fa-angle-down"></i></span></button>
27                 <div class="dropdown-content">
28                     <a th:each="category : ${categories}">
29                         <data-th-href="|/customer/product?category=${category.categoryId}|">
30                             <th:text=" ${category.categoryTitle}">
```

master ④ ⑤ 0 ⑥ 12 ⑦ 2 ⑧ ⑨ Java: Ready

Suhasini-140 (1 month ago)

Type here to search

File Edit Selection View Go Run

J VintronicsApplication.java home.html X

```
src > main > resources > templates > customer > home.html > html > body.bg-gray-100.flex.justify-center.items-center.h-screen >
```

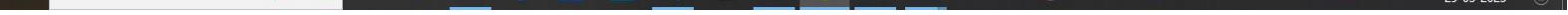
2 <html lang="en">
6 <body class="bg-gray-100 flex justify-center items-center h-screen">
280 </section>
281 <div class="footer-highlights">
282 <div class="highlight-item">
283 <i class="fa-solid fa-truck-fast"></i>
284 <h4>FAST SHIPPING</h4>
285 <p>On All Orders </p>
286 </div>
287 <div class="highlight-item">
288 <i class="fa-solid fa-clock-rotate-left"></i>
289 <h4>EASY RETURNS</h4>
290 <p>15-Day Return Policy</p>
291 </div>
292 <div class="highlight-item">
293 <i class="fa-solid fa-hands-holding-circle"></i>
294 <h4>AUTHENTIC PRODUCTS</h4>
295 <p>Products Sourced Directly</p>
296 </div>
297 <div class="highlight-item">
298 <i class="fa-solid fa-lock"></i>
299 <h4>SECURE PAYMENT</h4>
300 <p>100% Secure Payment</p>
301 </div>
302 </div>
303
304 <footer data-th-replace="~{fragment/common::footer}"></footer>
305 <script src="/js/home.js"></script>
306 </body>
307

X master ↗ 0 ⚡ 12 ⏴ 2 ⌂ Java: Ready ⌂ Suhasini-140 (1 month ago)

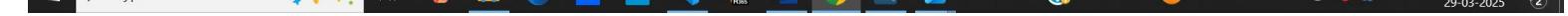
Type here to search

SnapShot of HomePage

The screenshot shows the homepage of Vintronics. At the top, there is a navigation bar with links for Booking.com, Imported From IE, and All Bookmarks. On the left, the Vintronics logo is displayed with the tagline "REWIND REUSE REVIVE". A search bar with the placeholder "Search for gadgets..." and a pink "Search" button are located at the top right. Below the search bar is a menu icon (three horizontal lines). To the right of the menu are buttons for "Login", "Cart", and "Contact Us". The main content area features a large, close-up image of a vintage telephone handset and receiver. Overlaid on this image is the text "Welcome to Vintronics" in a large, white, serif font. Below it is a smaller, yellowish text: "Discover timeless technology and bring back the charm of the past!". A pink "Explore Now" button is positioned in the lower-left quadrant of the main image. At the bottom of the page is a dark navigation bar with links for "All Categories", "Home", "Exclusive Vintage Finds", "Best Sellers", "About us", "New Releases", "Limited Edition", "Deals", "Blog", and "FAQs".



This screenshot shows the same Vintronics homepage but with a dark background. The main heading "Welcome to Vintronics" and its subtitle are now in a golden-yellow color. The "Explore Now" button has also turned golden-yellow. The rest of the interface, including the navigation bar and footer, follows the dark theme. The main content area now features a grid of four items under the heading "New Arrivals": a "Retro Camera" (Rs. 5500/-), a "Vintage Clock" (Rs. 3200/-), a "Classic Gramophone" (Rs. 7800/-), and a "Retro Television" (Rs. 8900/-). Each item has a small image, its name, its price, and a pink "Shop Now" button.



localhost:1211/customer/home

Booking.com Imported From IE All Bookmarks

VINTRONICS REWIND REUSE REVIVE

Search for gadgets... Search Login Cart Contact Us

Spotlight On

"Bringing back the classics—because vintage never goes out of style!"



Retro Camera
Capture moments the vintage way!

[Shop Now](#)



Antique Clock
Golden era of Time!

[Shop Now](#)



Classic Speaker
Enjoy music with a nostalgic touch!

[Shop Now](#)



Retro Audio Equipment
Enjoy music with a nostalgic touch!

[Shop Now](#)

Type here to search 00:20 29-03-2025

localhost:1211/customer/home

Booking.com Imported From IE All Bookmarks

VINTRONICS REWIND REUSE REVIVE

Search for gadgets... Search Login Cart Contact Us

Exclusive Deals



Retro Radio
Rs.5000 Rs.4000
20% Off

[Shop Now](#)



Vintage Wall Clocks
Rs.3000 Rs.2400
20% Off

[Shop Now](#)



Retro Console
Rs.6000 Rs.4800
20% Off

[Shop Now](#)



Rotary phone
Rs.5000 Rs.4000
20% Off

[Shop Now](#)

Type here to search 00:20 29-03-2025

localhost:1211/customer/home

Booking.com Imported From IE All Bookmarks

VINTRONICS

REWIND REUSE REVIVE

Search for gadgets... **Search**

☰ Login Cart Contact Us

Featured Products



Classic Camera
Rs.5000/-



Vintage Deskfans
Rs.3000/-



Audio Equipments
Rs.6000/-



Speaker
Rs.5000/-



Vintage Lamps
Rs.3000/-



FAST SHIPPING
On All Orders



EASY RETURNS
15-Day Return Policy



AUTHENTIC PRODUCTS
Products Sourced Directly



SECURE PAYMENT
100% Secure Payment

Type here to search

26°C Clear 00:20 29-03-2025

localhost:1211/customer/home

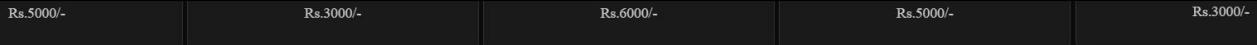
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VINTRONICS

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Search for gadgets... **Search**

☰ Login Cart Contact Us



Rs.5000/- Rs.3000/- Rs.6000/- Rs.5000/- Rs.3000/-



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On All Orders



EASY RETURNS
15-Day Return Policy



AUTHENTIC PRODUCTS
Products Sourced Directly



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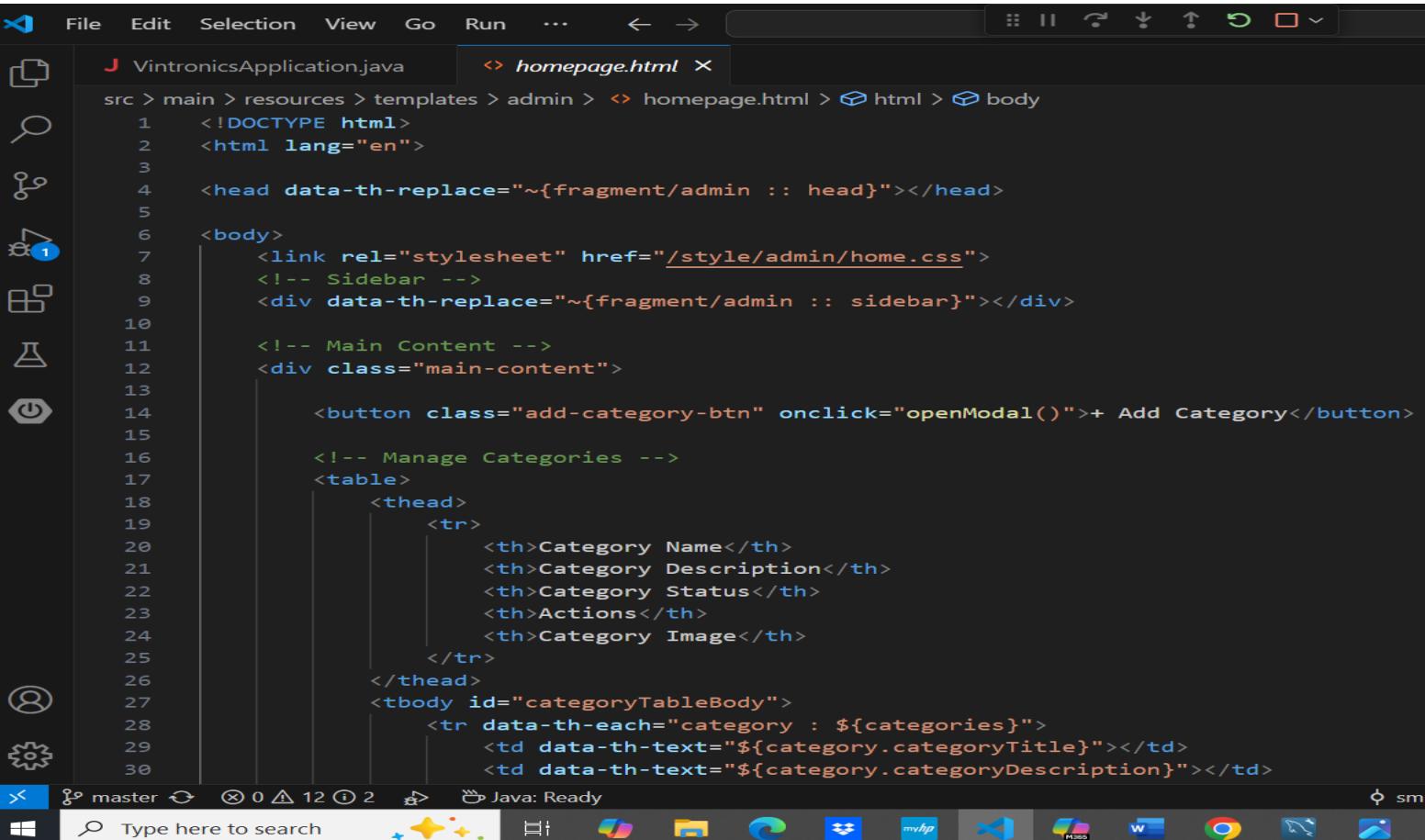
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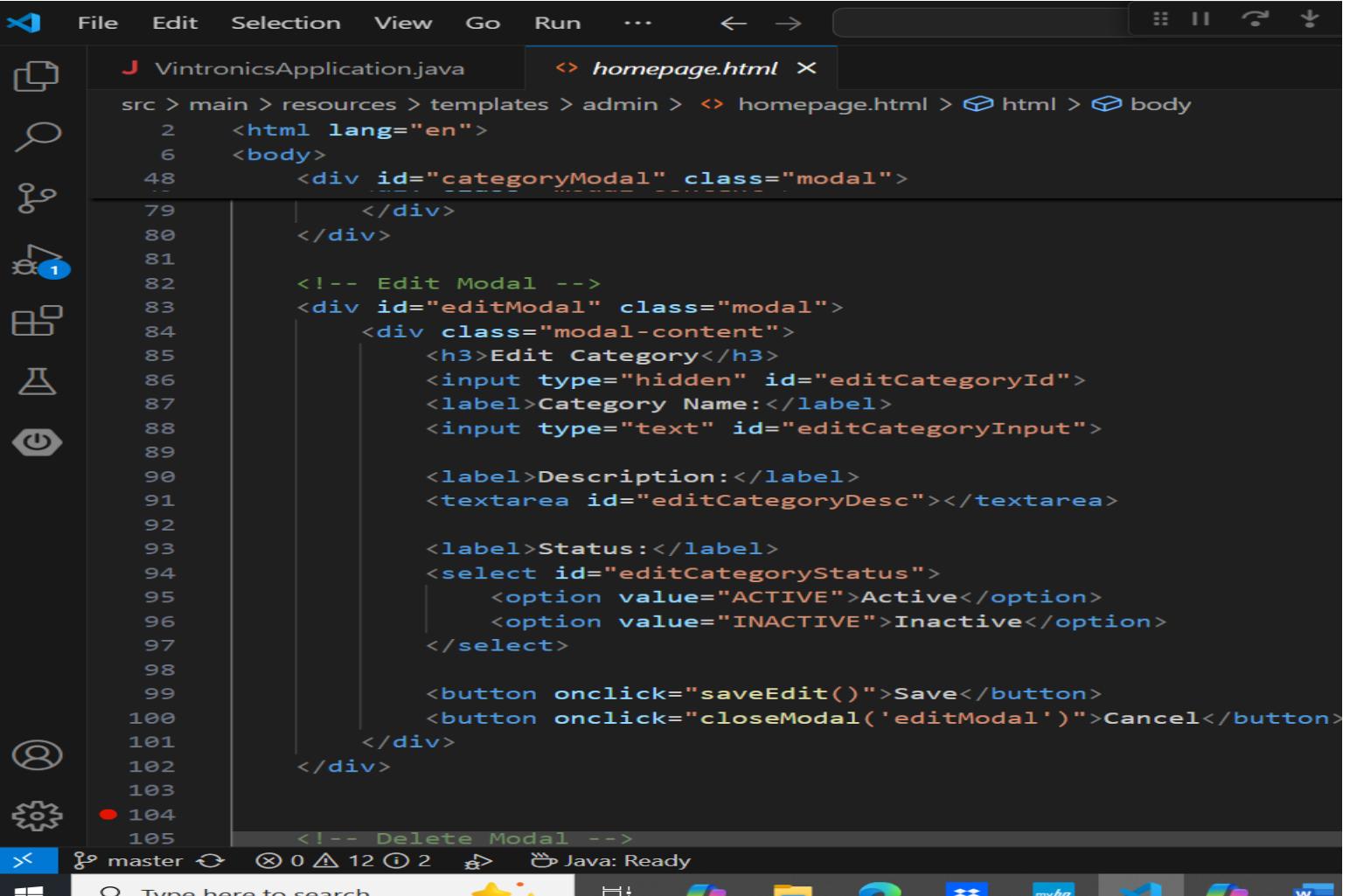
26°C Clear 00:20 29-03-2025

Admin DashBoard



The screenshot shows a Java-based IDE interface with the following details:

- Toolbar:** File, Edit, Selection, View, Go, Run, ...
- Left Sidebar:** Icons for file operations like Open, Save, Find, Cut, Copy, Paste, Undo, Redo, etc.
- Text Editor:** Displays the file `homepage.html` under the project `VintronicsApplication.java`. The code is a template for an admin dashboard page.
- Code Preview:** A preview pane shows the rendered HTML structure, including a header, sidebar, main content area, and a table for managing categories.
- Status Bar:** Shows the current branch as "master", the commit count as "0", the file size as "12", and the line count as "2". It also indicates "Java: Ready".
- Taskbar:** Shows various pinned application icons.



The screenshot shows a Java-based IDE interface with the following details:

- Toolbar:** File, Edit, Selection, View, Go, Run, ...
- Left Sidebar:** Icons for file operations like Open, Save, Find, Cut, Copy, Paste, Undo, Redo, etc.
- Text Editor:** Displays the file `homepage.html` under the project `VintronicsApplication.java`. The code includes sections for category management, edit modal, and delete modal.
- Code Preview:** A preview pane shows the rendered HTML structure, including a modal for adding categories and another for editing existing ones.
- Status Bar:** Shows the current branch as "master", the commit count as "0", the file size as "12", and the line count as "2". It also indicates "Java: Ready".
- Taskbar:** Shows various pinned application icons.

SnapShot of Admin Dashboard

localhost:1211/admin/dashboard

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Dashboard Manage Categories Orders Widgets Customer Payments Reviews Log Out

Products 18 2 Completed Active Task 132 28 Completed Teams 12 1 Completed Productivity 76% 5% Completed

Recent Sales

Product	Price	Date
Retro Camera	₹120	March 18, 2025
Vintage Console	₹250	March 17, 2025

Top Selling Products

Classic Walkman - 150 Sales
Retro Speakers - 120 Sales
Vintage Vinyl Player - 90 Sales

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Type here to search 22:48 28-03-2025

localhost:1211/admin/homepage

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Dashboard Manage Categories Orders Widgets Customer Payments Reviews Log Out

+ Add Category

Category Name	Category Description	Category Status	Actions	Category Image
Audio Devices	good	ACTIVE		

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Type here to search 22:48 28-03-2025

localhost:1211/admin/order

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VINTRONICS

REWIND REUSE REVIVE

Dashboard Manage Categories Orders Widgets Customer Payments Reviews Log Out

User Id	Date	Customer	Address	Product	Quantity	Status	Total
446	5/11/2024	Sambit	Rourkela	Classic Radio	1	Delivered	₹12000.00
445	5/11/2024	Neha	Kolkata	Retro Camera	1	Delivered	₹12000.00
446	5/11/2024	Pooja	Anugul	Vintage Clock	1	Delivered	₹12000.00
446	5/11/2024	Veena	Patna	Classic Gramophone	1	Delivered	₹12000.00

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Type here to search 26°C Clear 00:44 29-03-2025

localhost:1211/admin/customer

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REWIND REUSE REVIVE

Dashboard Manage Categories Orders Widgets Customer Payments Reviews Log Out

Customer Details

User ID	Name	Address	Registration Date	Total Order	Total Spend	Last Order	Status
1	Sujata	Bhubaneswar, Odisha	2022-01-15	25	₹15,000	2022-01-15	Active
2	Bandana	Cuttack, Odisha	2021-03-22	18	₹10,800	2022-01-15	Active
3	Sneha	Puri, Odisha	2020-07-10	30	₹18,000	2022-01-15	Inactive
4	Anuj	Rourkela, Odisha	2022-11-05	10	₹6,000	2022-01-15	Active

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localhost:1211/admin/widget

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Widget Management

Enter a widget name... sequence id

Add product to widget

Widget Name	Widget ID	Sequence	Widget Status	Actions
New Arrivals	ebee872a-6c70-4438-8b3f-b5e59fe85811	1	ACTIVE	

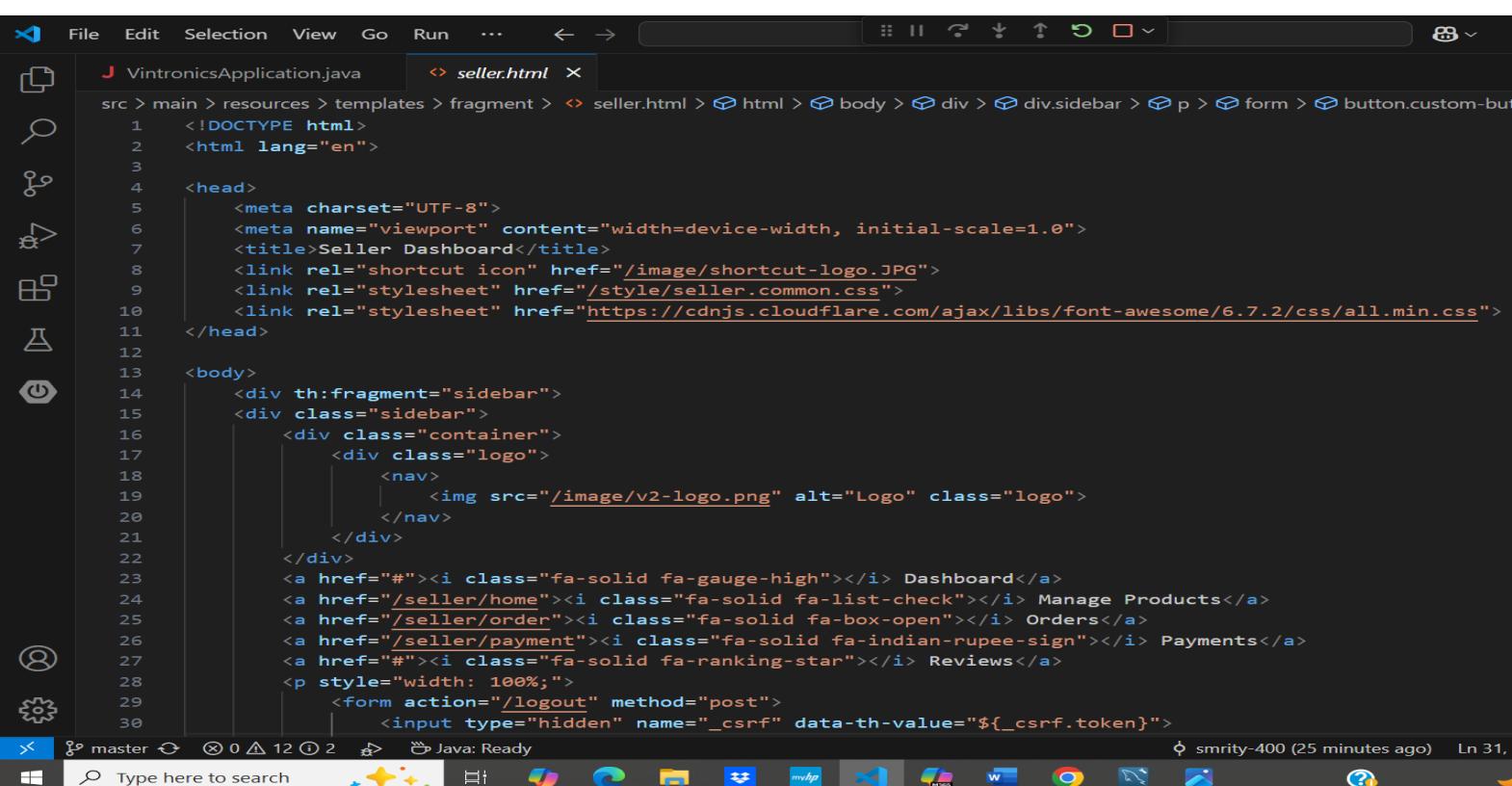
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VINTRONICS REWIND REUSE REVIVE

Dashboard Manage Categories Orders Widgets Customer Payments Reviews Log Out

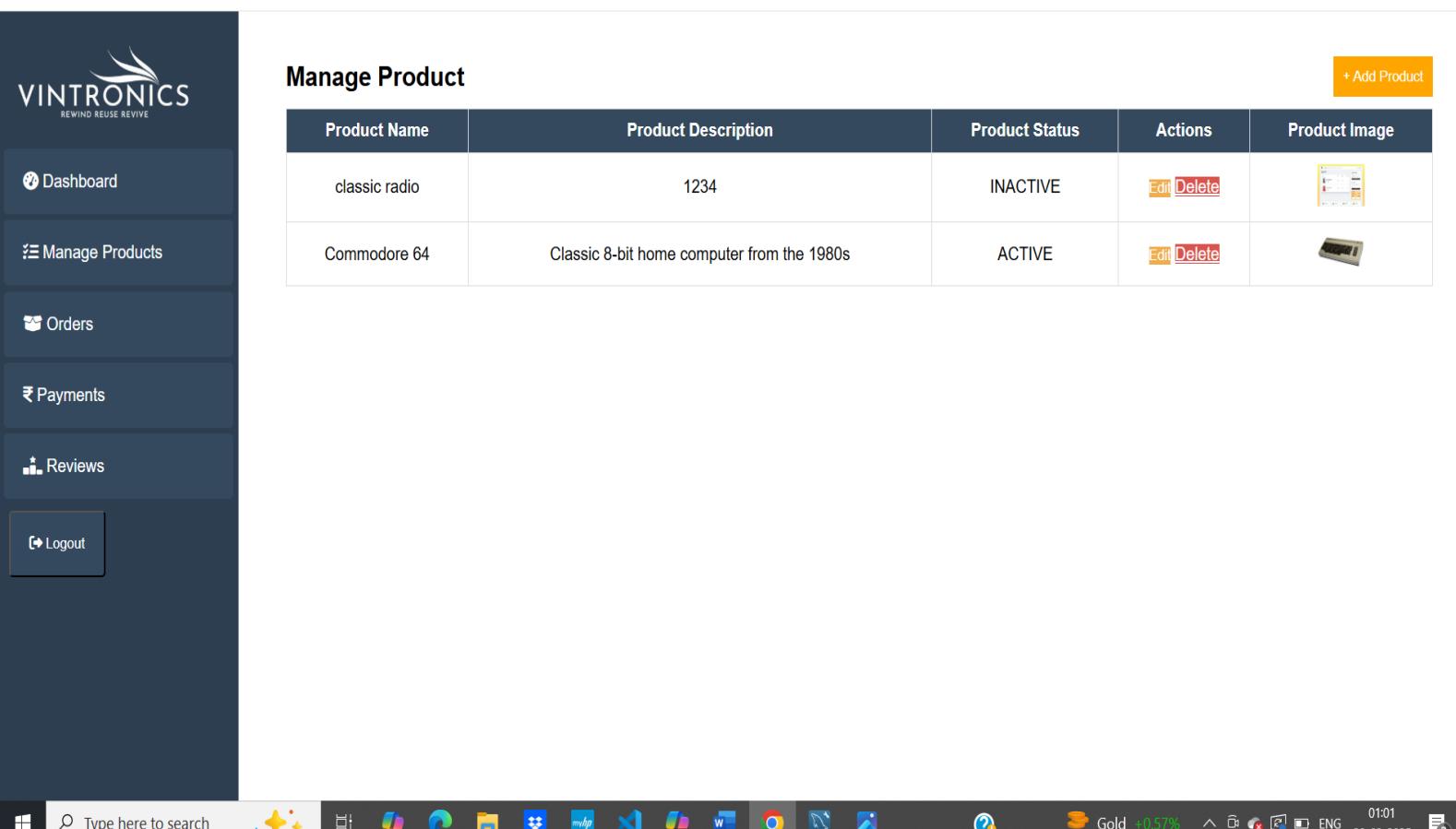


Seller Dashboard



The screenshot shows a code editor interface with the file `VintronicsApplication.java` open on the left and the template file `seller.html` on the right. The `seller.html` content is as follows:

```
src > main > resources > templates > fragment > seller.html > html > body > div > div.sidebar > p > form > button.custom-button
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5      <meta charset="UTF-8">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>Seller Dashboard</title>
8      <link rel="shortcut icon" href="/image/shortcut-logo.JPG">
9      <link rel="stylesheet" href="/style/seller.common.css">
10     <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.7.2/css/all.min.css">
11 </head>
12
13 <body>
14     <div th:fragment="sidebar">
15         <div class="sidebar">
16             <div class="container">
17                 <div class="logo">
18                     <nav>
19                         
20                     </nav>
21                 </div>
22             </div>
23             <a href="#"><i class="fa-solid fa-gauge-high"></i> Dashboard</a>
24             <a href="/seller/home"><i class="fa-solid fa-list-check"></i> Manage Products</a>
25             <a href="/seller/order"><i class="fa-solid fa-box-open"></i> Orders</a>
26             <a href="/seller/payment"><i class="fa-solid fa-indian-rupee-sign"></i> Payments</a>
27             <a href="#"><i class="fa-solid fa-ranking-star"></i> Reviews</a>
28             <p style="width: 100%; ">
29                 <form action="/logout" method="post">
30                     <input type="hidden" name="_csrf" data-th-value="${_csrf.token}">
31                 </form>
32             </p>
33         </div>
34     </div>
35 
```



Seller Dashboard

Manage Product

+ Add Product

	Actions	Product Image
	Edit Delete	
	Edit Delete	

Add New Product

Product Name:	<input type="text"/>
Product price:	<input type="text"/>
Product Stock Quantity:	<input type="text"/>
Description:	<input type="text"/>
Status:	Active
Upload Image:	<input type="button" value="Choose File"/> No file chosen
Select Category:	<input type="button" value="Select Category"/>
Add Product	

Dashboard

Manage Products

Orders

Payments

Reviews

Logout

Type here to search

26°C Clear 29-03-2025

Admin Dashboard

+ Add Category

Category Name	Category Description	Category Status	Actions	Category Image
Audio Devices	go			

Add New Category

Category Name:	<input type="text"/>
Description:	<input type="text"/>
Status:	Active
Upload Image:	<input type="button" value="Choose File"/> No file chosen
Add Category	

Dashboard

Manage Categories

Orders

Widgets

Customer

Payments

Reviews

Log Out

Type here to search

26°C Clear 29-03-2025

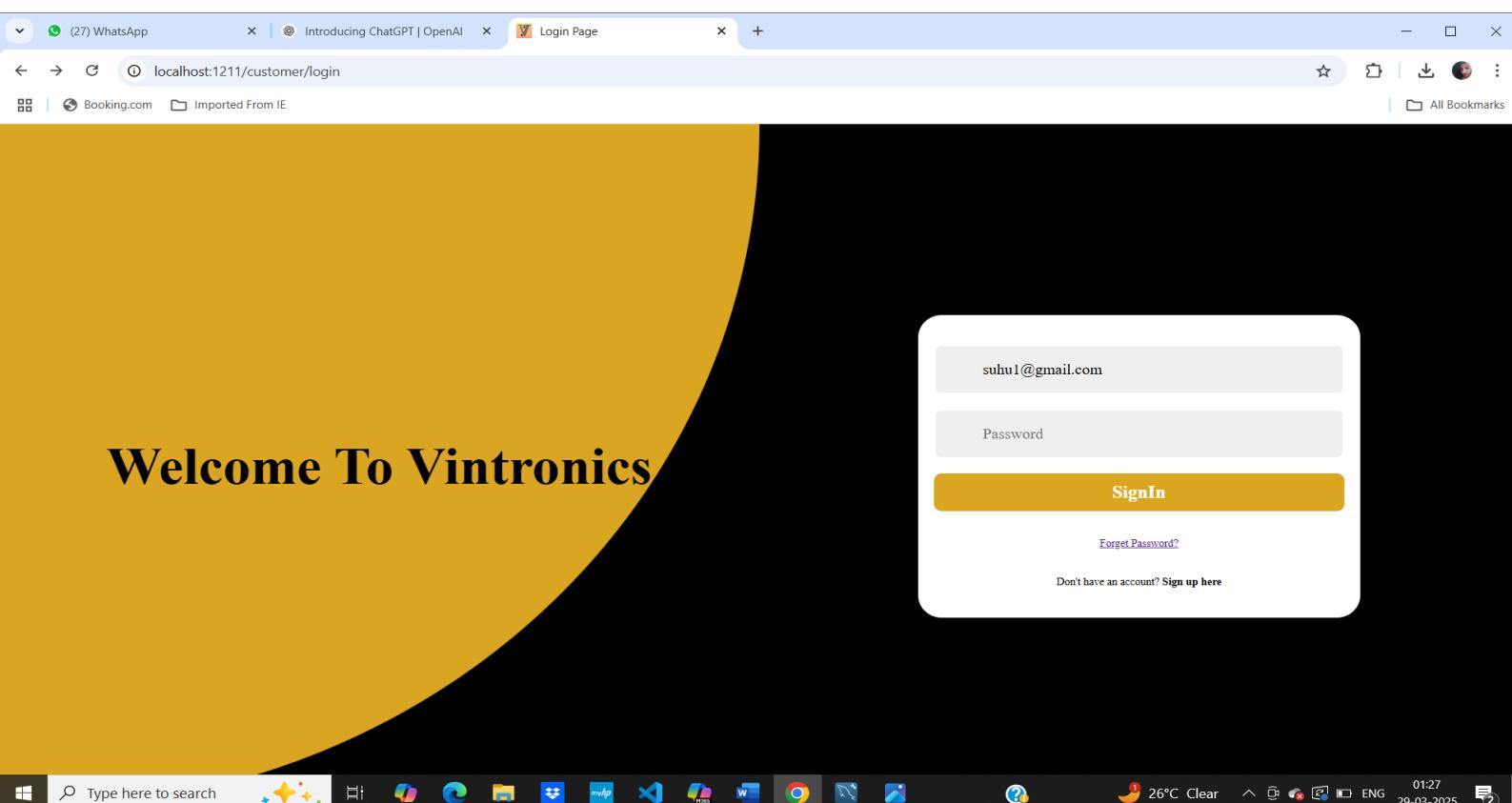
Sign In

The screenshot shows a code editor interface with a dark theme. On the left, there is a vertical toolbar with various icons. The main area displays the content of a file named `login.html`. The code is an HTML form for user sign-up, including fields for username, email, and phone number, along with their respective placeholder text and required attributes. The code editor includes syntax highlighting and line numbers.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Login Page</title>
    <link rel="shortcut icon" href="/image/shortcut-logo.JPG">
    <link rel="stylesheet" href="/style/customer/login.css">
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.7.2/css/all.min.css">
</head>

<body>
    <div id="container" class="container">
        <div class="row">
            <div class="col align-items-center flex-col sign-up">
                <div class="form-wrapper align-items-center">
                    <form class="form sign-up" method="post" action="/customer/sign-up">
                        <div class="input-group">
                            <i class='bx bxs-user'></i>
                            <input type="text" name="userName" placeholder="Full Name" required>
                        </div>
                        <div class="input-group">
                            <i class='bx bx-mail-send'></i>
                            <input type="email" name="userEmail" placeholder="Email" required>
                        </div>
                        <div class="input-group">
                            <i class='bx bxs-phone'></i>
                            <input type="tel" id="userPhone" name="userPhone" placeholder="Phone Number" required>
                        </div>
                    </form>
                </div>
            </div>
        </div>
    </div>
</body>
```

Snapshot Of Sign In



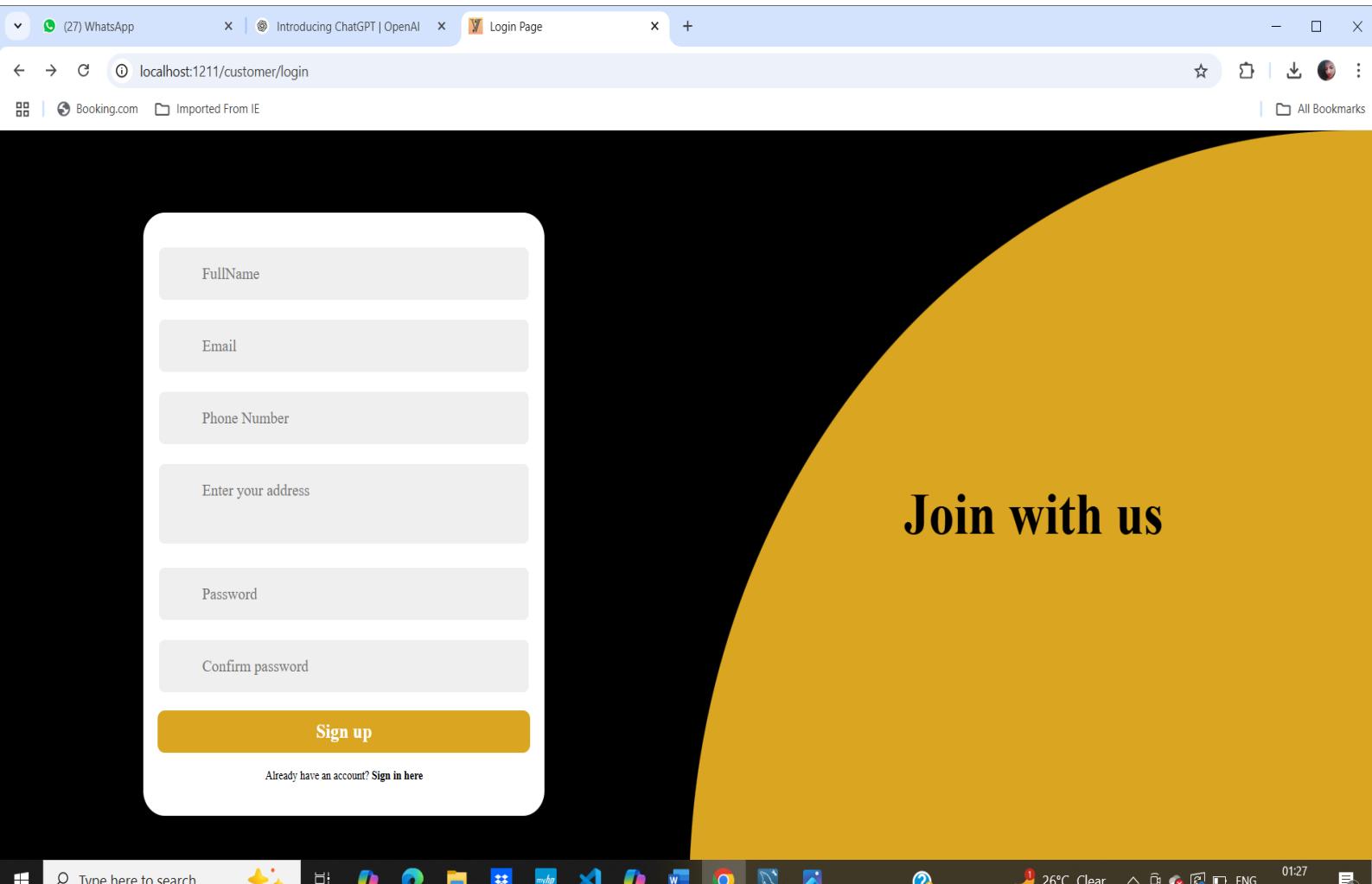
Sign Up

The screenshot shows a Java IDE interface with two tabs open: 'VintronicsApplication.java' and 'login.html'. The 'login.html' tab displays the following HTML code:

```
src > main > resources > templates > customer > login.html > html > body
2     <html lang="en">
13    <body>
14        <div id="container" class="container">
15            <div class="row">
16                <div class="col align-items-center flex-col sign-up">
17                    </div>
18                </div>
19                <div class="col align-items-center flex-col sign-in">
20                    <div class="form-wrapper align-items-center">
21                        <form class="form sign-in" action="/customer/login" method="post">
22                            <div class="input-group">
23                                <i class='bx bxs-user'></i>
24                                <input type="text" placeholder="Email" name="username" required>
25                            </div>
26                            <div class="input-group">
27                                <i class='bx bxs-lock-alt'></i>
28                                <input type="password" placeholder="Password" name="password" required>
29                            </div>
30                            <input type="hidden" name="_csrf" data-th-value="${_csrf.token}">
31                            <button>SignIn</button>
32                            <p><br>
33                                <a href="#">Forget Password?</a>
34                            </p>
35                            <p><br>
36                                <span>Don't have an account?</span>
37                                <b onclick="toggle()" class="pointer">Sign up here</b>
38                            </p>
39                        </form>
40                    </div>
41                </div>
42            </div>
43        </div>
44    </body>
```

The code is a template for a sign-up and sign-in form, using Bootstrap-like classes for layout. It includes fields for email and password, a CSRF token input, and links for password recovery and sign-up.

SnapShot of SignUp



Cart Page

The screenshot shows a code editor interface with two tabs open: 'VintronicsApplication.java' and 'cart.html'. The 'cart.html' tab is active, displaying the following HTML code:

```
src > main > resources > templates > customer > cart.html > html > body > section > div.cart
```

```
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5      <meta charset="UTF-8">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>Shopping Cart</title>
8      <link rel="shortcut icon" href="/image/shortcut-logo.JPG">
9      <link rel="stylesheet" href="/style/customer/cart.css">
10 </head>
11
12 <body>
13
14     <header>
15         <div class="container">
16             <div class="logo">
17                 <nav>
18                     
19                 </nav>
20             </div>
21             <div class="search-container">
22                 <input type="text" placeholder="Search for gadgets...">
23                 <button>Search</button>
24             </div>
25         </header>
26         <section>
27             <div class="cart-container">
28                 <div class="cart-items">
29                     <h2>Shopping Cart</h2>
```

The status bar at the bottom indicates 'Java: Ready'.

The screenshot shows a code editor interface with two tabs open: 'VintronicsApplication.java' and 'cart.html'. The 'cart.html' tab is active, displaying the following HTML code:

```
src > main > resources > templates > customer > cart.html > html > body > section > div.cart-container > div.cart-items
```

```
2  <html lang="en">
12  <body>
27      <section>
28          <div class="cart-container">
29              <div class="cart-items">
47                  </div>
48              </div>
49              <div class="price-details">
50                  <h3>Price Details</h3>
51                  <p>Price (2 items): <span class="price">₹495</span></p>
52                  <p>Discount: <span class="discount">- ₹100</span></p>
53                  <p>Delivery Charges: <span class="free">Free</span></p>
54                  <hr>
55                  <p class="total">Total Amount: <span class="amount">₹395</span></p>
56                  <p class="savings">You will save ₹100 on this order</p>
57
58          <!-- Delivery Location Section -->
59          <div class="section">
60              <h4>Delivery Location</h4>
61              <input type="text" id="delivery-location" placeholder="Enter your delivery address">
62          </div>
63
64          <!-- Payment Option Section -->
65          <div class="section">
66              <h4>Payment Options</h4>
67              <select id="payment-option">
68                  <option value="credit-card">Credit Card</option>
69                  <option value="paypal">PayPal</option>
70                  <option value="cod">Cash on Delivery</option>
71              </select>
...</div>
```

The status bar at the bottom indicates 'Java: Ready' and shows the user 'Suhasini-140 (2 weeks)'.

SnapShot of Cart Page

A screenshot of a web browser showing a shopping cart interface. The page has a dark header with tabs for WhatsApp, Introducing ChatGPT | OpenAI, and Shopping Cart. The main content area has a black background with a textured brown border on the left and right sides. It displays a product item for a 'classic radio' at ₹269, quantity 1, with options to 'Save for Later' or 'Remove'. To the right, there's a 'Price Details' section showing a total of ₹395 after a ₹100 discount, with free delivery. Below it, a message indicates savings of ₹100 on the order. Further down are sections for 'Delivery Location' (with a placeholder for address) and 'Payment Options' (set to 'Credit Card'). A large yellow 'Place Order' button is at the bottom right. The browser's address bar shows 'localhost:1211/customer/cart'. The taskbar at the bottom includes search, file, and system icons.

Spring Security

```
src > main > java > edu > rims > vintronics > config > SecurityConfig.java > Language Support for Java(TM) by Red Hat > SecurityConfig.java
19 public class SecurityConfig {
20     SecurityFilterChain securityFilterChain(HttpSecurity http) throws Exception{
21         .permitAll()
22         .requestMatchers("/seller/**").hasRole("SELLER")
23         .requestMatchers("/admin/**").hasRole("ADMIN").anyRequest().authenticated();
24         http.formLogin(form -> form.loginPage("/customer/login").successForwardUrl("/user"));
25         http.logout(Customizer.withDefaults());
26         return http.build();
27     }
28
29
30     @Bean
31     PasswordEncoder encoder(){
32         return new BCryptPasswordEncoder(12);
33     }
34
35     @Bean
36     UserDetailsService detailsService(){
37         return (username) -> {
38             User user = userRepository.findByUserEmail(username)
39             .orElseThrow(() -> new UsernameNotFoundException("userNotFound"));
40             return org.springframework.security.core.userdetails.User.builder()
41                 .username(username)
42                 .password(user.getUserPassword())
43                 .roles(user.getUserRole().toString())
44                 .build();
45         };
46     }
47
48 }
```

CHAPTER-10

Testing

Introduction

The goal of software testing is to evaluate software program capabilities or attributes to ensure that it meets the application standards. Testing does not guarantee quality, and its objective is not to detect bugs. Testing might consist of verification and validation as well as dependability estimation. The fundamental goal of testing is to find errors in application. The most crucial function of testing is to provide information. Check ensure that the program is functioning properly while creating, updating, and deleting product entries.

Unit Testing

Individual software components are tested in this manner. It is usually done by the programmer rather than the testers. This demands detailed information and expertise of the internal program design and code. We performed numerous testing tasks during unit testing, such as the reflection of the unit data on the database and its interface. Several sorts of bugs linked with the component were discovered and resolved. To test our software, we use a variety of functional keys. Our software unit testing is concerned with stock units, opening stock units, and product unit validation.

Future Enhancements

To improve and expand the FashIn Web Application, the following future enhancements can be considered:

1. Advanced Search & Filtering – Implement enhanced search options with filters based on color, price range, occasion, and material to improve user experience.
2. Wishlist & Favorites – Allow users to save their favorite products for future reference, enhancing engagement and return visits.
3. Personalized Recommendations – Introduce a recommendation system based on user browsing and purchase history to improve product discovery.
4. Social Media Integration – Enable users to share their favorite fashion picks on social media platforms and log in using social accounts for a smoother experience.
5. User Reviews & Ratings – Add a review and rating system to help customers make informed purchasing decisions.

6. Loyalty & Reward Programs – Introduce a points-based system where users earn rewards for purchases, referrals, or engagement.
7. Live Chat Support– Implement real-time customer support to address user queries and provide a better shopping experience.
8. Mobile App Version – Develop a mobile application for iOS and Android to reach a broader audience and improve accessibility.
9. Augmented Reality (AR) Try-On – Integrate AR-based try-on features to help users visualize outfits and accessories before purchasing.
10. Multi-Vendor Marketplace – Expand the platform to allow multiple sellers to list their products, transforming it into a full-fledged marketplace. By implementing these enhancements, the platform can stay competitive, improve user engagement, and drive more traffic, ensuring long-term growth and success.

References

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- W3school (<https://www.w3schools.com/MySQL/default.asp>)
- GeeksforGeeks (<https://www.geeksforgeeks.org/spring/>)
- Gemini
- Spring Intializer(<https://start.spring.io./>)
- GitHub(<https://www.github.com/>)

Conclusion and Future Scope

Conclusion

The Vintronics e-commerce platform successfully delivers a seamless and user-friendly shopping experience for tech enthusiasts. With a well-structured Product Listing Page (PLP), an intuitive shopping cart, and an efficient Seller Dashboard, the platform enhances online shopping by ensuring smooth navigation and interactive engagement. The integration of Spring Boot for the backend ensures scalability, while the frontend built with HTML, CSS, and JavaScript provides a responsive and visually appealing interface. By focusing on user-centric design and efficient product management, Vintronics streamlines the online shopping experience for both customers and sellers.

Future Scope

Moving forward, Vintronics has immense potential for growth and innovation. Key areas for future improvements include:

- Enhanced Backend Integration – Connecting the Seller Dashboard with a robust database and backend APIs for real-time inventory and order tracking.
- AI-Powered Recommendations – Implementing machine learning algorithms to provide personalized product suggestions based on user preferences.
- Secure Payment Gateway – Integrating multiple payment options, including UPI, credit/debit cards, and wallets, to enhance transaction security and convenience.
- Mobile App Development – Expanding the platform with a dedicated mobile application for a seamless shopping experience on-the-go.
- Advanced Analytics & Insights – Providing sellers with data-driven insights to optimize their product listings and pricing strategies.
- Marketing & SEO Optimization – Leveraging SEO strategies and digital marketing campaigns to attract a broader customer base and increase platform visibility.

By continuously refining its features and expanding its product offerings, Vintronics is well-positioned to become a leading online marketplace for retro and modern tech gadgets.