

Project Design Phase-II

Technology Stack (Architecture & Stack)

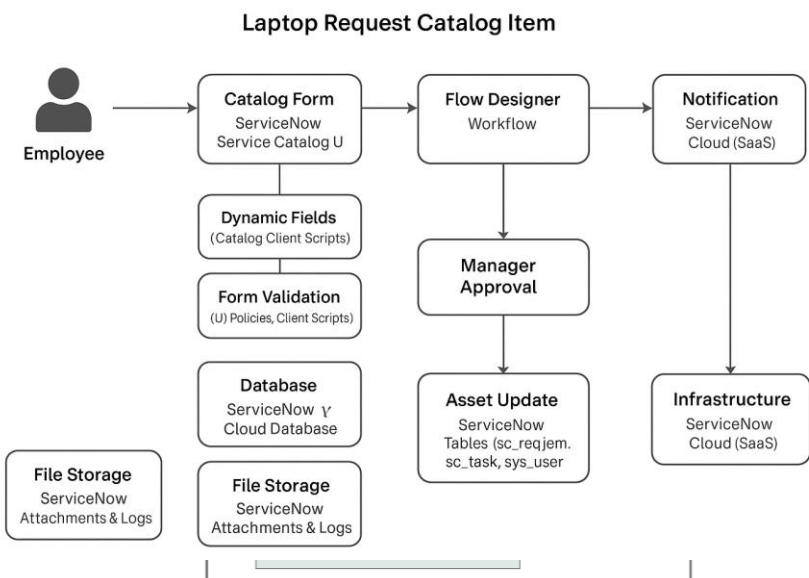
Date	01 November 2025
Team ID	NM2025TMID08447
Project Name	Laptop Request Catalog Item
Maximum Marks	4 Marks

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 mode

Reference: <https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/>



Guidelines (Short Version)

- Include all processes as application logic or technology blocks.
- Clearly show infrastructure zones – Local, Cloud, and External.
- Indicate all external interfaces (e.g., HRMS or Email APIs).
- Highlight data storage components/services (ServiceNow tables, logs).
- Show optional ML model interfaces (e.g., Predictive Intelligence).

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1	User Interface	Employee interacts through the Service Catalog to request a laptop.	ServiceNow Service Catalog UI
2	Application Logic-1	Displays dynamic fields based on user selections (e.g., laptop type, duration).	ServiceNow Catalog Client Scripts
3	Application Logic-2	Validates input data before submission.	UI Policies, Client Scripts
4	Application Logic-3	Sends approval requests to the manager automatically.	Flow Designer, Workflow
5	Database	Stores catalog request, user, and approval details.	ServiceNow Tables (sc_req_item, sc_task, sys_user)
6	Cloud Database	Managed by ServiceNow backend for request and approval records.	ServiceNow Cloud Database
7	File Storage	Minimal use; form logs and attachments stored internally.	ServiceNow Attachments & Logs
8	External API-1	(Optional) Integration with HRMS or Asset Management for hardware allocation.	REST API Integration
9	External API-2	(Optional) Notification or Email API for custom alerts.	ServiceNow Notification API
10	Machine Learning Model	(Optional) Can be extended for automated laptop recommendations.	ServiceNow Predictive Intelligence
11	Infrastructure (Server / Cloud)	Entire solution hosted on ServiceNow SaaS platform.	ServiceNow Cloud (SaaS)

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Not applicable (ServiceNow is proprietary)	-
2	Security Implementations	Role-based access for employees, managers, and IT admins.	ACLs, Scoped Applications
3	Scalable Architecture	Built on SaaS model; scales automatically with demand.	ServiceNow Cloud Architecture
4	Availability	Accessible 24/7 via the Service Portal.	Load-balanced ServiceNow Instances
5	Performance	Optimized using asynchronous flows, caching, and GlideRecord operations.	GlideRecord, Background Scripts