

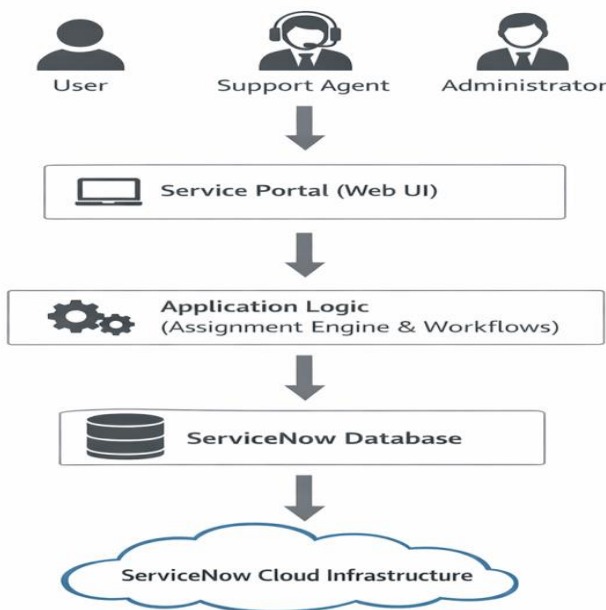
Project Design Phase-II Technology Stack (Architecture & Stack)

Date	10 February 2026
Team ID	LTVIP2026TMIDS79197
Project Name	Streamlining Ticket Assignment for Efficient Support Operations
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: Streamlining Ticket Assignment for Efficient Support Operations in ServiceNow



Guidelines:

1. Include all the processes (As an Application Logic / Technology Block)

The system includes the following application logic components:

- User Authentication & Role Management
- Ticket Creation & Validation Module
- Automated Ticket Assignment Engine
- Workflow & Status Management
- Notification Module (Email Alerts)
- Reporting & Analytics Module

these processes are implemented using ServiceNow Business Rules, Assignment Rules, Flow Designer, and Access Control Mechanisms.

2. Provide infrastructural demarcation (Local / Cloud)

The system follows a cloud-based architecture.

- **Local Layer:** Users, Support Agents, and Administrators access the system via Web Browser and Internet connection.
- **Cloud Layer:** Application Server, Assignment Engine, Workflow Engine, Database Server, and File Storage are hosted on ServiceNow Cloud, ensuring scalability and high availability.

3. Indicate external interfaces (Third Party APIs etc.)

The system integrates with:

- SMTP Email Service – for sending ticket creation and status notifications
- REST API Services – for integration with external enterprise systems (if required)
- Authentication Services (OAuth / LDAP) – for secure login (optional)

4. Indicate Data Storage components / services

The system includes:

- **Relational Database:** Stores user details, ticket information, assignment data, status history, roles, and permissions
- **Attachment Storage:** Stores files uploaded during ticket submission

All data is securely stored in the cloud.

5. Indicate interface to machine learning models (if applicable)

Machine learning is planned as a future enhancement:

- Predictive ticket categorization
- Intelligent assignment suggestions
- Priority prediction based on historical data

This will improve assignment accuracy and operational efficiency.

S.No	Component	Description	Technology
1	User Interface	Web-based portal where users create and track tickets	ServiceNow Service Portal (HTML, CSS, JavaScript)
2	Application Logic-1	Ticket creation and validation logic	ServiceNow Business Rules
3	Application Logic-2	Automated ticket assignment engine	ServiceNow Flow Designer / Assignment Rules
4	Application Logic-3	Workflow management and status updates	ServiceNow Workflows
5	Database	Stores tickets, users, categories, assignment data	ServiceNow MySQL-based internal database
6	Cloud Database	Cloud-hosted database service	ServiceNow Cloud Platform
7	File Storage	Stores attachments uploaded in tickets	ServiceNow Attachment Storage
8	External API-1	Email notification service	SMTP Email Service
9	External API-2	Integration with external IT tools (if required)	REST API Integration
10	Machine Learning Model	Intelligent ticket categorization (optional enhancement)	ServiceNow Predictive Intelligence
11	Infrastructure (Server / Cloud)	Application hosted on cloud platform	ServiceNow SaaS Cloud Infrastructure

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Web technologies used in UI	HTML, CSS, JavaScript
2	Security Implementations	Role-based access control, authentication, data encryption	ServiceNow ACL, HTTPS, OAuth 2.0
3	Scalable Architecture	3-tier cloud architecture supports growing users & tickets	ServiceNow Cloud Platform
4	Availability	24/7 cloud availability with backup and monitoring	ServiceNow SaaS Infrastructure
5	Performance	Fast ticket routing using automated assignment rules	Indexed Database + Workflow Optimization