**Backend Application:**

A large department store needs an inventory and alert system. There are multiple departments in the store such as Clothing, Home Goods, Jewelry, and Gardening. Each department needs to track the amount of inventory they have and need to be alerted if inventory runs below a certain threshold. For example, if the Home Goods department has fewer than 10 baskets, an alert must go out.

Additional requirements:

* The attributes for each inventory item must be updatable (e.g. name, department, count, etc.)
* Need the ability to add new unique items to the inventory.
* Each department must be able to run a report that returns each unique item in their department and the level of inventory.

Your task:

1. Define database tables and schema for this system using MySQL.
2. Define and implement API routes using Python code, and provide example inbound and outbound payloads for the requests.
3. Explain how your alerting system would work (you do not need to build the alerting system).
4. List any assumptions that you make.

Note: You do not need to create a functioning application, but we would like to see real Python code and database schemas.