Project Design Phase
Solution Architecture

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Team ID	NM2025TMID09128
Project Name	Laptop Request Catalog Item
Maximum Marks	4 Marks

Solution Architecture:

Solution Architecture: Laptop Requesting Catalog Item

This architecture is designed to establish an automated, end-to-end request fulfillment process for new laptops within the ServiceNow platform.

Goals of the Architecture

- Provide a single, user-friendly portal interface for all laptop requests (Service Catalog).
- Implement a standardized and automated approval and fulfillment workflow.
- Maintain data integrity by accurately linking the Request to the Hardware Asset Management (HAM) and CMDB modules.
- Reduce manual intervention and accelerate the Mean Time To Fulfillment (MTTF).

Key Components

Component	**Role**	**ServiceNow Artifact**
User Interface	End-users submit the request.	**Service Catalog Item** on the **Service Portal**.
Data Collection	Captures required laptop specifications and user details.	**Variables** (e.g., Make, RAM, Reason) on the Catalog Item.
Request Record	The parent record for the transaction.	**Request (REQ)** table.
Fulfillment Record	The record that drives the workflow and fulfillment.	**Requested Item (RITM)** table.
Automation Engine	Executes the logic for approvals and task creation.	**Flow Designer** or **Workflow Engine**.
Fulfillment Task	The actionable step for the IT team.	**Catalog Task** table, assigned to the **Hardware Group**.
Asset	Stores and manages the	**Configuration Item (CI)** table /

Component	Role	ServiceNow Artifact
Database	actual laptop records.	**Hardware Asset (alm_hardware)** table.

Solution Architecture Description

The solution architecture for the "Laptop Requesting Catalog Item" centers around a robust integration between the **Service Catalog** and the **Asset Management** modules in ServiceNow.

1. **Request Initiation (Input):** An employee accesses the **Service Portal** and submits the **Catalog Item**. The item's **variables** capture all necessary data points (laptop type, accessories, reason, etc.). This creates a **Request (REQ)** and a **Requested Item (RITM)** record.
2. **Workflow Processing (Logic):** The creation of the RITM triggers a dedicated **Flow Designer/Workflow**.
    - **Approval Gate:** The flow first checks for the requester's manager and sends an **Approval Request**.
    - **Fulfillment Task:** Upon manager approval, the flow automatically generates a **Catalog Task** and assigns it to the **Hardware Group** for physical fulfillment (procurement, imaging, deployment).
3. **Data Synchronization (Output):** When the Hardware Group closes the Catalog Task, the workflow executes final actions:
    - The RITM and REQ are marked as closed.
    - Crucially, the workflow or a subsequent **Business Rule** updates the **Configuration Item (CI)** record for the new laptop in the **CMDB**, setting the Assigned To field to the employee and updating the Status to "In Use".

This architecture replaces manual data entry with standardized automation, ensuring a streamlined process from request to asset deployment, promoting better system reliability and operational accountability.

Development Phases

The implementation will follow these key stages:

1. **Form & Variable Creation:** Build the Catalog Item and define all necessary data-capturing variables.
2. **Workflow Design:** Develop the Flow Designer/Workflow logic for Approval, Task Generation, and status updates.

3. **Asset Integration:** Implement the logic (scripts or actions) to update the CI and Asset records upon task closure.
4. **Testing and UAT:** Perform end-to-end testing with test users and the Hardware Group to validate approvals, task routing, and asset updates.

Example - Solution Architecture Diagram: