ASSIGNMENT 1

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1 Brief Description

In this assignment you are to develop a distributed application for inventory management using gRPC and Python. The proto file will be given to you. The server manages the inventory. A client makes requests.

2 Requirements

This section lists the requirements.

- Implement a gRPC server (InventoryServiceServicer) in Python.

- You must use the proto file provided.

- Implement a client application that connects to the gRPC server.

- The *GetAllProducts* rpc must support streaming.

- Use Redis to store the product information. Please note that the use of Redis is used by the server. You are essentially using a dictionary where the product identifier is the key. The product name, the product quantity and product price are data associated with the key.

- Implement a client application that connects to the server.

- Implement appropriate error handling for cases such as a product not found.

- Please keep in mind that there could be multiple clients running at the same time. You should determine where you may want to ensure that only one thread can access data. This is done using a lock.

3 Resources

- Python Guide:Connect your Python application to a Redis database

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- Introduction to Redis Using Python