Technology Stack (Architecture & Stack)

Date	2 November 2025
Team ID	NM2025TMID01594
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 & Table 2 below.

Guidelines:

- Include all processes (as application logic / technology block)
- Provide infrastructural demarcation (Local / Cloud)
- Indicate external interfaces (third-party APIs, etc.)
- Indicate data storage components / services
- Indicate interfaces to automation tools (if applicable)
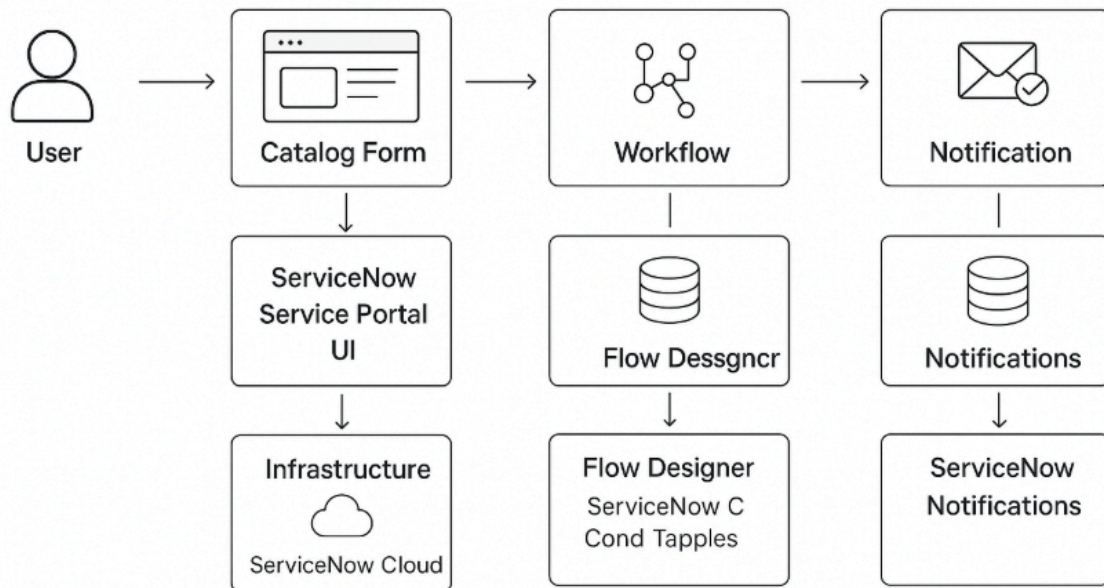
Example:

Technical Architecture

Table-1: Components & Technologies

S.No	Component	Description	Technology
1.	User Interface	Employees access the catalog through the ServiceNow Service Portal.	ServiceNow Service Portal UI
2.	Application Logic-1	Displays the Laptop Request Catalog Item with form fields (model, purpose, duration, etc.).	Service Catalog Item Configuration
3.	Application Logic-2	Controls form behavior using UI Policies and Client Scripts (e.g., show/hide or make fields mandatory).	ServiceNow UI Policies, Client Scripts
4.	Application Logic-3	Handles form submission, triggering catalog workflows and approvals.	Flow Designer / Catalog Workflow

5.	Business Rules	Ensures all required fields are validated and data integrity is maintained before request submission.	ServiceNow Business Rules
6.	Database	Stores request details, approval status, and user information.	ServiceNow CMDB, Request Tables
7.	Cloud Database	Managed by the ServiceNow cloud infrastructure for all catalog records.	ServiceNow Cloud Database
8.	Notifications	Sends confirmation emails to users after submission or approval.	ServiceNow Notifications Module
9.	External API	Integration with IT asset management or HR system for asset tracking.	REST API Integration (ServiceNow REST)
10.	Automation Interface	Optional integration with UiPath RPA for laptop delivery tracking automation.	UiPath Connector
11.	Infrastructure (Server / Cloud)	Hosted and managed on ServiceNow SaaS environment	ServiceNow Cloud (SaaS)

Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Not applicable (ServiceNow is a proprietary cloud platform).	-
2.	Security Implementation	Role-based access ensures only authorized users (employees, managers,	ACLs, Scoped Application

		admins) can access or approve requests.	
3.	Scalable Architecture	SaaS-based, can handle multiple concurrent laptop requests without performance drop.	ServiceNow Cloud Architecture
4.	Availability	Highly available through ServiceNow's redundant cloud setup and 99.99% uptime SLA.	Load-balanced ServiceNow Instances
5.	Performance	Optimized via asynchronous catalog workflows, indexed tables, and UI caching.	GlideRecord, Catalog Scripts
6.	Maintainability	Modular configuration with easily updatable UI Policies and Workflows.	Flow Designer, Script Includes
7.	Extensibility	Supports future integration with IT Asset Management and Approval Chains.	ServiceNow IntegrationHub