

Date	31 OCTOBER 2025
Team ID	NM2025TMID00065
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:

- Routing the request to the requester's manager for **approval**.
- Creating a **Fulfillment Task** for the IT Hardware team.
- 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
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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
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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