

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

Date	01 November 2025
Team ID	NM2025TMID04309
Project Name	Laptop Request Catalog Item
Maximum Marks	4 Marks

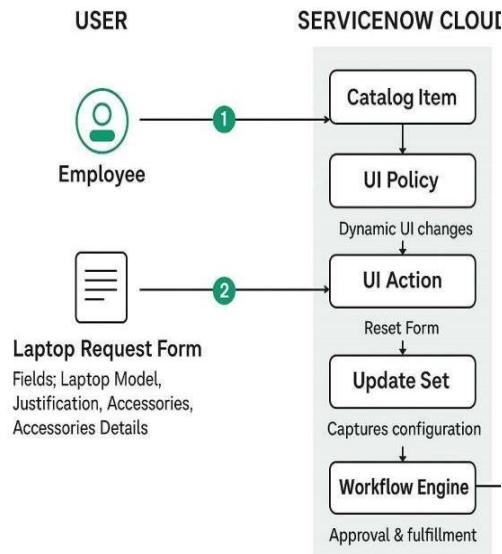
### Technical Architecture:

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

## Technical Architecture - Laptop Request (ServiceNow)



### 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 ServiceNow Service Catalog UI Service Catalog form in ServiceNow.	ServiceNow
2	Application Logic-1	Handles creation of the catalog item and captures all ServiceNow Catalog Item Configuration request variables.	Java, Python, Node.js, etc.

3	Application Logic-2	Applies dynamic visibility and mandatory rules (e.g., Catalog UI Policy, Client Script “Accessories Details” field).	
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	ServiceNow Cloud Database environment.
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	Not applicable, as ServiceNow is a proprietary low-code platform.	– Frameworks
2	Security Implementations	Role-based access ensures only authorized users can create, approve, or manage laptop requests.	Role-Based Access Control (RBAC), ACLs

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|---|-----------------------|---|
| 3 | Scalable Architecture | Built on ServiceNow's SaaS model, allowing easy scalability across departments and instances.   |
| 4 | Availability          | Always accessible via the ServiceNow cloud, ensuring 24/7 uptime and redundancy.  |
| 5 | Performance           | Efficient performance through optimized catalog forms, client-side scripting (GlideRecord, Service Catalog scripts), and indexed data tables. |