Project Design Phase

Solution Architecture

Date	2 November 2025
Team ID	NM2025TMID01560
Project Name	Laptop Request Catalog Item
Maximum Marks	4 Marks

Solution Architecture

Introduction:

The solution architecture defines how the **Laptop Request Catalog Item** will be structured and integrated within the ServiceNow platform. It describes the logical components, their interactions, and the overall data flow from request creation to fulfillment. The architecture focuses on simplicity, automation, and compliance with ServiceNow best practices.

Architectural Overview:

The solution will be built using ServiceNow's **Service Catalog**, **Workflow**, and **Notification** modules. The architecture consists of three main layers:

1. **User Interaction Layer** – The front-end catalog form where employees submit requests.

2. **Business Logic Layer** – Automated workflows, approval processes, and business rules that process the requests.

3. **Data and Governance Layer** – Databases, records, and logs that store, track, and manage all catalog data.

Component Description:

1. Catalog Form Layer (Frontend):

Employees will access the catalog item through the Service Portal or Service Catalog homepage. The form will include dynamic elements that adjust based on user input. For example, when a user selects a laptop type, additional specifications may appear. Fields such as employee name, department, and manager will auto-populate from the ServiceNow user profile.

2. Workflow Engine:

The workflow engine will handle the end-to-end process flow of the request.

- Step 1: User submits the form.

- Step 2: The workflow routes the request to the manager for approval.

- Step 3: Upon approval, a fulfillment task is generated for the IT team.

- Step 4: IT updates the task status to "Fulfilled" once the laptop is delivered.

- Step 5: Notifications are sent at each stage to both the requester and relevant teams.

The workflow can be extended to include escalation paths if approvals or fulfillments are delayed beyond defined SLAs.

3. Notifications and Tracking:

ServiceNow's notification system will be used to send automated emails or portal alerts during the request lifecycle. The user can also check the real-time status under "My Requests."

4. Data Management and Governance:

All submitted requests will be stored in the **Service Request [sc_request]** table and linked to **Requested Items [sc_req_item]** and **Task [sc_task]** tables. Update sets will capture any customization or change in the catalog item for deployment and auditing. Logs will record every update to ensure compliance and transparency.

5. Integration Possibilities:

In future enhancements, the system can integrate with an **Asset Management** or **Inventory** module. This will automatically check available laptops before approval and assign serial numbers during fulfillment.

Security and Compliance:

Access to the catalog item will be restricted based on user roles. Only authenticated employees can raise requests, and only IT staff and approvers can view or modify fulfillment data. Audit logs ensure accountability and protect sensitive information.

Conclusion:

The solution architecture ensures a robust, scalable, and secure design for managing laptop requests in ServiceNow. It leverages ServiceNow's core modules effectively, ensuring that every process—from request submission to delivery—is automated, traceable, and compliant with organizational standards.