

Project Design Phase-II

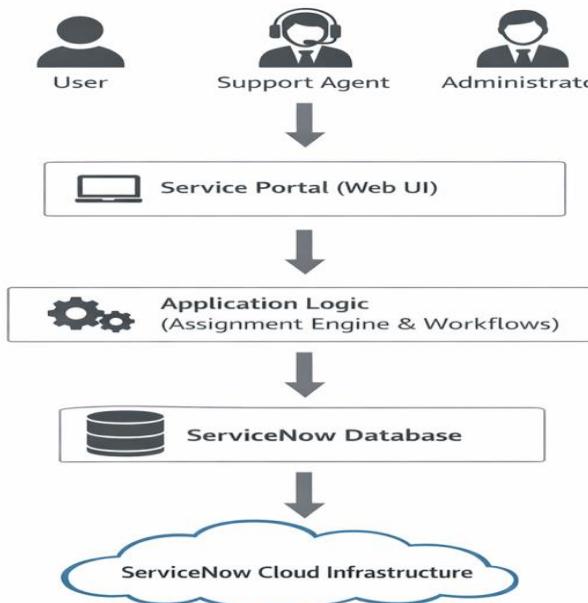
Technology Stack (Architecture & Stack)

| | |
|---------------|---|
| 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 |