

Project Design Phase
Solution Architecture

Date	7 NOVEMBER
Team ID	NM2025TMID09112
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**.
 - o **Approval Gate:** The flow first checks for the requester's manager and sends an **Approval Request**.
 - o **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:
 - o The RITM and REQ are marked as closed.
 - o 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:

