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

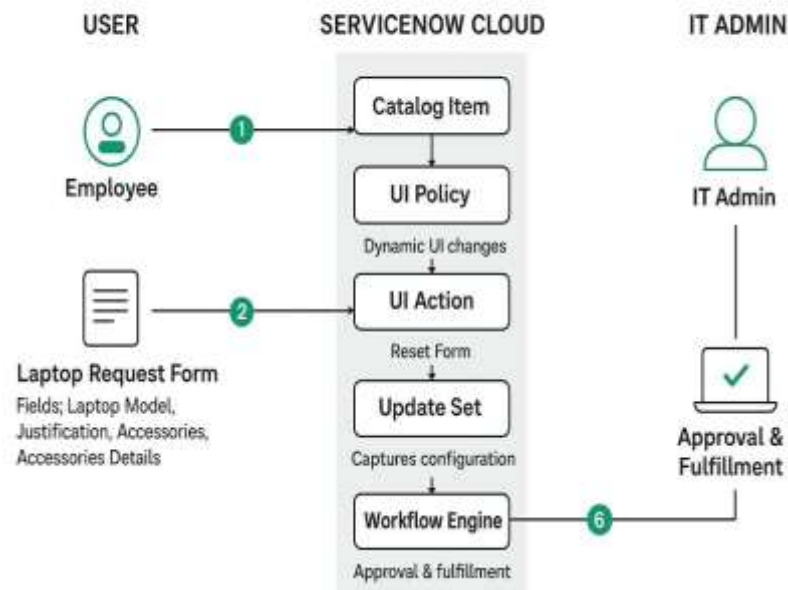|	
Date	02 November 2025
Team ID	NM2025TMID00263
Project Name	Laptop Request Catalog Item
Maximum Marks	4 Marks

Technical Architecture:

The deliverable includes the architectural diagram and supporting details in Table 1 and Table 2.
This architecture represents how the Laptop Request Catalog Item in ServiceNow enables employees to request laptops efficiently through an automated workflow.

Example: Laptop Request Catalog Item

Guidelines:

- Include all ServiceNow processes (catalog item creation, UI policy, UI action, update set).

- Show infrastructure separation — Local Instance and Cloud Instance.

- Indicate external interfaces (email approvals, notifications).

- Highlight data storage in the ServiceNow database.

- Represent automation scripts for dynamic form behavior.

- Show deployment flow of update sets between instances.

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1	User Interface	Employees submit laptop requests through the Service Catalog form in ServiceNow.	ServiceNow Service Catalog UI
2	Application Logic-1	Handles creation of the catalog item and captures all request variables.	ServiceNow Catalog Item Configuration
3	Application Logic-2	Applies dynamic visibility and mandatory rules (e.g., "Accessories Details" field).	Catalog UI Policy, Client Script
4	Application Logic-3	Allows users to reset the form using a custom UI Action script.	JavaScript (Client-side)
5	Database	Stores catalog item details, variable values, and user submissions.	ServiceNow Tables (sc_cat_item, sc_item_option, sc_request)
6	Cloud Database	Maintains data securely in the ServiceNow cloud environment.	ServiceNow Cloud Database
7	File Storage	Stores update set XML files for migration across instances.	Internal ServiceNow File Storage
8	External API-1	(Optional) Email notification or approval integration.	ServiceNow Notification API
9	External API-2	(Optional) Integration with asset management for tracking laptop inventory.	REST API in ServiceNow
10	Machine Learning Model	Not applicable for current project.	–
11	Infrastructure (Server / Cloud)	Hosted and managed fully 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 is a proprietary low-code platform.	–
2	Security Implementations	Role-based access ensures only authorized users can create, approve, or manage laptop requests.	Role-Based Access Control (RBAC), ACLs
3	Scalable Architecture	Built on ServiceNow's SaaS model, allowing easy scalability across departments and instances.	ServiceNow Cloud Architecture
4	Availability	Always accessible via the ServiceNow cloud, ensuring 24/7 uptime and redundancy.	Load-balanced ServiceNow Instances
5	Performance	Efficient performance through optimized catalog forms, client scripts, and indexed data tables.	GlideRecord, Service Catalog Optimization