

Project Design Phase-II

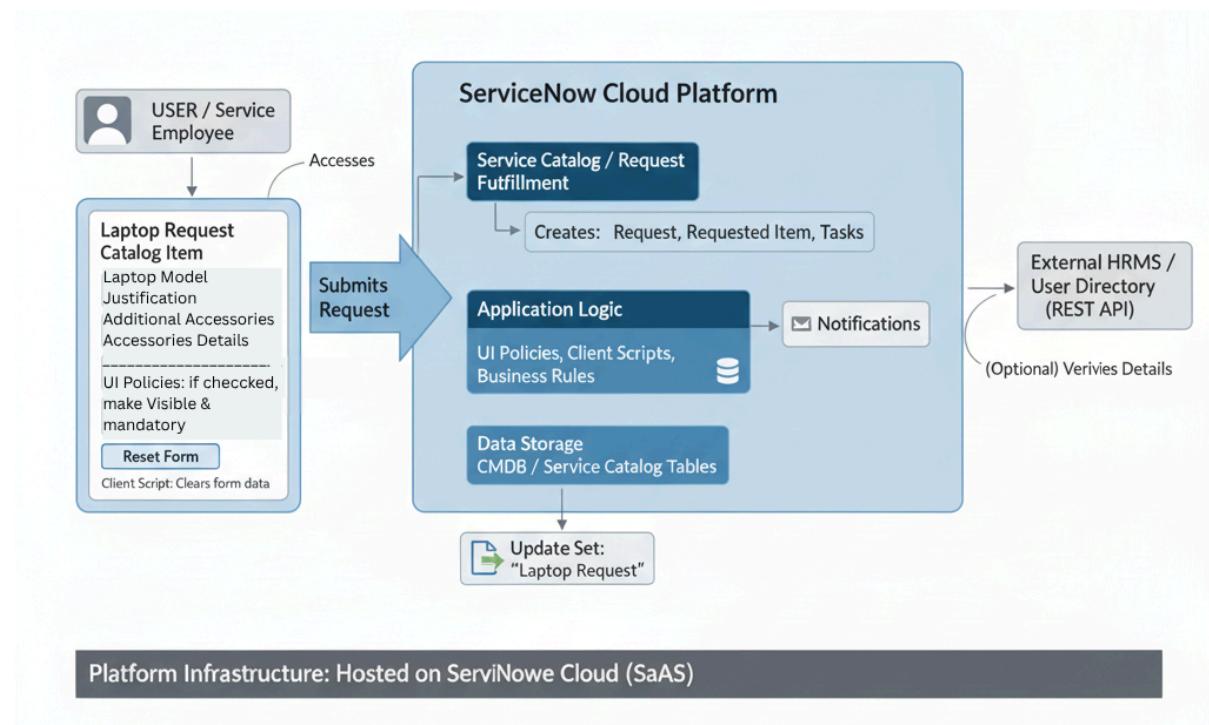
Technology Stack (Architecture & Stack)

Date	02 November 2025
Team ID	NM2025TMID04313
Project Name	Laptop Request Catalog Item
Maximum Marks	4 Marks

Technical Architecture (Service Catalog Item):

The "Laptop Request Catalog Item" is implemented using a standard **ServiceNow 3-tier architecture**, residing within the application layer and interacting with the UI and Database layers.

Technical Architecture Flow Diagram:



Flow Diagram Description:

The architecture outlines the self-service interaction:

- Presentation Layer:** The **End User** accesses the **Service Portal** and loads the **Catalog Item Form**.
- Application Logic (Client-Side):** The **Catalog UI Policy** and **Client Script** execute on the browser to enforce dynamic behavior (e.g., hiding/showing fields, resetting the form).

3. **Application Logic (Server-Side):** Upon submission, the platform triggers the **Flow Designer** process.
4. **Data Layer:** The Flow Designer creates records in the core tables: **sc_request** (REQ), **sc_req_item** (RITM), and **sc_task** (SCTASK), storing all data in the **ServiceNow Database (CSDM)**.
5. **Fulfillment:** Fulfiller agents interact with the **sc_task** records to complete the request.

Component & Technology Breakdown

The project leverages ServiceNow's core components for a low-code/no-code implementation.

Table-1: Components & Technologies

S.No	Component	Technology	Purpose in Project
1.	User Interface	Service Portal / Catalog Item Widget	Provides the modern user interface (UI) where the request form is displayed and submitted.
2.	Application (Client-Side) Logic-1	Catalog UI Policy	Controls the dynamic display of the accessories_details variable (Show/Hide) based on the additional_accessories checkbox.
3.	Application (Client-Side) Logic-2	Client Script (UI Action)	JavaScript used for the "Reset Form" UI Action to clear user input fields before submission.
4.	Server-Side Logic	Flow Designer (or Legacy Workflow)	Manages the automated fulfillment process post-submission, including creating tasks and generating the final RITM record.
5.	Data Storage	ServiceNow Database (underlying MySQL/Oracle)	Stores the Variables and the Request/RITM/Task records in the respective tables.
6.	Governance	Local Update Set	Used for packaging all configurations (Catalog Item, Variables, UI Policy, Client Script) for migration to higher environments.

7.	Cloud Database	ServiceNow Cloud	Managed by ServiceNow backend
8.	File Storage	Update Set Repository	Logs stored for audit and rollback
9.	External API-1	REST API in ServiceNow	(Optional) HRMS integration to verify user identity
10.	Infrastructure	ServiceNow Cloud (SaaS)	Hosted on ServiceNow SaaS

Application Characteristics:

Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
1.	Security Implementations	Role-based access control (User role to access Portal, ITIL role to fulfill), security scripts, and ACLs.	ACLs, User Roles, Scoped Applications (if custom app used)
2.	Scalable Architecture	SaaS-based, horizontally scalable architecture managed and provided by the ServiceNow cloud.	ServiceNow Cloud Architecture
3.	Availability	Highly available platform guaranteed by ServiceNow's Service Level Agreement (SLA).	Load-balanced ServiceNow Instances
4.	Performance	Optimized via the platform's ability to handle asynchronous processing (workflows/flows) and indexed tables for fast querying.	Flow Designer/Workflow Engine, Indexed Database Tables