Project Design Phase
Solution Architecture

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Team ID	NM2025TMID01871
Project Name	Laptop Request Catalog Item
Maximum Marks	4 Marks

Solution Architecture:

The Laptop Request Catalog Item using ServiceNow project focuses on automating and streamlining the process of requesting, approving, and issuing laptops within an organization. The architecture leverages ServiceNow's IT Service Management (ITSM) capabilities to deliver a seamless, transparent, and efficient workflow for both employees and IT administrato

Purpose of the Solution Architecture:

- To design a **centralized and automated catalog system** for managing laptop requests efficiently.

- To define how **forms, workflows, approvals, and asset management** interact within ServiceNow.

- To establish a **scalable and reusable framework** that supports future requests for other IT assets.

- To ensure **transparency, accountability, and faster provisioning** of laptops with real-time tracking.

Solution Structure:

The proposed architecture includes the following core components:

Core Tables:

- **Laptop Request:**
  Stores individual employee laptop requests with fields such as requester name, department, model required, reason, and status.
- **Asset Management (CMDB Integration):**
  Links the approved request to available laptops in inventory and updates asset assignment upon delivery..

Relationships:

- Establishes a one-to-one or one-to-many relationship between *Laptop Request* and *Asset* records.

- Enables automatic updates to the CMDB when a laptop is assigned.

- Supports related list views to display all laptop requests associated with an employee or department.

Automation Components:

- **Flow Designer:**
  Handles the end-to-end workflow—from request submission to manager approval and IT fulfillment.

- **Business Rules:**
  Automate status changes, notifications, and SLA tracking during each stage.

- **Email Notifications:**
  Trigger alerts for approvals, rejections, or fulfillment updates.

- **Catalog Client Scripts:**
  Ensure form validations and dynamic field visibility based on user input.

User Interface Elements:

- **Catalog Item Form:**
  A user-friendly self-service portal interface where employees submit laptop requests.

- **Approval Console:**
  A simplified view for managers to review, approve, or reject requests.

- **Fulfillment Dashboard:**
  For IT staff to view pending tasks, assign laptops, and close requests after delivery.

- **Reports & Dashboards:**
  Display metrics like total requests, average fulfillment time, and asset utilization.

Configuration Management:

- **Update Sets:**
  Used to store and migrate configurations across ServiceNow instances.
- **Security Roles:**
  Access levels defined for *Employee*, *Manager*, and *IT Support* to ensure controlled data visibility and process integrity

Phases of Development:

1. **Instance Setup:** Activate and configure the ServiceNow Developer Instance.

2. **Catalog Design:** Create the Laptop Request form and define required fields.

3. **Workflow Automation:** Implement Flow Designer logic for approvals and fulfillment.

4. **Integration:** Connect the workflow with the CMDB and Asset Management modules.

5. **Interface Customization:** Design dashboards, reports, and notification templates.

6. **Testing and Optimization:** Validate accuracy, workflow efficiency, and UI responsiveness.

7. **Documentation and Delivery: Prepare system documentation and final project reports.**

Specifications:

- Fully developed using ServiceNow's **low-code/no-code tools**.

- Designed to support **future scalability** for other IT hardware or software requests.

- Ensures **data integrity and process automation** aligned with ServiceNow best practices.

- Ready for future extension with **mobile access and predictive analytics**.

Solution Architecture Diagram:

Laptop Request Process using ServiceNow