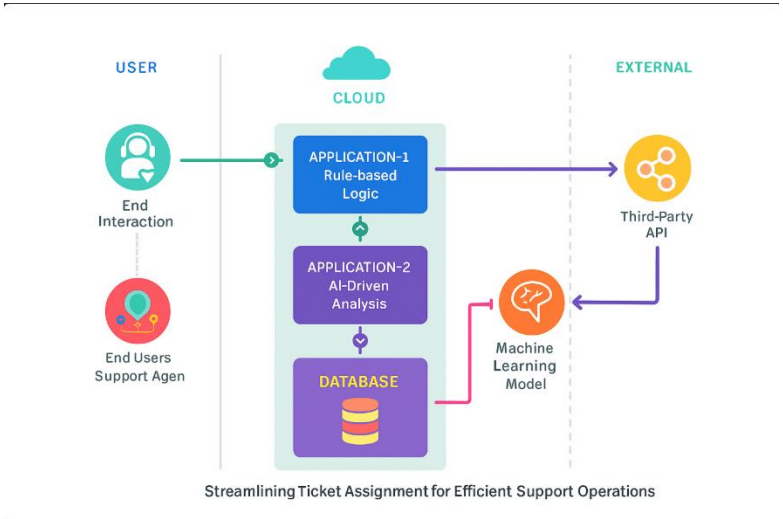
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	1 NOVEMBER 2025
Team ID	NM2025TMID00443
Project Name	Streamlining Ticket Assignment for Efficient Support Operations
Maximum Marks	4 Marks

Technical Architecture:

The deliverable shall include the architectural diagram as shown below and detailed information in Table-1 and Table-2.
This architecture enables automated and intelligent ticket assignment using rule-based and AI-driven logic within the **ServiceNow** platform. It streamlines workflows, improves response times, and enhances support efficiency by connecting various system components—ticket management, rule engine, notification services, and reporting modules—within a cloud-based infrastructure.



Guidelines:

- Include all the processes (As an application logic / Technology Block)
- Provide infrastructural demarcation (Local / Cloud) Indicate external interfaces (third party API's etc.)
- Indicate Data Storage components / services
- Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	End users and support agents interact through a web-based dashboard to raise, view, and manage tickets.	ServiceNow Web UI
2.	Application Logic-1	Automates ticket categorization and prioritization based on ticket details and keywords.	ServiceNow Flow Designer, Business Rules
3.	Application Logic-2	Rule Engine assigns tickets automatically based on agent skillset, workload, and availability.	GlideRecord, Decision Tables
4.	Application Logic-3	Sends real-time notifications to agents and managers upon ticket assignment or updates	ServiceNow Notification Engine
5.	Database	Stores all ticket, user, and agent data including workload and performance metrics.	ServiceNow CMDB, Incident & Task Tables
6.	Cloud Database	Managed by ServiceNow cloud for scalable and secure data storage	ServiceNow Cloud Database
7.	Analytics & Reports	Tracks assignment efficiency, SLA performance, and agent utilization trends.	ServiceNow Performance Analytics
8.	External API-1	Optional integration with HRMS or workforce management systems to sync agent data	REST API Integration (ServiceNow API)
9.	External API-2	AI model integration for predictive ticket routing and workload forecasting.	ServiceNow Predictive Intelligence
10.	Machine Learning Model	Learns from historical ticket data to suggest optimal agent assignments.	ServiceNow ML Framework
11.	Infrastructure (Server / Cloud)	Hosted and managed entirely on ServiceNow's SaaS-based cloud infrastructure.	ServiceNow Cloud (SaaS)

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Not applicable (ServiceNow is a proprietary low-code platform).	
2.	Security Implementations	Role-based access control, ACLs, and scoped applications secure ticket access.	ACLs, Scoped Applications
3.	Scalable Architecture	SaaS-based system ensures horizontal scalability across multiple departments.	ServiceNow Multi-instance Architecture
4.	Availability	99.99% uptime via redundant cloud infrastructure.	Load-balanced ServiceNow Instances
5.	Performance	Optimized through asynchronous flows, indexed tables, and efficient query design.	GlideRecord, Flow Designer
6.	Integration Capability	Supports REST APIs, web services, and plugin-based integrations.	ServiceNow Integration Hub
7.	Maintainability	Easily configurable through ServiceNow Studio and low-code workflows.	Flow Designer, Update Sets