Project Design Phase-II Technology Stack (Architecture & Stack)

Date	28 OCT 2025
Team ID	NM2025TMID05124
Project Name	Laptop Request Catalog Item

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mod

Table-1 : Components & Technologies

S.No	Component	Description	Technology
1.	User Interface	Employees interact through a self-service catalog form to request laptops.	ServiceNow Service Catalog UI
2.	Application Logic-1	Handles dynamic field visibility (e.g., show/hide options based on laptop type).	ServiceNow UI Policies, Client Scripts
3.	Application Logic-2	Validates required fields and ensures data accuracy before submission.	Catalog Client Script, GlideAjax
4.	Application Logic-3	Initiates approval workflows and fulfillment tasks after form submission.	ServiceNow Flow Designer / Workflow Editor
5.	Database	Stores catalog item data, request details, and approval records.	ServiceNow Tables (sc_req_item, sc_task)
6.	Cloud Database	Managed within ServiceNow's secure cloud environment for all catalog transactions.	ServiceNow Cloud Database
7.	File Storage	Stores request-related logs and attachments, if any.	ServiceNow System Logs & Attachments
8.	External API-1	(Optional) Integration with Asset Management or Procurement systems to verify laptop availability.	REST API in ServiceNow
9.	External API-2	(Optional) Integration with HRMS for employee verification during request submission.	REST API Integration
10.	Machine Learning Model	Not applicable for this catalog item in the current scope.	-
11.	Infrastructure (Server / Cloud)	Hosted and fully managed on the ServiceNow SaaS platform.	ServiceNow Cloud (SaaS)

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Not applicable, as ServiceNow operates on a proprietary low-code/no-code platform.	-
2.	Security Implementations	Enforces role-based access, data protection, and secure execution of catalog scripts and workflows.	Access Control Lists (ACLs), Scoped Applications
3.	Scalable Architecture	Built on ServiceNow's SaaS model, enabling horizontal scalability and efficient resource management.	ServiceNow Cloud Architecture
4.	Availability	Ensures continuous uptime through ServiceNow's globally distributed and load-balanced data centers.	Load-Balanced ServiceNow Instances
5.	Performance	Optimized for fast execution using asynchronous flows, indexed tables, and GlideRecord queries.	GlideRecord, Flow Designer, Background Scripts