

Project Design Phase – II

Technology Stack (Architecture & Stack)

Date	01 NOV 2025
Team ID	NM2025TMID04735
Project Name	Laptop Request Catalog Item
Maximum Marks	4 Marks

Technical Architecture

The deliverable includes the architectural diagram and the information as per Table 1 & 2.

Architecture Diagram (Flow Overview)

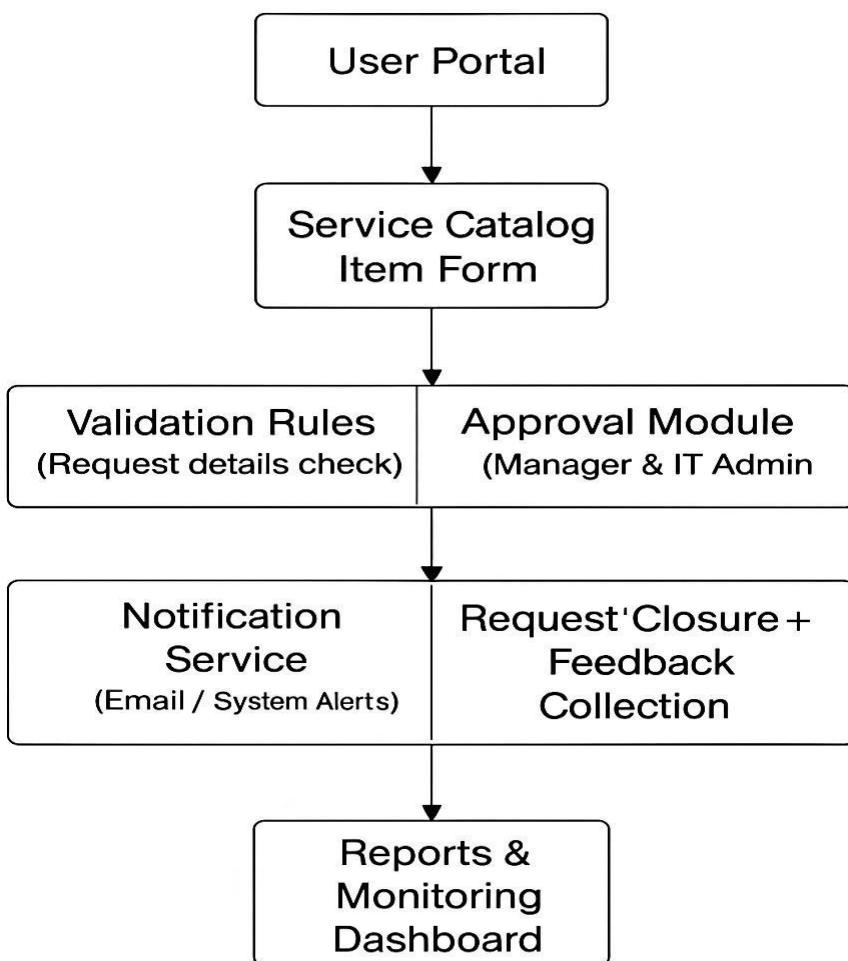


Table 1: Components & Technologies

S.No	Component	Description	Technology
1	User Interface	Employee-facing Service Catalog form for submitting laptop requests	ServiceNow UI
2	Application Logic 1	Handles new laptop request submission and validation	ServiceNow Flow Designer Script
3	Application Logic 2	Processes approval workflows (Manager → IT Admin)	ServiceNow Workflow & Script Includes
4	Application Logic 3	Sends notifications to requester and approvers	ServiceNow Notification Engine
5	Database	Stores request, approval, and closure details	ServiceNow Request and Task Tables
6	Static Database	Stores asset and user profile information	ServiceNow CMDB Tables
7	File Storage	Stores attached documents (e.g., ID proof or justification)	ServiceNow Attachment System Table
8	External API 1	Integrates with HRMS to verify employee details	REST API in ServiceNow
9	External API 2	Optional – connects to asset provisioning system	REST API / Web Service
10	Machine Learning Model	Predicts request processing time (future enhancement)	ServiceNow Predictive Intelligence
11	Infrastructure (Server / Cloud)	Hosted and managed on the ServiceNow SaaS Cloud platform	ServiceNow Cloud (SaaS)

Table 2: Application Characteristics

S.No	Characteristic	Description	Technology
1	Open Source Framework	Not applicable (ServiceNow is proprietary)	—
2	Security Implementation	Role-based access control (RBAC), encrypted data, and approval-based access	ServiceNow Security Policies
3	Scalable Architecture	Cloud-based platform allows multiple requests simultaneously	ServiceNow Cloud Infrastructure
4	Availability	99.99% uptime via ServiceNow-hosted environment	ServiceNow SaaS Hosting
5	Performance	Optimized through Flow Designer and background jobs	ServiceNow Flow Designer & Script Actions