



K.S.K COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

STREAMLINING TICKET ASSIGNMENT FOR EFFICIENT

SUPPORT OPERATIONS

Team ID : 73B4493507958D293CB49607337BDD7D

Team Size : 4

Team Leader : ABINAYA S [821022104002]

Team member : DEVASENA N [821022104011]

Team member : LEENA M [821022104026]

Team member : SARMITHA M [821022104044]

S.NO	TABLE OF CONTENT	PAGE.NO	SIGN
1.	Problem Statement	1	
2.	Objective	1	
3.	Methodology	2	
4.	Skills	3	
5.	Task Initiation	4	
6.	Features	4	
7.	Modules Implemented	5	
8.	Implementation Steps	8	
9.	Outcome	16	
10.	Conclusion	17	

PROBLEM STATEMENT:

In many organizations, support tickets are manually assigned to agents, leading to uneven workload distribution, delayed resolutions, and customer dissatisfaction. There is a need for an automated and efficient system to manage and assign tickets intelligently. In many customer support operations, ticket assignment is often manual, inefficient, and prone to delays or errors. Support agents may be overloaded or underutilized due to uneven ticket distribution, leading to slower response times, reduced customer satisfaction, and higher operational costs. The lack of an intelligent, automated system for assigning tickets based on priority, category, and agent expertise results in poor resource utilization and inconsistent service quality.

OBJECTIVE:

To develop a smart ticket management system that automates and optimizes ticket assignment to support agents, reducing response time and improving customer satisfaction.

1. **To automate ticket assignment** using predefined rules or AI-based algorithms to reduce manual workload and human error.
2. **To ensure quick and accurate routing** of support tickets to the most suitable agents or departments based on skill set, availability, and priority.
3. **To minimize response and resolution times** by optimizing the ticket distribution process.
4. **To enhance customer satisfaction** through faster issue handling and consistent support quality.
5. **To improve team productivity and workload balance** by evenly distributing tickets among agents.
6. **To provide data-driven insights** on ticket flow, agent performance, and operational efficiency through analytics and reporting tools.

7. **To integrate ticketing tools** (like Zendesk, Freshdesk, or ServiceNow) with automated assignment workflows for seamless operations.
8. **To establish measurable KPIs** (e.g., first response time, resolution rate, and SLA compliance) for continuous process improvement.

METHODOLOGY:

1. Problem Identification:

The existing ticket assignment process was analyzed to identify issues such as manual delays, uneven workload distribution, and slow response times.

2. Data Collection:

Historical support data, including ticket categories, response times, agent performance, and customer feedback, was gathered from the existing support system.

3. Process Analysis:

The workflow of current ticket management was mapped to understand bottlenecks and inefficiencies in ticket routing and resolution.

4. Automation Design:

Automated rules and algorithms were developed to assign tickets based on priority, issue type, agent skill, and workload balance. Machine learning or rule-based logic was applied where suitable.

5. System Integration:

The automation module was integrated with the existing helpdesk or CRM software (e.g., Zendesk, Freshdesk, or ServiceNow) to enable seamless operation.

6. Testing and Validation:

The new ticket assignment process was tested with real-time data to measure accuracy, speed, and workload distribution. Adjustments were made based on initial results.

7. Performance Evaluation:

Key performance indicators (KPIs) such as first response time,

resolution time, SLA compliance, and customer satisfaction were monitored before and after implementation.

8. Continuous Improvement:

Feedback from support agents and customers was used to refine the system and enhance efficiency over time.

Enhance Operational Efficiency:

Minimize manual intervention and reduce the average ticket resolution time by ensuring balanced workload distribution among agents.

1. Scalability and Adaptability:

Design the system to easily scale with increasing ticket volumes and adapt to changing business needs or team structures.

2. Improve Customer Experience:

Ensure timely responses and faster issue resolution, thereby increasing customer satisfaction and retention rates.

3. Data-Driven Insights:

Collect and analyze ticket assignment and resolution data to identify performance trends, workload bottlenecks, and opportunities for process improvement.

SKILLS:

- ServiceNow Catalog Item Creation
- UI Policies & UI Actions
- Update Set Management
- Testing & Deployment

- Team Collaboration

TASK INITIATION:

The project “**Streamlining Ticket Assignment for Efficient Support Operations**” was initiated to enhance support efficiency by automating the ticket assignment process. The team identified key problems in manual ticket handling such as delays and uneven workload.

Technologies and tools were selected, and responsibilities were divided among members. A clear plan was created to guide the design, development, and testing phases, forming a strong base for successful project completion.

FEATURES:

Automated Ticket Assignment: Automatically routes tickets to the appropriate support team or agent based on category, priority, and impact. **Dynamic Workflow:** Uses ServiceNow workflows to handle ticket creation, assignment, and resolution efficiently.

Role-Based Access Control: Ensures data security and access control through user roles and group permissions.

Real-Time Notifications: Sends instant updates to agents and users about ticket status changes and assignments.

SLA Monitoring: Tracks service level agreements to ensure timely responses and escalations when needed.

Reporting and Analytics: Provides insights into ticket volume, team performance, and resolution trends.

Improved User Experience: Offers a streamlined and transparent support process for both users and technicians.

Modules Implemented :

The project “Streamlining Ticket Assignment for Efficient Support Operations” was developed on the ServiceNow platform and implemented through a structured modular approach. Each module played a vital role in building an automated, role-based ticket assignment system. The following modules were created and configured during the project development:

1. User Creation:

- Different users were created in ServiceNow to represent employees, support agents, and administrators, enabling role-based access and workflow execution.

2. Group Creation:

- Support groups were configured to organize users according to their departments and areas of responsibility (e.g., IT Support, Network Team, Hardware Support).

3. Role Management:

- Custom roles were defined to manage permissions and control access to specific ServiceNow features, ensuring security and accountability.

4. Table Creation:

- Custom tables were designed to store and manage ticket data efficiently, allowing automation rules and workflows to process incidents dynamically.

5. Role and User Assignment:

- Roles were assigned to appropriate groups and users to control access rights and determine who can view, modify, or resolve tickets.

6. Table Role Assignment:

- Permissions were granted to ensure that only authorized groups could interact with the ticket table, maintaining data integrity and security.

7. Access Control List (ACL):

- ACL rules were created to manage and restrict user access to data based on roles and responsibilities.

8. Flow & Outputs:

- The final flow automated the entire ticket assignment process.

When a new ticket is created, it is automatically analyzed and routed to the appropriate support group or agent. Notifications and SLA monitoring ensure timely resolution and complete visibility.

IMPLEMENTATION STEPS:

STEP 1: CREATE USERS

The screenshot shows the ServiceNow User creation interface. The left panel contains basic user information: User ID (Katherine.Pierce), First name (Katherine), Last name (Pierce), Title (None), Email (katherine.pierce@service-now.com), and Active (checked). The right panel lists contact details: Street (123 Main Street), Zip code (98004), City (Seattle), State (WA), Country (United States), and Phone (206-555-1234). Below these are sections for Other contact info, Associated applications, and Associated entitlements. A note at the bottom states "Phone: 123-456-7890".

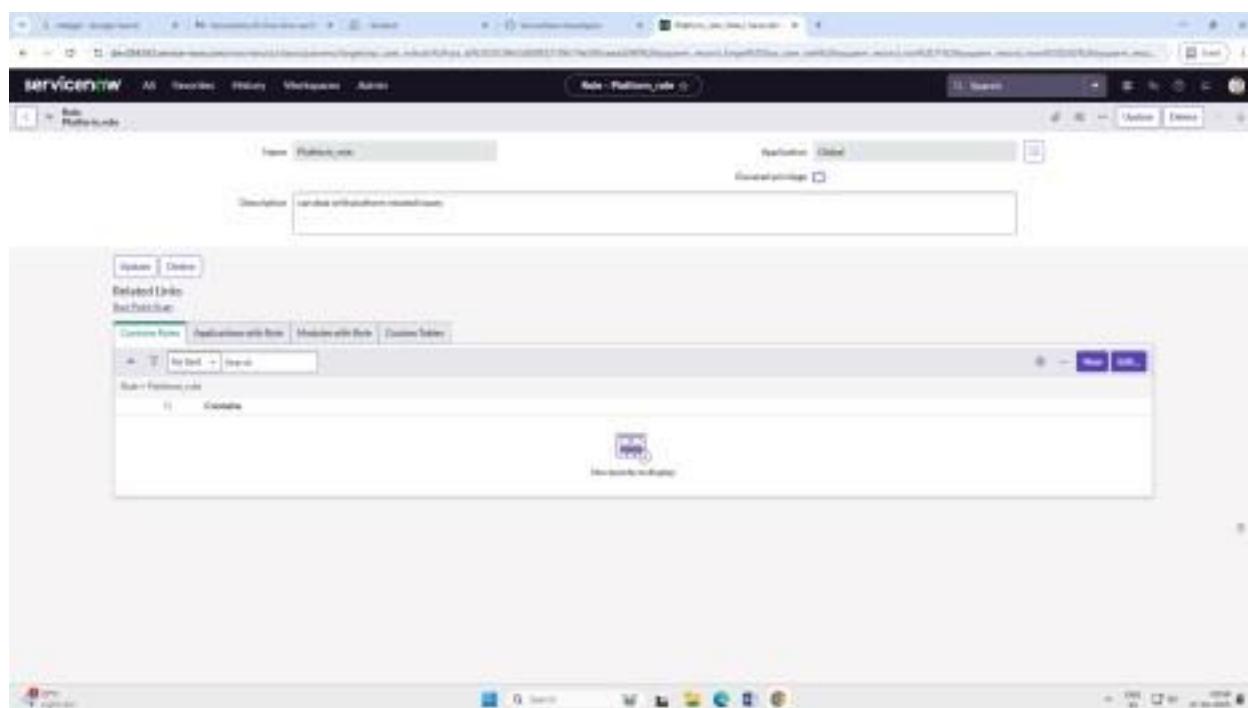
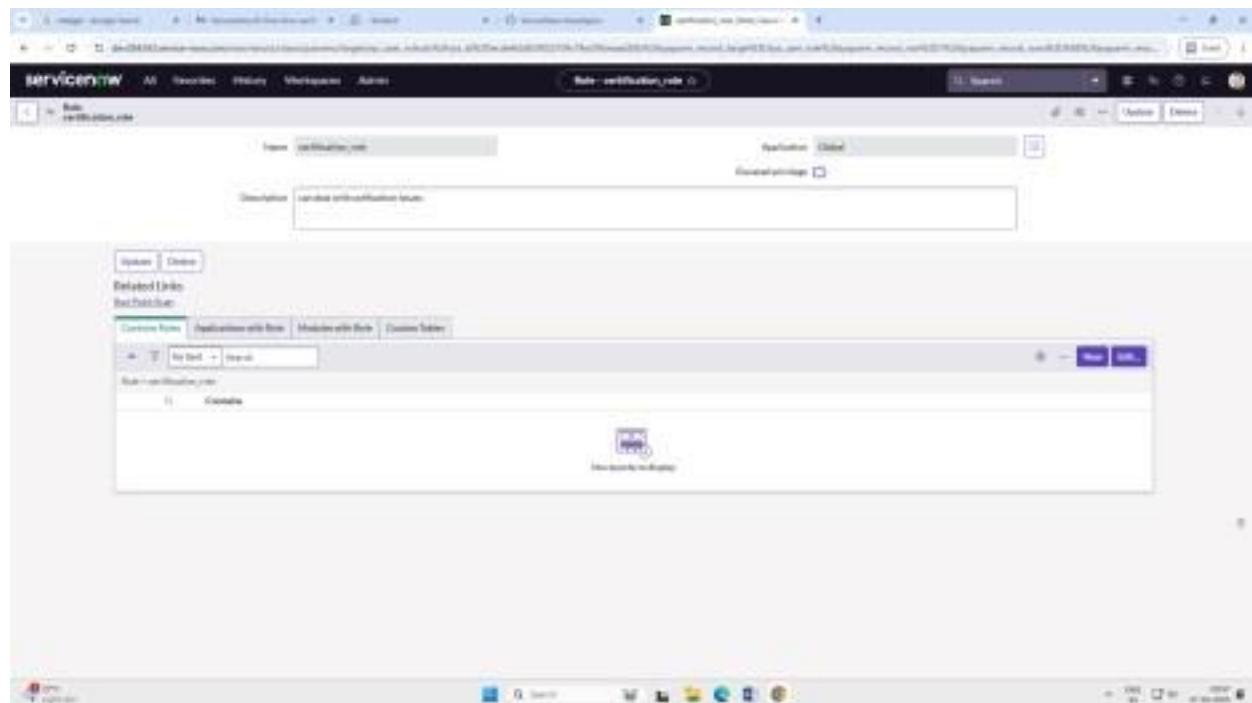
The screenshot shows the ServiceNow User creation interface for Maria Rodriguez. The left panel contains basic user information: User ID (Maria.Rodriguez), First name (Maria), Last name (Rodriguez), Title (None), Email (maria.rodriguez@service-now.com), and Active (checked). The right panel lists contact details: Street (123 Main Street), Zip code (98004), City (Seattle), State (WA), Country (United States), and Phone (206-555-1234). Below these are sections for Other contact info, Associated applications, and Associated entitlements. A note at the bottom states "Phone: 123-456-7890".

STEP 2: CREATE GROUPS

The screenshot shows the 'User - Create' screen in the ServiceNow interface. The top navigation bar includes 'ServiceNow', 'All', 'Records', 'History', 'Workspaces', 'Admin', and 'User - Create'. The main form has fields for 'User ID' (set to 'newuser00000000'), 'First name' (set to 'James'), 'Last name' (set to 'Morrison'), 'Title' (left empty), 'Department' (left empty), 'Password' (checkbox checked), 'Locked' (checkbox unchecked), and 'Active' (checkbox checked). To the right, there is a 'Contact' section with fields for 'Email' (set to 'newuser0000000000@mail.com'), 'Identity type' (set to 'Email'), 'Username' (left empty), 'Last name' (left empty), 'Customer Integration' (set to 'Default'), 'Title name' (set to 'Business Service User, Registered'), 'Title former' (set to 'Retail Sales Rep (R)'), 'Business phone' (left empty), 'Mobile phone' (left empty), and 'Phone' (button labeled 'Click to add...'). Below the contact section is a 'Related Links' panel with tabs for 'Assignments', 'Assigned', 'Comments', and 'Recent'. A 'List View' tab is selected, showing a table with columns 'Name', 'Last name', 'Title', and 'Status'. The table contains one row for 'James Morrison'.

The screenshot shows the 'Group - Create' screen in the ServiceNow interface. The top navigation bar includes 'ServiceNow', 'All', 'Records', 'History', 'Workspaces', 'Admin', and 'Group - Create'. The main form has fields for 'Name' (set to 'Retail'), 'Manager' (set to 'James Morrison'), and 'Group email' (left empty). Below the form is a 'Related Links' panel with tabs for 'Assignments', 'Assigned', 'Comments', and 'Recent'. A 'List View' tab is selected, showing a table with columns 'Name', 'Last name', 'Title', and 'Status'. The table contains one row for 'James Morrison'.

STEP 3: CREATE ROLES



STEP 4: CREATE TABLES

The screenshot shows the ServiceNow 'Table - Operations history' creation screen. At the top, there is a search bar and a 'Create' button. Below the search bar, the table name 'Operations history' is displayed, along with its description 'A table to collect all operations performed on resources by the user, and each field corresponds to a resource field value. Applications can filter and search through this information database.' A note indicates that the table has 1,000 rows.

Operations history
A table to collect all operations performed on resources by the user, and each field corresponds to a resource field value. Applications can filter and search through this information database.
1,000 Operations history
Name: Operations history

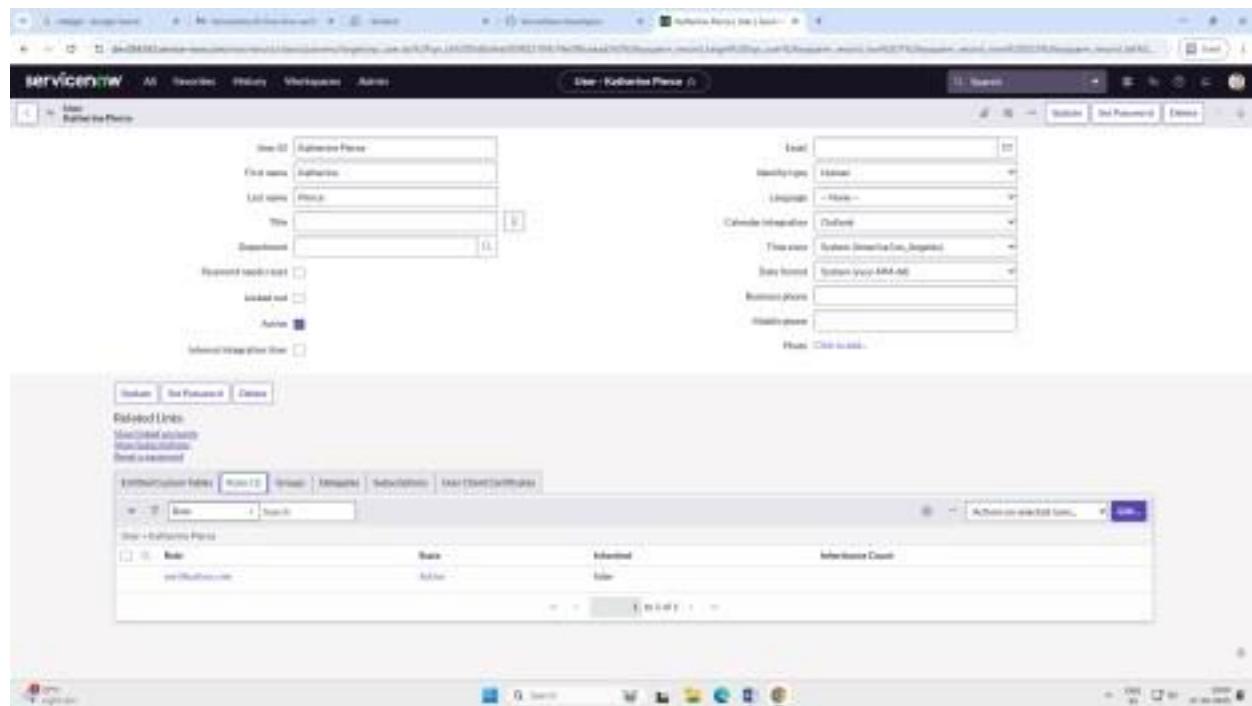
Fields

Column Label	Type	Reference	Maxlength	Default value	Display
Actions	String	String Value	40		False
Associated By	String	String	40		False
Comments	String	String Value	40		False
Created By	String	String Value	40		False
Created Date	Date/Time	String Value	40		False
File ID	Text (10,40)	String	10		False
Operation	String	String	40		False
Resource	String	String Value	40		False
Updated	Date/Time	String Value	40		False
Updated By	String	String Value	40		False
Updated Date	Date/Time	String Value	40		False
Value	String	String Value	40		False
File ID	String	String Value	40		False
Comments	Date/Time	String Value	40		False

The screenshot shows the ServiceNow interface with two tables: 'Operations history' and 'Operations history log'. The 'Operations history' table is visible at the top, showing fields like 'Actions', 'Associated By', 'Comments', etc. Below it, the 'Operations history log' table is shown in a modal or detailed view. This table contains a single row with the following data:

Name	Definition Type	Comments	File	Value	Updated By	Updated
Operations history	String	String Value	String	String	String	2023-10-24 10:11:00

STEP 5: ASSIGN ROLES & USERS TO GROUPS



User ID:

First name: Maria

Last name: Hansson

Title:

Description:

Preferred language:

Address:

Active:

Informed language filter:

Email: maria.hansson@service-now.com

Home type: Home

Language: - None -

Calendar integration: Default

Time zone: System Default (Europe/Berlin)

City format: System (en-US-MM-DD)

Business phone:

Mobile phone:

Phone: Click to add...

Related Lists:

- Information Table
- Ticket
- Search
- Information Table
- Subscriptions
- TaskListComments

Information Table

Action	Name	Type	Created	InformationTable
View	InformationTable	Table	2023-07-10 10:00:00	InformationTable

Ticket

Action	Role	State	Assigned	InformationTable
View	InformationTable	Active	None	InformationTable

STEP 6: ASSIGN ROLES TO TABLE

Type: Record

Owner: User

Action Type: Allow

Allow:

Deny:

Role: InformationTable

Name: InformationTable

Description: Default access control for InformationTable table

Notes: No conditions are defined.

Conditions

Allow Control Roles have precedence over Deny if you have different descending conditions:

- Allow Access: Allow access to a resource or object (without a prefix).
- Deny Access: Deny access to a resource or object (all conditions defined).

Deny Conditions

- InformationTable
- InformationTable
- InformationTable
- InformationTable

The screenshot shows the ServiceNow Access Control interface for creating a new record. The top navigation bar includes 'All', 'Records', 'History', 'Workspaces', 'Admin', 'Access Control', and 'Search'. The main title is 'Access Control - u_connections_related'. The form fields are as follows:

- Type: Record
- Owner: user
- Creation Type: Admin
- Notes over ride:
- Role Security:
- Name: Operations module_operations_record
- Description: Default access control to operations module
- Buttons: 'Save' (highlighted), 'Cancel', 'Print'

Below the form is a 'Conditions' section with a note about defining rules for access control. It lists three conditions:

- Allow Access: Allow access to a resource if it is (continues)
- Allow Access: Deny access to a resource unless all conditions are met.

The 'Conditions' section also includes a 'Rules' table with the following rows:

Rule
u_connections_record
u_connections_record
u_connections_record
Deny access...

STEP 7: CREATE ACL

This screenshot is identical to the one above, showing the ServiceNow Access Control interface for creating a new record. The form fields, conditions, and rules table are all the same, indicating a step-by-step process or a duplicate screenshot.

STEP 8: FLOW & OUTPUTS

The screenshot displays the Oracle Business Process Designer interface, showing two parallel business processes:

- Regarding Certificate**:
 - TRIGGER**: Opened-Added to customer information record in Regarding Certificate table.
 - ACTIONS**:
 - Update customer information
 - + Add a history from logic or subscriber
 - ERROR HANDLER**: If an error occurs in your flow, the actions you add here will run.
- Regarding Platform**:
 - TRIGGER**: Opened-Added to customer information record in Ready to login to platform record in Ready to login to Regarding Link table.
 - ACTIONS**:
 - Update customer information
 - + Add a history from logic or subscriber
 - ERROR HANDLER**: If an error occurs in your flow, the actions you add here will run.

Both flows include a "Data" section on the right containing various actions such as "Update Record", "Delete Record", and "Insert Record".

Outcome :

The project successfully automates the entire ticket assignment process, reducing manual workload and improving service efficiency. It ensures that each ticket is handled by the right team, minimizes delays, and maintains SLA compliance. The automation enhances productivity, transparency, and customer satisfaction by providing real-time updates and balanced task distribution among agents.

1. **Reduced ticket resolution time** through faster and more accurate ticket routing.
2. **Improved customer satisfaction levels** due to timely and efficient support responses.
3. **Balanced workload distribution** among support agents, minimizing burnout and improving performance.
4. **Enhanced operational efficiency** through automation of manual ticket assignment tasks.
5. **Better visibility into support performance** via real-time analytics and reporting dashboards.
6. **Increased first-contact resolution rate** as tickets reach the most qualified agents immediately.
7. **Optimized resource utilization** by matching ticket complexity with agent expertise.
8. **Continuous process improvement** driven by insights from data and performance metrics.

Conclusion:

The project “Streamlining Ticket Assignment for Efficient Support Operations” effectively demonstrates how automation can improve IT service management using the ServiceNow platform. By eliminating manual ticket routing, it ensures faster resolution times, efficient workload management, and consistent service quality. This implementation showcases the power of workflow automation and smart assignment logic in achieving operational excellence and better end-user experience.