STREAMLINING TICKET ASSIGNMENT FOR EFFICIENT SUPPORT OPERATIONS

ABSTRACT

➢ This project focuses on automating and optimizing the ticket assignment process in IT support operations using the ServiceNow platform.

➢ The main objective is to reduce manual intervention, minimize ticket resolution time, and enhance operational efficiency.

➢ By implementing intelligent assignment rules and workflows, the system ensures that each ticket is routed to the most appropriate support agent or team based on predefined criteria such as priority, skill set, and workload.

➢ This results in faster resolution, improved service quality, and better user satisfaction.

2.INTRODUCTION

➢ **About ServiceNow**

➢ ServiceNow is a leading cloud-based IT Service Management (ITSM) platform that helps organizations automate their business processes and deliver digital workflows efficiently.

➢ It provides a single system of record for IT operations, integrating modules like Incident Management, Change Management, Problem Management, and Service Catalog.

➢ Its automation tools such as Flow Designer, Business Rules, and Assignment Rules enable businesses to streamline repetitive tasks and improve overall productivity.

➢ In IT support operations, tickets are often assigned manually, leading to delays and uneven workload distribution.

➢ Using **ServiceNow**, this project implements automation to streamline ticket routing, ensuring faster resolution and balanced workloads.

➢ This enhances productivity, reduces human error, and improves customer satisfaction. Introduction

2.2 OBJECTIVE

● To automate ticket assignment using ServiceNow's automation tools.

● To reduce manual workload and dependency.

● To ensure fair and intelligent ticket distribution.

● To improve response and resolution time.

- To enhance service transparency and customer satisfaction.

2.3 SCOPE

- The project focuses on:
- .The Incident Management module in ServiceNow.
- .Developing assignment logic using Flow Designer, Business Rules, Script Includes, and Predictive Intelligence.
- .Configuring dashboards and analytics to monitor

3. Existing System

In the current ServiceNow configuration:

1. Tickets are created manually via the Service Portal, email, or integrations.

2. Assignment is typically handled using Assignment Rules or default groups.

3. Routing is based on limited static parameters (e.g., Category = Network → Network Team).

4. No dynamic consideration of agent availability, skills, or current workload exists.

5. Reassignment occurs frequently, leading to delays and SLA breaches.

Limitations

- .Manual reassignment increases operational overhead.

- Agents are sometimes overloaded while others remain underutilized.
- SLA timelines are affected by routing inefficiencies.
- No centralized visibility of assignment performance.

4.PROPOSED SYSTEM

The proposed system uses **ServiceNow** to automate ticket assignment through **Business Rules**, **Flow Designer**, and **Assignment Rules**.

When a user submits a support request, the system automatically identifies ticket parameters such as category, priority, and issue type.

Based on these values, it routes the ticket to the most appropriate support team or agent.

Additionally, dashboards provide live updates and performance insights to supervisors, ensuring full visibility and accountability.

4.1 SYSTEM OVERVIEW

The proposed Smart Ticket Assignment System introduces automated and intelligent routing logic within ServiceNow. It dynamically analyzes incident details and assigns tickets based on:

- Incident Category and Priority

. Agent Skill Set (from cmn_skill table) . Agent Workload (open tickets count) . SLA Urgency and Deadlines

The system runs automatically when a ticket is created, using a Flow Designer Flow and Script Includes for logic execution.

4.3 SYSTEM ARCHITECTURE

Architecture Components:

1. User Interface: Service Portal / Incident Form (ticket creation).

2. Trigger Point: Flow Designer or Business Rule runs on record insert.

3. Logic Layer: Script Include retrieves eligible agents and evaluates workload.

4. Database Tables:

    ○ incident → stores ticket data.

    ○ sys_user → stores agent data.

    ○ cmn_skill → maps user skills.

    ○ task_sla → tracks SLA progress.

8

5. Notification Engine: Sends notifications to assigned agents.

6. Reporting Layer: Performance Analytics dashboards display metrics.

4.4 System Workflow

```pgsql
1. Ticket Submitted →
2. Flow Designer Triggered →
3. Get Category, Priority, and Urgency →
4. Fetch Eligible Agents (Skill & Availability) →
5. Check Current Workload (Open Tickets) →
6. Select Agent with Lowest Load →
7. Assign Incident to Agent →
8. Notify Assigned Agent →
9. Update Analytics Dashboard
```

5. METHODOLOGY

5.1 APPROACH

> This project follows the Agile SDLC methodology with iterative development and   testing phases. Each sprint includes
> ⁹
> configuration, scripting, and testing cycles within the ServiceNow Developer Instance.

5.2 DEVELOPMENT PHASES

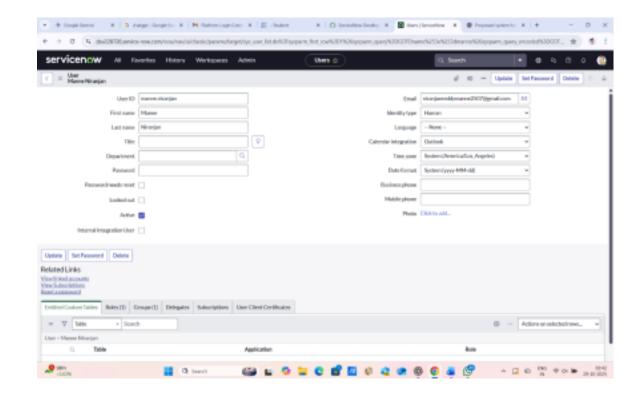| PHASE DESCRIPTION	PARAMETERS
	Testing
Requirement Analysis	
System Design Implementation	Deployment Identify assignment
	Define logical flow, database

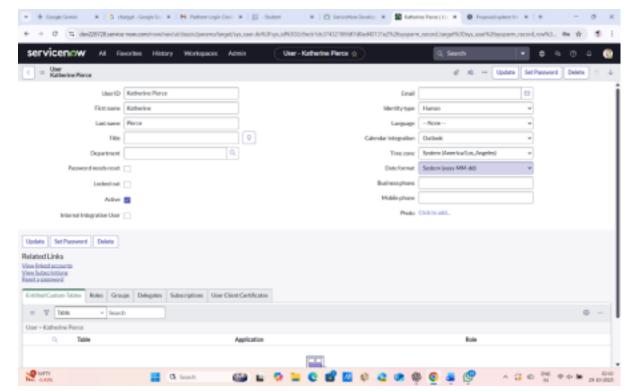schema, and API requirements.

correct assignment accuracy.

Develop Flow Designer actions, Business Rules, and Script Includes.
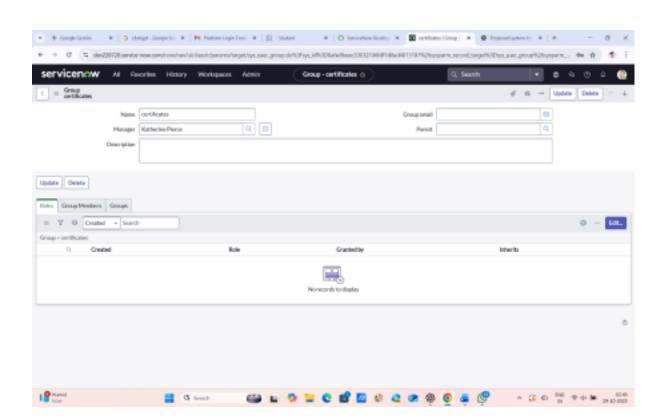
Move configuration to production using Update Sets.

Validate logic and ensure

7.IMPLEMENTATION

Dictionary Entries

	Column label	Type	Reference	Max length	Default value	Display
×	Comment	String	(empty)	40		false
	Updated	Date/Time	(empty)	40		false
×	Ticket raised Date	Date/Time	(empty)	40		false
×	Issue	Choice	(empty)	40		false
×	Service request No	String	(empty)	40	javascript:getNextObjNumberPadded();	false
	Created by	String	(empty)	40		false
×	Assigned to user	Reference	User	32		false
	Sys ID	Sys ID (GUID)	(empty)	32		false
	Created	Date/Time	(empty)	40		false
×	Assigned to group	Reference	Group	32		false
	Updated by	String	(empty)	40		false
	Updates	Integer	(empty)	40		false
×	Name	String	(empty)	40		false
×	Priority	String	(empty)	40		false
+	Insert a new row...					

Delete Update Delete All Records

Related Links

Form Builder
Design Form
Layout Form
Layout List
Show Form

A table is a collection of records in the database. Each record corresponds to a row in a table, and each field on a record corresponds to a column on that table. Applications use tables and records to manage data and processes. More Info

* Label Operations related

* Name u_operations_related

Application Global

Columns Controls Application Access

Table Columns for text Search   1 to 14 of 14 New

Dictionary Entries

	Column label	Type	Reference	Max length	Default value	Display
×	Comment	String	(empty)	40		false
	Updated	Date/Time	(empty)	40		false
×	Ticket raised Date	Date/Time	(empty)	40		false
×	Issue	Choice	(empty)	40		false
×	Service request No	String	(empty)	40	javascript:getNextObjNumberPadded();	false
	Created by	String	(empty)	40		false
×	Assigned to user	Reference	User	32		false
	Sys ID	Sys ID (GUID)	(empty)	32		false
	Created	Date/Time	(empty)	40		false
×	Assigned to group	Reference	Group	32		false
	Updated by	String	(empty)	40		false

Workflow Studio

Homepage Operations Integrations

Playbooks | Flows | Subflows | Actions | Decision tables

New ▾

Flows 70
Last refreshed just now

	Name ▲	Application	Status	Active	Updated	Updated
	Admin Deployment Approval Flow Error Notifier	App Engine Studio	Published	true	2020-07-28 13:20:50	admin
	Admin Install App to Production Environment Flow Error Notifier	App Engine Studio	Published	true	2020-07-28 13:37:16	admin
	Application Intake Request Flow	Application Intake	Published	true	2025-10-24 00:39:51	system
⊙ ☐	Application Intake Request V2	Application Intake	Published	true	2025-10-24 00:39:51	system
	Benchmark Recommendation Evaluator	Benchmarks Spoke	Published	true	2025-08-07 13:17:11	system
	Business process approval flow	Global	Published	true	2020-09-27 22:06:13	admin
	Change - Cloud Infrastructure - Authorize	Global	Published	true	2020-11-11 07:08:05	admin
	Change - Emergency - Authorize	Global	Published	true	2020-10-06 05:39:49	admin
	Change - Emergency - Implement	Global	Published	true	2020-09-23 05:06:26	admin
	Change - Emergency - Review	Global	Published	true	2020-10-27 04:18:08	admin
	Change - Normal - Assess	Global	Published	true	2020-10-06 05:37:05	admin
	Change - Normal - Authorize	Global	Published	true	2020-10-06 05:38:35	admin

Pick up where you left off

Regarding Platform
Last updated: 4 d. ago by System Admi...

Regarding Certificate
Last updated: 4 d. ago by System Admi...

Create Flow Data
Last updated: a year ago by System Ad...

Latest updates

System Administrator modified
Regarding Platform
4 d. ago

System Administrator modified
Regarding Certificate
4 d. ago

System Administrator modified
Create Flow Data
a year ago

System Administrator modified
Deployment Environment Type Flow
a year ago

System Administrator modified
Steps
a year ago

31°C Mostly cloudy   03:05 29-10-2025

Workflow Studio

Name	Application	Status	Active	Updated	
Force use report designer when Next Experience is ON	Global	Published	true	2025-08-07 13:15:10	syst
Guidance Automation Flow Executor	Guided Decisions - Guidance	Published	true	2025-08-07 13:33:39	syst
Guidance Automation Flow Executor Legacy	Guided Decisions - Guidance	Published	true	2021-01-27 09:57:56	adm
IAR SLA Reminder	Global	Published	true	2025-08-07 13:38:39	syst
Inbound Email Flow Example: handling email replies	Global	Draft	false	2019-02-22 09:51:54	adm
Inbound Email Flow Example: logging a problem	Global	Draft	false	2019-02-19 10:17:24	adm
KPI Signals Configuration Update Flow	Global	Published	true	2020-09-18 06:13:51	adm
KPI Signals Reminder Notification Flow	Global	Published	true	2020-11-12 02:29:57	adm
KPI Signals Task Create/Update Workflow	Global	Published	true	2025-08-07 13:14:42	syst
New Application Admin Task State Updated	Creator Studio	Published	true	2025-10-24 01:11:39	syst
New Application Task State Updated	Creator Studio	Published	true	2025-10-24 01:11:22	syst
New Request App Approval Flow	Creator Studio	Published	true	2025-10-24 01:10:58	syst
Regarding Certificate	Global	Published	true	2025-10-24 09:12:07	adm

Showing 41-60 of 70 |← ← 1 2 **3** 4 → →| 20 ▾ rows per page

System Administrator modified
Deployment Environment Type Flow
a year ago

System Administrator modified
Steps
a year ago

Resources

Product Documentation
ServiceNow Videos
Community
Centre of Excellence
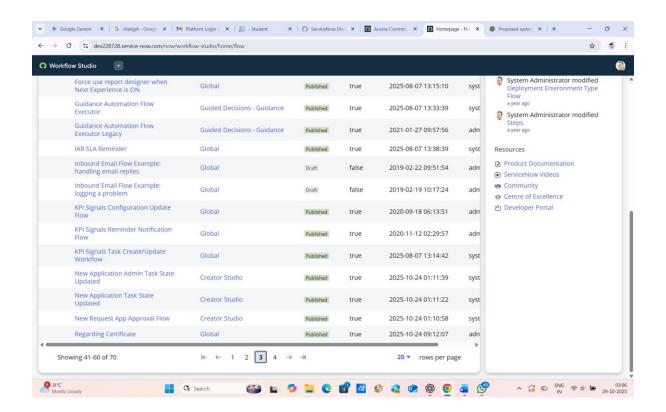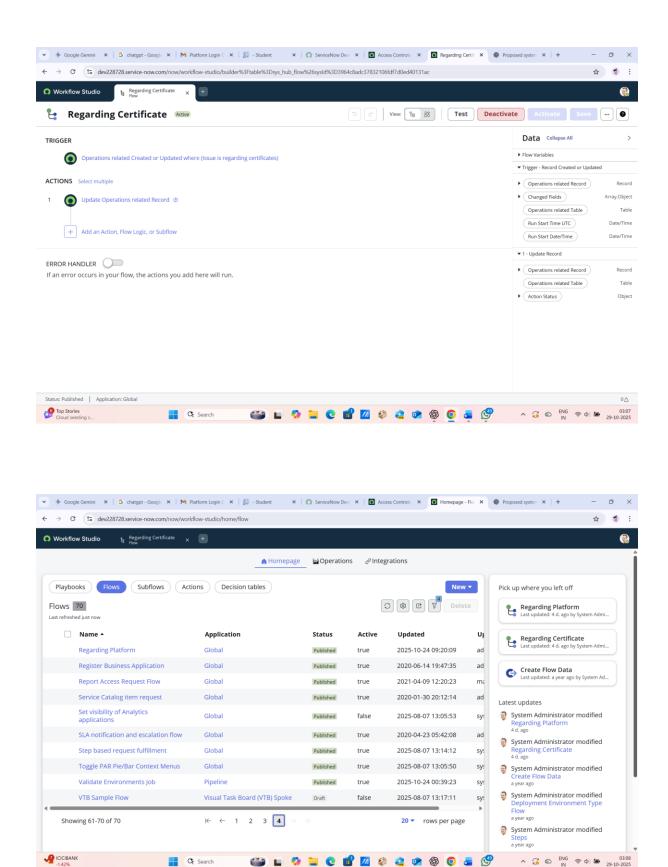Developer Portal

31°C Mostly cloudy   03:06 29-10-2025

Platform ServiceNow (Developer Instance)

Modules Used Incident Management Includes, Business Rules

Development Tools
Flow Designer, Script

Language JavaScript

Optional

Feature Predictive Intelligence

Component Details

Reporting Tool Performance Analytics

7.OUTPUTS

Functional Outputs

- ➢ .Automatic assignment of incidents on creation.
- ➢ .Skill-based and workload-aware routing. .Notifications sent to assigned agents.
- ➢ .SLA dashboards showing improved compliance.
- ➢ .Reduced ticket reassignment rate. Sample Output Snapshot (Conceptually) Incident Category Assigned ToSLA Status INC001 Network John Doe In Progress INC002 Hardware Mary Smith Met
- ➢ INC003 Software Alice Lee Near Breach

8. ADVANTAGE

➢ .Eliminates manual routing and human error.

➢ .Improves SLA compliance by faster ticket assignment.

➢ .Balances workloads across agents.

➢ .Increases transparency and reporting visibility.

➢ .Fully configurable and scalable inside ServiceNow.

9.DISADVANTAGE

.Requires accurate skill and workload data.

.Complex scripting may affect performance if not optimized.

. Predictive Intelligence requires   additional licensing.

. Maintenance needed when new   categories or agents are added.

10.FUTURE ENHANCEMENT

1.NLP Integration: Analyze ticket descriptions to auto-detect category and urgency.

2.AI Learning Engine: Improve assignment   accuracy using machine learning models trained on historical data.

3.Chatbot Integration: Allow Virtual Agent to handle pre-assignment triage.

4.Cross-Platform Integration: Sync ticket data with external tools (Slack, Jira, Microsoft Teams).

5.Predictive Workload Forecasting: Anticipate spikes in ticket volume using analytics.

11.CONCLUSION

➢ This project successfully demonstrates the development of a Smart Ticket Assignment System within ServiceNow using native developer tools. By leveraging Flow Designer, Business Rules, and Script Includes, tickets

➢ 23

➢ are automatically assigned to the right agents based on category, skill, and workload.

➢ The automation significantly improves SLA performance, reduces manual workload, and enhances visibility into team efficiency. From a developer perspective, this project highlights ServiceNow's flexibility and extensibility for automating complex business processes.

➢ With future integration of AI and predictive analytics, this solution can evolve into a self learning intelligent ticket routing framework, redefining IT support efficiency and operational excellence.