

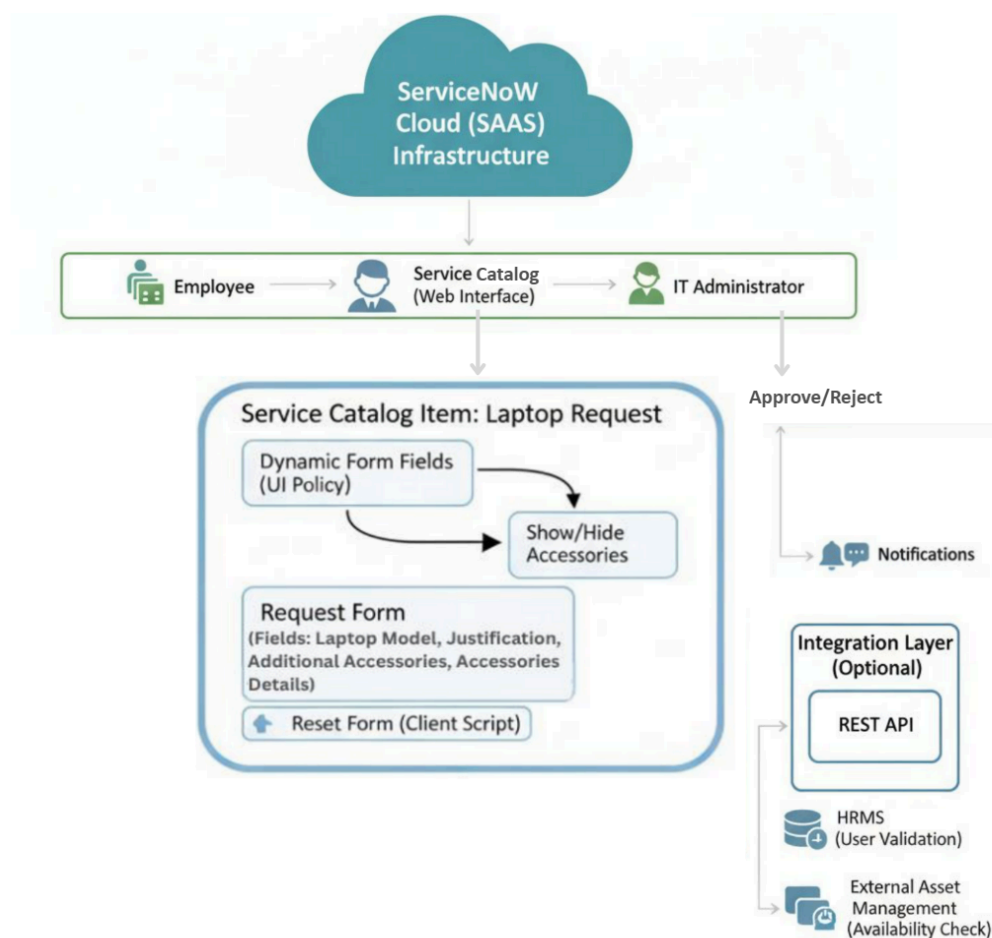
## Project Design Phase-II

### Technology Stack (Architecture & Stack)

Date	2 November 2025
Team ID	NM2025TMID05352
Project Name	Laptop Request Catalog Item
Maximum Marks	4 Marks

#### Technology Stack:

The deliverable includes the architectural overview of the Laptop Request Catalog Item System, which automates the process of requesting, approving, and allocating laptops using the ServiceNow platform. This architecture illustrates the end-to-end workflow — from employee request submission to approval, validation, allocation, and notification — along with supporting technologies and integrations.



**Table-1 : Components & Technologies**

S.No	Component	Description	Technology
1	<b>User Interface</b>	Employees and administrators interact via the Service Catalog web form in ServiceNow.	ServiceNow Web UI
2	<b>Application Logic-1</b>	Captures and validates laptop request details from the user.	ServiceNow Catalog Item, Client Scripts
3	<b>Application Logic-2</b>	Handles approval workflows between employee, manager, and IT admin.	Flow Designer, Workflow Editor
4	<b>Application Logic-3</b>	Manages allocation and fulfillment logic for approved requests.	Business Rules, Script Includes
5	<b>Application Logic-4</b>	Sends automatic email and in-app notifications for each stage.	ServiceNow Notifications
6	<b>Database</b>	Stores all request, approval, and allocation records.	ServiceNow CMDB, Custom Tables
7	<b>Cloud Database</b>	Managed and hosted within ServiceNow Cloud infrastructure.	ServiceNow Cloud Database
8	<b>File Storage</b>	Minimal use; activity logs and attachments stored within instance.	ServiceNow System Logs
9	<b>External API-1 (Optional)</b>	HRMS integration to validate requester employment details.	ServiceNow REST API
10	<b>External API-2 (Optional)</b>	Asset Management system integration for real-time stock checks.	IntegrationHub REST Actions
11	<b>Machine Learning Model</b>	Not applicable for this project.	-
12	<b>Infrastructure (Server / Cloud)</b>	Hosted and managed entirely on ServiceNow SaaS cloud.	ServiceNow Cloud (SaaS)

**Table-2 : Application Characteristics**

S.No	Characteristics	Description	Technology
1	<b>Open-Source Frameworks</b>	Not applicable (ServiceNow is a proprietary SaaS platform).	-
2	<b>Security Implementations</b>	Role-based access control, ACLs, and scoped applications to ensure data protection.	Access Control Lists (ACLs), Scoped Apps
3	<b>Scalable Architecture</b>	Natively scalable SaaS architecture supporting high-volume requests.	ServiceNow Cloud Architecture
4	<b>Availability</b>	Highly available due to load-balanced ServiceNow instances across regions.	Redundant Cloud Instances
5	<b>Performance</b>	Optimized through asynchronous flows, background scripts, and indexed tables for faster execution.	GlideRecord, Background Scripts, Flow Designer