**E-COMMERCE APPLICATION ON IBM CLOUD FOUNDRY**

**Team Member**

**SATHISH A - 310521104108**

**Phase 3 Document Submission**

**Creating a DB2 Database on IBM Cloud for Storing Data**

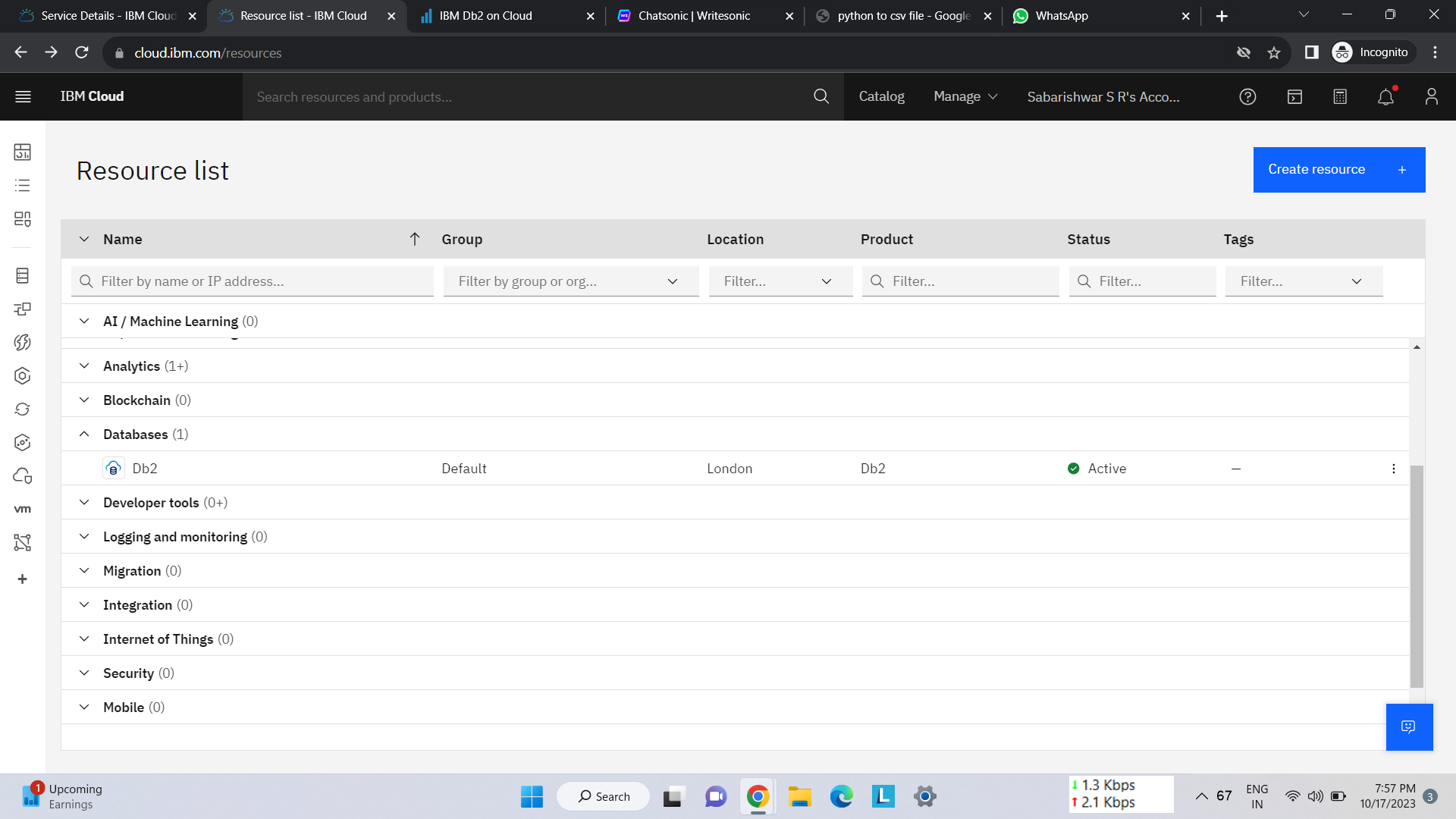
**Introduction:**

DB2 is a robust and reliable relational database management system (RDBMS) developed by IBM. IBM Cloud provides a platform for hosting DB2 databases, allowing users to store and manage their data securely. This document will guide you through the process of creating a DB2 database on IBM Cloud.

**Step 1:** Sign up for an IBM Cloud Account To get started, visit the IBM Cloud website and sign up for an account. Follow the registration process and provide the necessary information to create your account.

**Step 2:** Access the IBM Cloud Dashboard Once you have successfully signed up and logged in to your IBM Cloud account, you will be directed to the IBM Cloud Dashboard. This is the central hub for managing your cloud resources.

**Step 3:**  Provision a DB2 Instance In the IBM Cloud Dashboard, click on "Create Resource" to provision a new resource. Search for "DB2" in the catalog and select the DB2 service that suits your requirements.

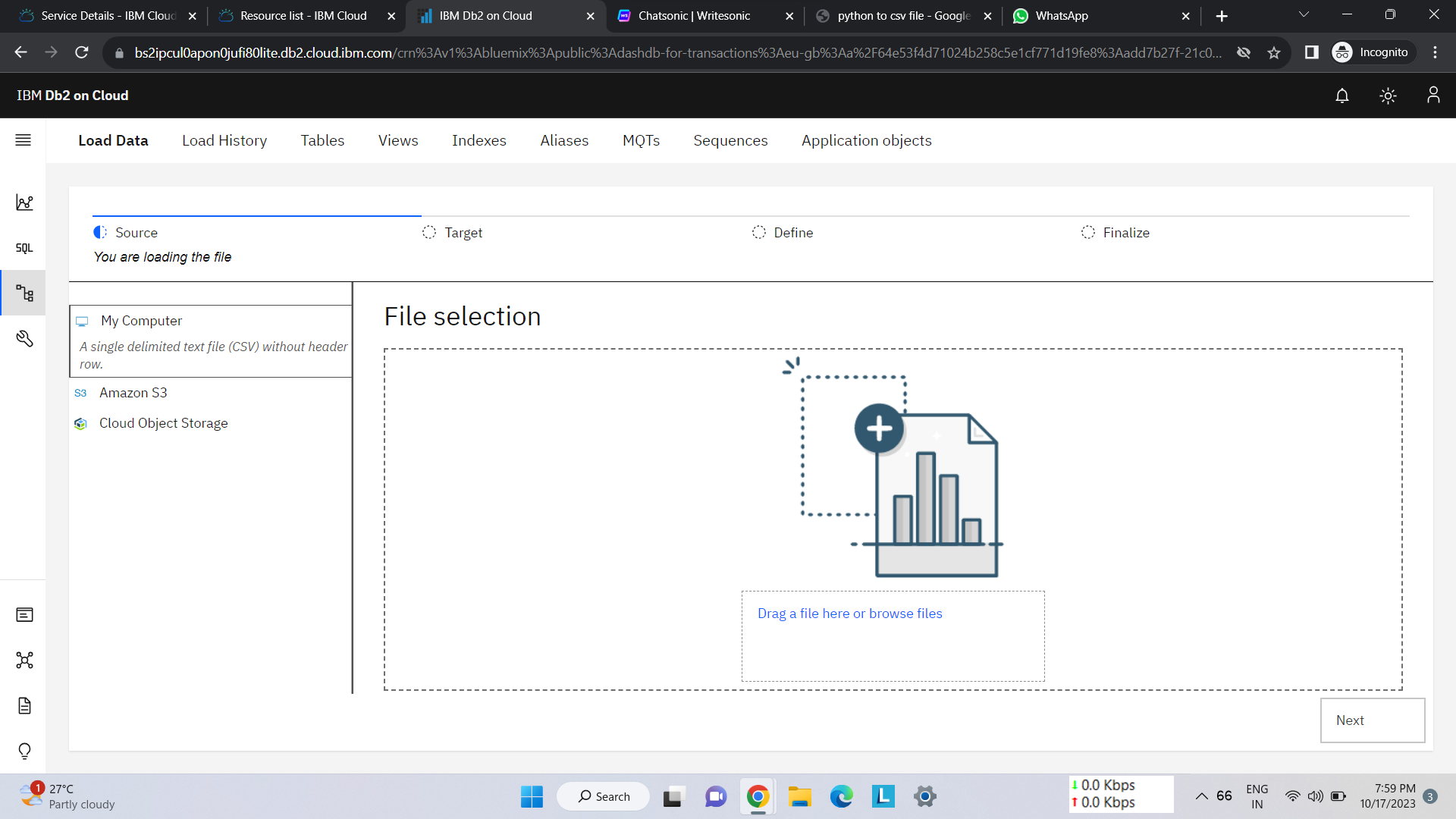


**Step 4:** Configure the DB2 Instance After selecting the DB2 service, you will be prompted to configure the instance. Choose the desired region, resource group, and plan for your DB2 database. You can select the appropriate plan based on your storage and performance needs.

**Step 5:** Set Access and Security Options Next, configure the access and security options for your DB2 database. Set a unique name for your database, choose the authentication method (such as username/password or SSH key), and define access controls to restrict access to authorized users.

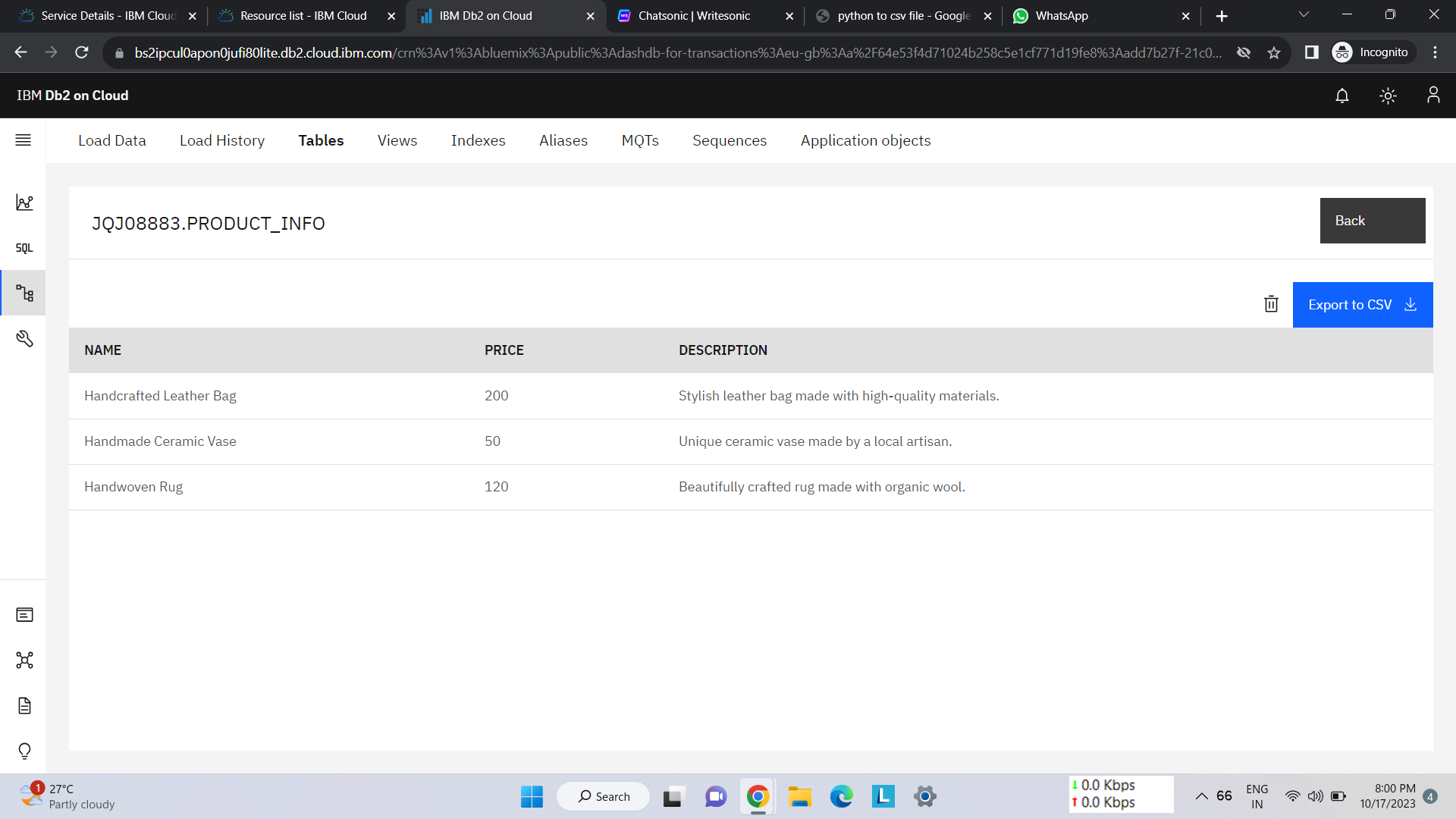
**Step 6:** Review and Create the DB2 Database Review the configuration details you have provided and ensure they are accurate. Once you are satisfied, click on "Create" to create your DB2 database on IBM Cloud.

**Step 7:** Connect to the DB2 Database After the database is successfully created, you can connect to it using various methods. IBM Cloud provides a web-based console, command-line tools, and APIs for managing and accessing your DB2 database. Choose the method that suits your preference and connect to your DB2 database.



**Step 8:** Create Tables and Store Data Once connected to your DB2 database, you can start creating tables and storing data. Use SQL statements or graphical tools to define the structure of your tables and insert data into them. You can also import existing data into your DB2 database as CSV Files if needed. We Now now Importing CSV file.

**Step 9:** Monitor and Optimize Performance IBM Cloud provides monitoring and performance optimization tools for your DB2 database. Monitor resource utilization, query performance, and database health to identify and resolve any performance issues. Optimize your database configuration and queries to ensure efficient data storage and retrieval.

**Conclusion:** 

Creating a DB2 database on IBM Cloud is a straightforward process that allows you to store and manage your data securely. By following the steps outlined in this document, you can provision a DB2 instance, configure access and security options, and start storing your data in the cloud. Leverage the power of DB2 on IBM Cloud to build robust and scalable data solutions for your business needs

**Creating an E-commerce Application on IBM Cloud with Kubernetes :**

**Introduction:**

Kubernetes is an open-source container orchestration platform that allows you to deploy, scale, and manage applications efficiently. IBM Cloud provides a robust Kubernetes service that enables you to create and deploy your e-commerce application. This document will guide you through the process of creating an e-commerce application on IBM Cloud using Kubernetes.

**Step 1:** Sign up for an IBM Cloud Account: To get started, visit the IBM Cloud website and sign up for an account. Follow the registration process and provide the necessary information to create your account.

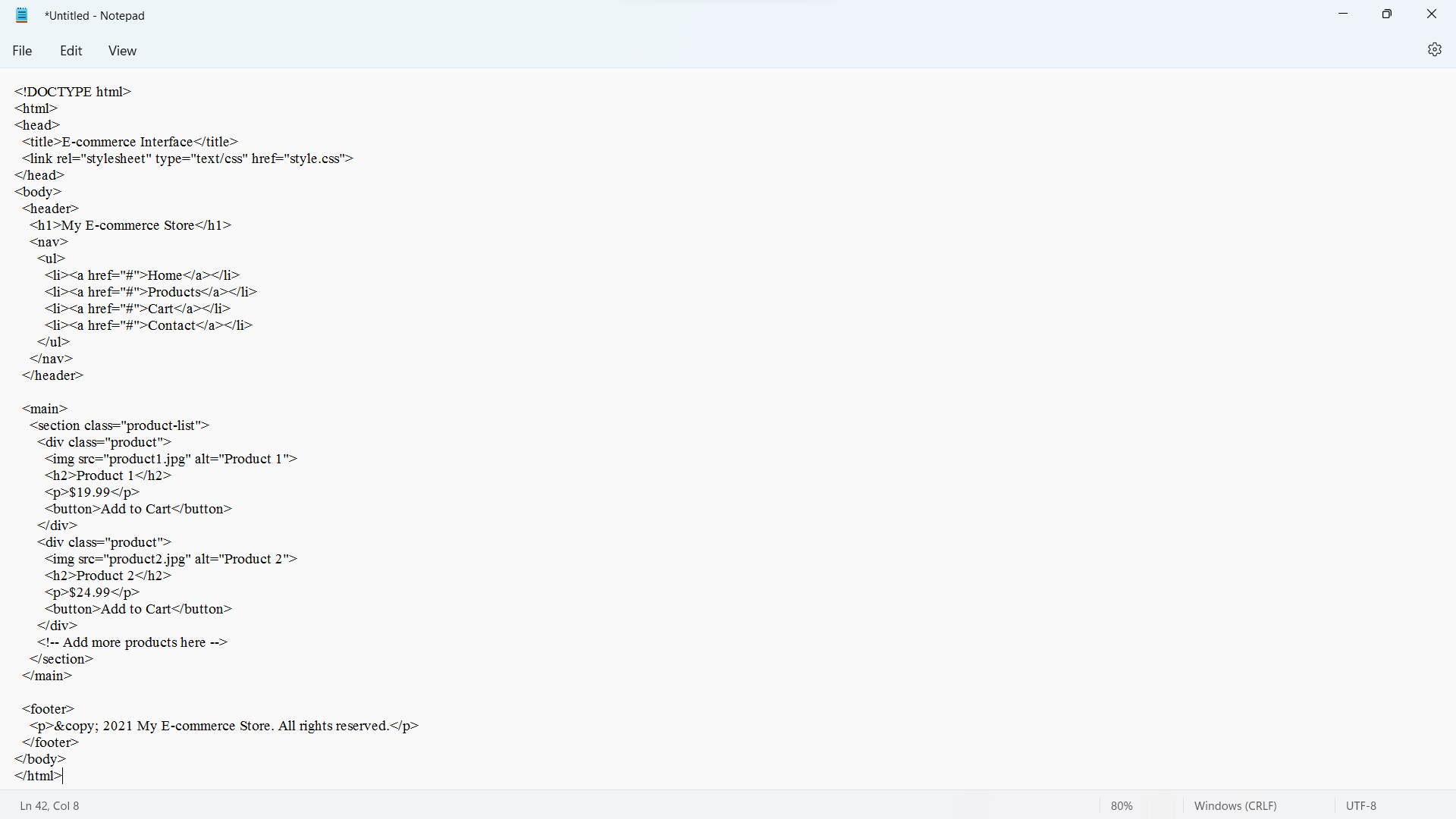
**Step 2:** Access the IBM Cloud Dashboard: Once you have successfully signed up and logged in to your IBM Cloud account, you will be directed to the IBM Cloud Dashboard. This is the central hub for managing your cloud resources.

**Step 3:** Provision a Kubernetes Cluster: In the IBM Cloud Dashboard, navigate to the Kubernetes service and provision a Kubernetes cluster. Choose the desired region, resource group, and plan for your cluster. You can select the appropriate plan based on your expected traffic and resource requirements.

**Step 4:**  Configure the Kubernetes Cluster: After provisioning the Kubernetes cluster, configure the cluster settings. Set a unique name for your cluster, define the number of worker nodes, and choose the appropriate hardware configuration.

**Step 5:** Deploy the E-commerce Application: Next, deploy your e-commerce application on the Kubernetes cluster. You can use container images or Helm charts to package and deploy your application. IBM Cloud provides tools like Kubernetes CLI (kubectl) and Helm to manage your application deployment.

**HTML CODE :**



**CSS CODE :**



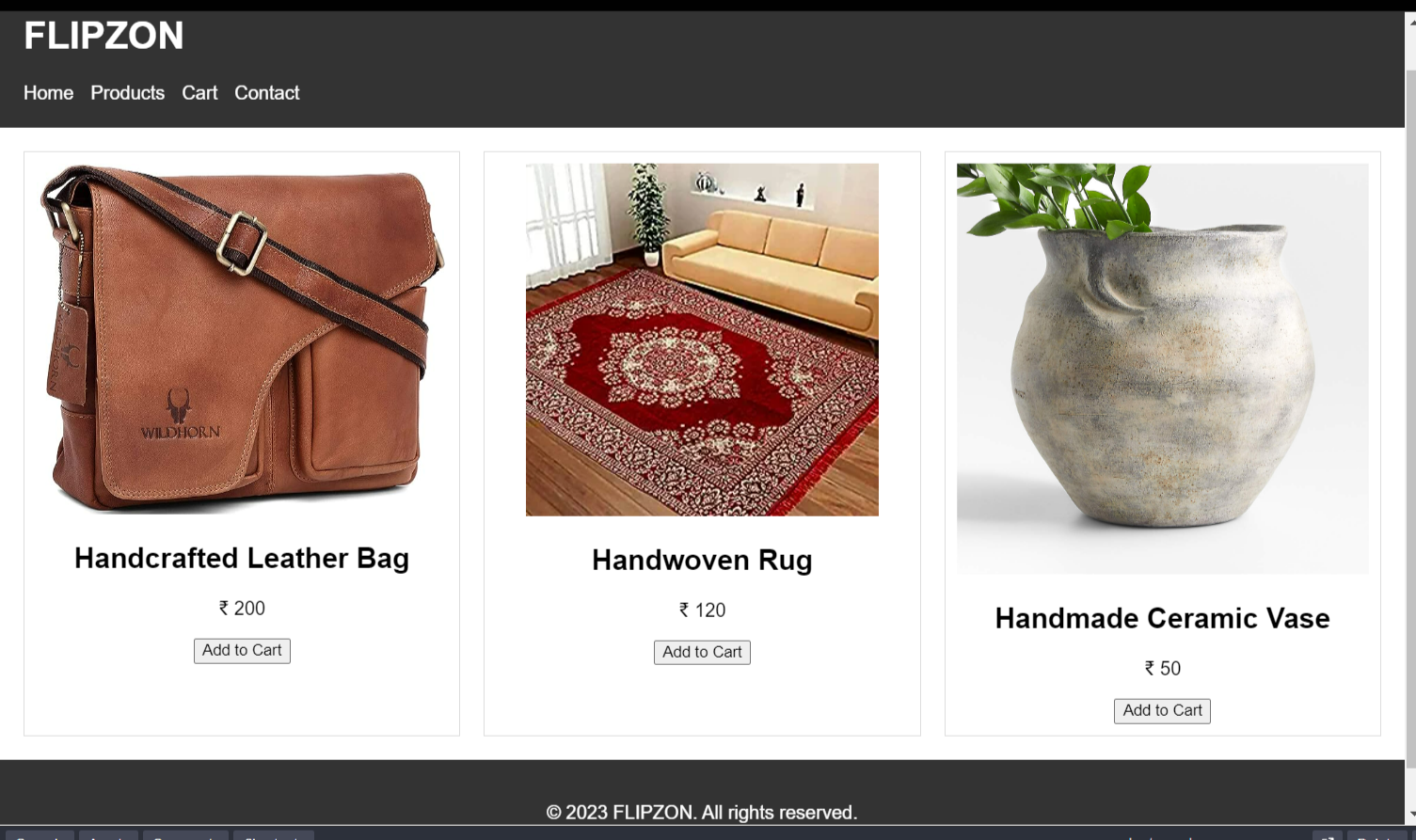
**Step 6:** Set Up Ingress and Load Balancing: Configure Ingress and load balancing for your e-commerce application. Ingress allows external traffic to access your application, while load balancing ensures even distribution of traffic across multiple instances of your application. IBM Cloud provides built-in load balancers and Ingress controllers to simplify this process.

**Step 7:**  Configure Persistent Storage: For an e-commerce application, it is essential to have persistent storage to store product data, customer information, and other relevant data. Configure persistent storage using IBM Cloud's storage options like IBM Cloud Block Storage or IBM Cloud File Storage.

**Step 8:** Set Up Monitoring and Logging: Implement monitoring and logging for your e-commerce application to ensure its performance and availability. IBM Cloud provides monitoring and logging services like IBM Cloud Monitoring with Sysdig and IBM Cloud Log Analysis to help you track and analyze your application's metrics and logs.

**Step 9:**  Enable Security and SSL Certificates: Implement security measures to protect your e-commerce application and customer data. Enable SSL certificates to secure the communication between your application and customers. Implement security best practices, such as access controls and authentication mechanisms, to safeguard sensitive information.

**Step 10:** Test and Launch Your E-commerce Application: Before launching your e-commerce application, thoroughly test its functionality, performance, and user experience. Ensure that all features are working correctly, and the application is responsive across different devices. Once you are satisfied with the testing, launch your e-commerce application to the public.



**Conclusion:**

Creating an e-commerce application on IBM Cloud with Kubernetes provides a scalable and reliable platform for your online business. By following the steps outlined in this document, you can provision a Kubernetes cluster, deploy your e-commerce application, configure load balancing and persistent storage, and enable monitoring and security features. Leverage the power of IBM Cloud and Kubernetes to build a successful and scalable e-commerce application.