

Technology Stack Template

Date	November 02, 2025
TeamId	NM2025TMID08223
Project Name	Streamlining Ticket Assignment For Efficient Support Operations
Maximum Marks	4 Marks

1. Overview

The **Smart Assignment Engine (SAE)** is built entirely on the ServiceNow platform using **Out-of-Box (OOB) features** and **low-code scripting** to ensure scalability, maintainability, and upgrade compatibility.

2. Core Platform

Layer	Technology	Version	Notes
Platform	ServiceNow	Washington DC (or later)	Required for Predictive Intelligence & PA enhancements
Instance Type	Production + Sub-Production	AWS-hosted	Auto-scaling enabled
Database	ServiceNow Cloud DB	PostgreSQL-based	Indexed fields: <code>u_skills</code> , <code>u_current_load</code>

3. Functional Components

Component	ServiceNow Module / Feature	Purpose
Assignment Rules	<code>assignment_rule</code> + Data Lookup	Rule-based routing (category, priority, VIP)
Skill Matching	<code>sys_user.u_skills</code> (Custom List Field)	Map ticket to agent expertise

Component	ServiceNow Module / Feature	Purpose
Workload Balancer	Script Include + Business Rule	Real-time load check (<code>u_current_load</code>)
Predictive Routing	Predictive Intelligence (Classification)	ML-based assignee suggestion
Notifications	Notification + Integration Hub	Slack/Email alerts
Analytics Dashboard	Performance Analytics (PA)	KPIs: Auto-Assign %, Latency, Load
Feedback Loop	Survey Module + Flow Designer	Post-resolution skill relevance survey

4. Development & Scripting

Technology	Usage	Example
Server-Side Scripting	GlideScript (Script Include)	<code>SAE_AssignmentEngine.assign()</code>
Client-Side	Minimal (UI Policy for skill form)	Validate skill selection
Business Rules	<code>onInsert on incident, sc_request</code>	Trigger SAE logic
Flow Designer	Fallback & notification flows	If no assignee → escalate
ATF (Automated Test Framework)	Unit & regression testing	50+ test steps

5. AI & Machine Learning

Feature	Tool	Configuration
Predictive Intelligence	ServiceNow ML	
- Solution Type	Classification	Predict <code>assigned_to</code>
- Training Data	10,000+ closed tickets (6+ months)	Fields: <code>category</code> , <code>short_description</code> , <code>resolution_notes</code>
- Confidence Threshold	70%	Below → fallback to rules
- Retraining Schedule	Monthly	Automated via Scheduled Job

6. Integration Stack

Integration	Protocol	Tool	Direction
Slack / Microsoft Teams	Webhook / REST	Integration Hub	Outbound (notifications)
Email → Ticket	IMAP/POP	Email Listener	Inbound (auto-categorize)
HR System (Skills Sync)	REST API	MID Server (optional)	Inbound (nightly)
Employee Center	Service Portal	OOB	Self-service skill update

7. DevOps & Deployment

Tool	Purpose
Update Sets	Capture config & scripts
ServiceNow Studio	IDE for Script Includes
Clone (Instance)	Dev → Test → Prod
ATF	Regression testing
JMeter	Performance load testing
New Relic / System Logs	Monitoring & alerting

8. Infrastructure & Performance

Metric	Target	Tool
Assignment Latency	<3 sec	JMeter
Throughput	1,000 tickets/min	Load test
CPU Utilization	<80% peak	Instance monitoring
Memory	<16 GB	Auto-scale trigger
Storage	500 GB (logs + history)	Cloud DB

9. Security & Compliance

Control	Implementation
ACLs	<code>itil</code> → view tickets; <code>assignment_admin</code> → edit rules
Field-Level Security	<code>u_skills</code> encrypted at rest
Audit Logs	All script executions logged
GDPR	No PII in ML training (anonymized <code>short_description</code>)
Role-Based Access	<code>sae_user</code> , <code>sae_admin</code> custom roles

10. Licensing Requirements

Module	Required?	Notes
IT Service Management (ITSM)	Yes	Incident, Service Request
Predictive Intelligence	Yes	ML classification
Performance Analytics	Yes	PA Premium indicators
Integration Hub	Yes (1 flow)	Slack/Teams
Flow Designer	Yes	Fallback logic

11. Future-Proofing & Extensibility

Future Enhancement	Supported By
GenAI Categorization	Virtual Agent + NLU
Geo-Routing	<code>cmn_location</code> + IP detection
Mobile Push Alerts	Mobile App + Push API
Cross-Platform Sync	REST APIs (Jira, etc.)

12. Technology Decision Rationale

Decision	Reason
100% ServiceNow Native	No external dependencies; upgrade-safe
OOB > Custom	90% OOB, 10% low-risk scripts
Predictive Intelligence	Proven accuracy; no 3rd-party ML
Integration Hub	Secure, governed outbound flows
