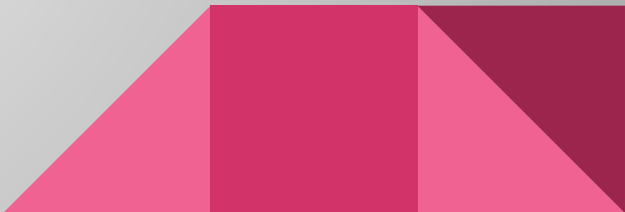




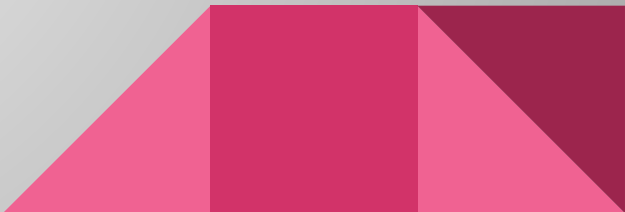
CS527 Project - 1

Team: Pratik Mistry, Josh Levine, Pranav Shivkumar, Vikhyat Dhamija, Shounak Rangwala, Swapnil Kamate

About Project:

- Web-based tool for querying database and data warehouse
 - Option to select the database/data warehouse
 - Amazon Web Services - Cloud Platform to host the application
 - Raw Data Files for Instacart given in CSV format
- 

Technology Stack:

- Amazon Web Services - Cloud Platform
 - Elastic Compute Cloud (EC2): Web-server and ETL server (Windows OS)
 - Relational Database Service (RDS): MySQL Database
 - Redshift Cluster (One Node): Data warehouse
 - Software Development
 - Python Script: ETL data from S3 to RDS MySQL Database
 - COPY: ETL data from S3 to Redshift
 - Frontend: HTML,CSS and JavaScript
 - Backend: PHP
 - SQL: Database Query Language
 - Other Tools:
 - XAMPP: Apache server for hosting web application
 - SQL Workbench: Querying MySQL Database
 - Redshift Query Editor: Querying Redshift
- 

Project Tasks (1)

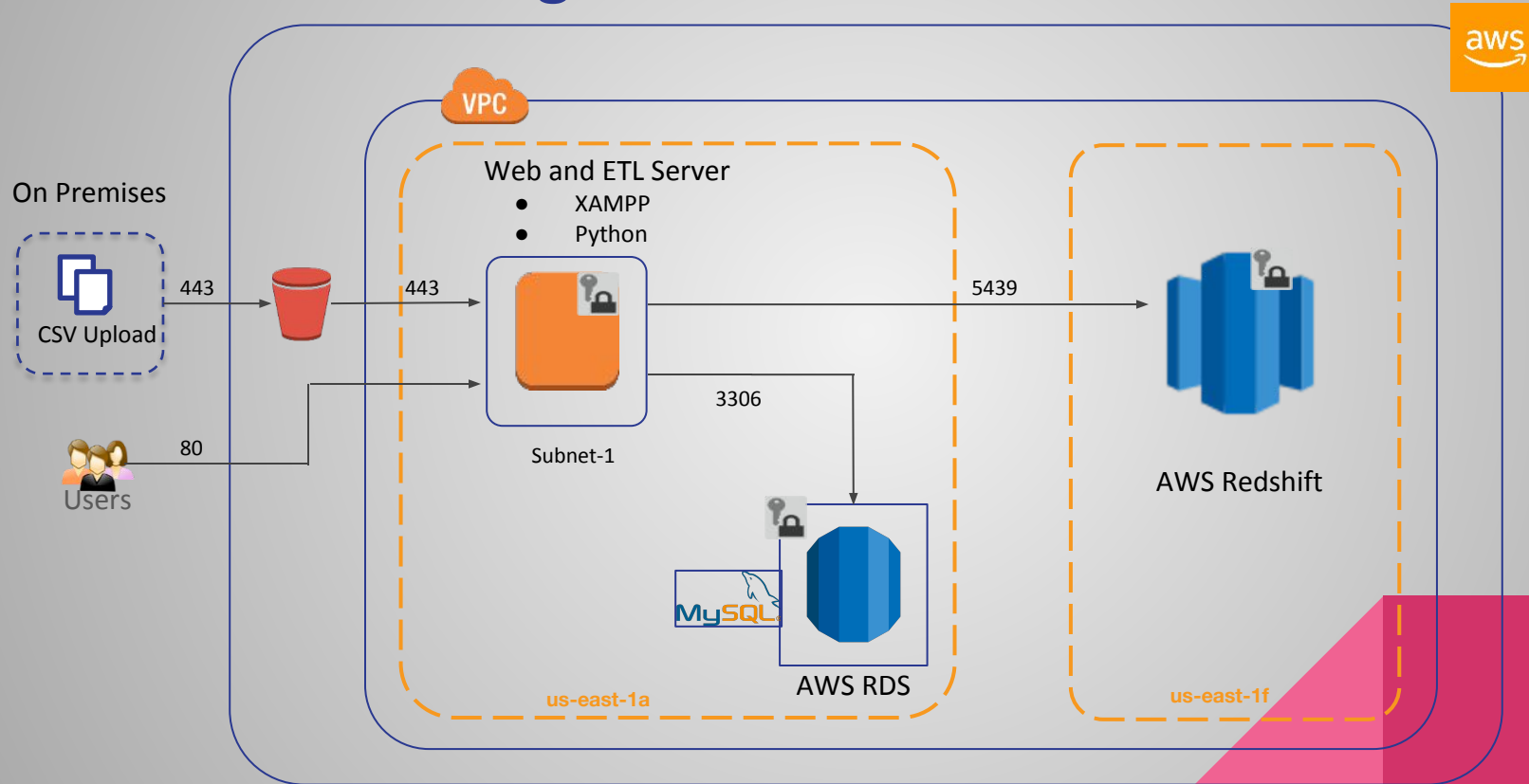
- AWS Free Trial Account
 - Cloud account creation and resource provisioning
 - VPC, Subnets, Security Groups, IAM, EC2 Instance, RDS - MySQL, Redshift
 - XAMPP Server, Redshift Driver and Python installations
- Upload raw data files (CSV) of Instacart to S3
 - CSV data files for five tables - *aisles, departments, products, order_products and orders*
- ETL raw data and move into AWS RDS (MySQL) and Redshift
 - Python Scripts for ETL data from S3 to AWS RDS - MySQL for each table
 - COPY command to ETL data from S3 to Redshift

Project Tasks (2)

- Frontend form based web page
 - HTML and CSS for creating user interface for querying data
 - JavaScript
 - For API calls to backend (PHP) for getting data from database
 - JSON data decoding and dynamic table display
- Backend
 - PHP based API's for getting records from database based on queries entered
 - JSON Encoding of data and response to frontend



Architecture Diagram: Instacart



Demo

Please click on this link: <http://34.204.144.247/>



Thank You

