

Date	31 OCTOBER 2025
Team ID	NM2025TMID00034
Project Name	Laptop Request Catalog Item.
Maximum Marks	4 Marks

Project Design Phase-II

Technology Stack (Architecture & Stack)

Technical Architecture:

The solution is architected on the **ServiceNow SaaS platform**, utilizing its native capabilities to provide a seamless and automated hardware request process.

The architecture is driven by the **Service Catalog** as the user interface (UI) layer, providing the self-service form. The **Workflow Engine** is the primary application logic, responsible for:

1. Routing the request to the requester's manager for **approval**.
2. Creating a **Fulfillment Task** for the IT Hardware team.
3. Sending **automated notifications** to stakeholders.

All data, including user details, request records (RITMs), and the final laptop asset information, is stored within the platform's **CMDB** and other internal tables. The use of **Server Scripting** (like GlideRecord) ensures efficient and fast data lookups and updates, particularly during the critical CMDB creation step.

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Employee interacts via a responsive web form to submit the laptop request.	ServiceNow Service Catalog
2.	Application Logic-1	Manages the business flow, including conditional logic, approvals, and task generation.	ServiceNow Workflow Engine / Flow Designer
3.	Application Logic-2	Performs data validation, manager lookups, and CMDB	GlideRecord in

S.No	Component	Description	Technology
		record updates.	Server Script
4.	Application Logic-3	Sends confirmation, approval status, and fulfillment notifications to users.	ServiceNow Notifications
5.	Database	Stores the request, user, and all asset/configuration data.	ServiceNow CMDB, Request Tables
6.	Cloud Database	The underlying managed database backend for the SaaS platform.	ServiceNow Cloud Database
7.	External API-1	(Optional) Integration with HR system to verify user/manager data.	REST API in ServiceNow
8.	Infrastructure (Server / Cloud)	Hosted and managed entirely by the platform provider.	ServiceNow Cloud (SaaS)

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Security Implementations	Access control enforced via roles, permissions, and security rules.	ACLs (Access Control Lists), Scoped Applications
2.	Scalable Architecture	Built on a cloud SaaS platform designed for high horizontal scalability.	ServiceNow Cloud Architecture

S.No	Characteristics	Description	Technology
3.	Availability	High availability provided by load-balanced instances and cloud infrastructure.	Load-balanced ServiceNow Instances
4.	Performance	Optimized logic and indexed data tables ensure fast request processing.	Glide Record, Optimized Workflow
5.	Maintainability	The solution uses modular, native platform components for easy updates and maintenance.	Well-documented Scripts and Flows