Tool link: <https://www.plantuml.com/plantuml/uml/SyfFKj2rKt3CoKnELR1Io4ZDoSa70000>Context diagram UML:  
  
@startuml

' Define elements

actor "Store Manager" as StoreManager

actor "Warehouse Manager" as WarehouseManager

actor "Category Manager" as CategoryManager

rectangle "Inventory Management System (IMS)" as IMS {

[Web Application] <<Container>>

[Server] <<Container>>

[Database] <<Container>>

[Authentication Service] <<Container>>

[Reporting Service] <<Container>>

[Integration Service] <<Container>>

}

rectangle "Supplier Systems" as SupplierSystem

rectangle "POS System" as POSSystem

' Define relationships

StoreManager --> [Web Application] : Uses

WarehouseManager --> [Web Application] : Uses

CategoryManager --> [Web Application] : Uses

[Web Application] --> [Server]

[Server] --> [Database]

[Server] --> [Authentication Service]

[Server] --> [Reporting Service]

[Server] --> [Integration Service]

[Integration Service] --> SupplierSystem : Communicates

POSSystem --> [Integration Service] : Sends Data

@enduml

Server Container diagram UML:  
  
@startuml

rectangle "Server" as Server {

[Inventory Controller]

[Order Controller]

[User Controller]

[Reporting Controller]

[Authentication Middleware]

[Database Access Layer]

[Integration Adapter]

}

' Relationships within Server

Server --> [Inventory Controller]

Server --> [Order Controller]

Server --> [User Controller]

Server --> [Reporting Controller]

Server --> [Authentication Middleware]

Server --> [Database Access Layer]

Server --> [Integration Adapter]

[Inventory Controller] --> [Authentication Middleware]

[Order Controller] --> [Authentication Middleware]

[User Controller] --> [Authentication Middleware]

[Reporting Controller] --> [Authentication Middleware]

[Inventory Controller] --> [Database Access Layer] : Read/Write Inventory

[Order Controller] --> [Database Access Layer] : Read/Write Orders

[User Controller] --> [Database Access Layer] : Read/Write Users

[Reporting Controller] --> [Database Access Layer] : Query Data

[Database Access Layer] --> [Database] : Queries

[Integration Adapter] --> [SupplierSystem] : Connects to reorder products

[Integration Adapter] --> [POSSystem] : Connects for sales data

@enduml

Database Container diagram UML:  
  
@startuml

rectangle "Database" as DB {

[Inventory Table]

[Order Table]

[User Table]

[Audit Log Table]

[Product Table]

[Category Table]

}

' Relationships within Database

DB --> [Inventory Table]

DB --> [Order Table]

DB --> [User Table]

DB --> [Audit Log Table]

DB --> [Product Table]

DB --> [Category Table]

[Inventory Table] --> [Product Table] : Links with Product Info

[Order Table] --> [User Table] : Tracks orders by user

[Audit Log Table] --> [User Table] : Logs actions by user

@enduml

User Table Container diagram UML:  
  
@startuml

entity "User Table" as UserTable {

\* user\_id : int

\* login : string

\* email : string

\* password\_hash : string

\* role\_id : int

\* created\_at : datetime

\* updated\_at : datetime

}

entity "Permissions Table" as PermissionsTable {

\* permission\_id : int

\* permission\_name : string

\* description : string

}

entity "Audit Log Table" as AuditLogTable {

\* log\_id : int

\* user\_id : int

\* action : string

\* timestamp : datetime

\* ip\_address : string

}

' Define relationships

UserTable --> PermissionsTable : Specifies User Permissions

AuditLogTable --> UserTable : Logs actions by User

@enduml