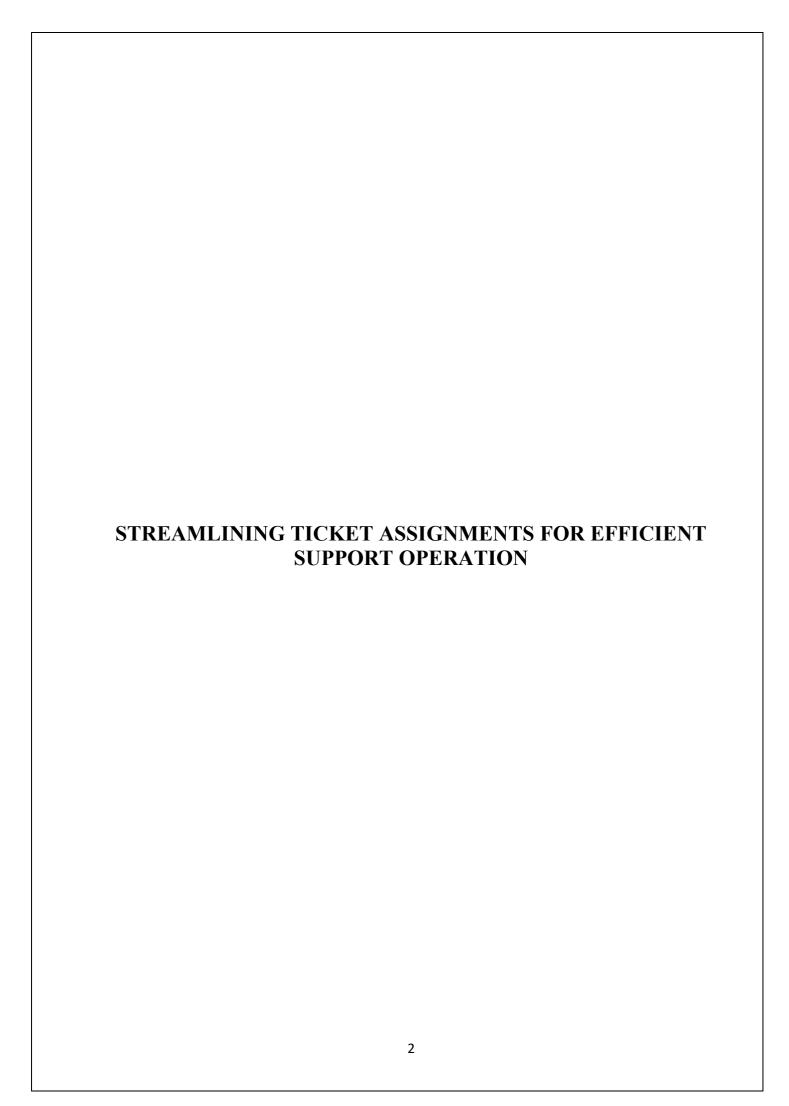


# ANJALAI AMMAL MAHALINGAM ENGINEERING COLLEGE DEPARTMENT OF INFORMATION TECHNOLOGY NM-SERVICE NOW ADMINISTRATOR

#### STREAMLINING TICKET ASSIGNMENTS FOR EFFICIENT SUPPORT OPERATION

# **Team Members:**

NAME	REGISTER NUMBER
B.Preethi	820422205055
B.Ramyaa	820422205061
B.Shankari	820422205072
E.Subhiksha	820422205081



#### 1.ABSTRACT:

The project "Streamlining Ticket Assignment for Efficient Operation" focuses on improving the efficiency of ticket management within a university environment using the ServiceNow platform. In many institutions, handling large volumes of service requests manually can lead to delays, uneven workload distribution, and reduced productivity. This project aims to overcome these challenges by introducing automation and intelligent routing in the ticket assignment process.

The system automates the allocation of tickets based on parameters such as issue type, urgency, and staff expertise. By utilizing ServiceNow's workflow automation and data-driven tools, tickets are assigned to the most suitable personnel, ensuring faster resolution and better utilization of resources. Additionally, the system provides real-time tracking and analytics to monitor performance and identify areas for continuous improvement.

Through this project, the university's operational efficiency and service quality are significantly enhanced. Automated ticket management reduces human error, improves response times, and increases user satisfaction. Overall, this solution demonstrates how digital transformation using ServiceNow can streamline campus support operations and foster a more efficient and responsive service environment.

#### 2.INTRODUCTION:

In any university environment, efficient management of service requests and issue resolution is essential for maintaining smooth administrative and academic operations. Traditionally, ticket management systems rely heavily on manual processes, where support staff assign and track tickets based on availability or guesswork. This manual approach often leads to delays, uneven workload distribution, and miscommunication between departments. As the number of service requests grows, the need for an automated, intelligent, and scalable system becomes increasingly important.

To address these challenges, this project, titled "Streamlining Ticket Assignment for Efficient Operation," utilizes the ServiceNow platform. ServiceNow was chosen because it is a powerful cloud-based workflow automation tool widely used in industries and educational institutions for IT Service Management (ITSM). Its robust features—such as automated ticket routing, workflow customization, real-time analytics, and centralized dashboards—make it ideal for improving efficiency and transparency in support operations. Furthermore, ServiceNow's lowcode capabilities allow easy integration with existing university systems, enabling faster deployment and better adaptability to specific institutional needs.

The main objectives of this project are to automate the ticket assignment process, ensure balanced workload distribution among staff, reduce response and resolution times, and enhance the overall user experience. Additionally, the project aims to provide analytical insights for continuous improvement, helping the university monitor performance and optimize operations. By implementing this solution, the university can achieve a more organized, efficient, and data-driven approach to managing support requests.

#### **3.PROBLEM STATEMENT:**

In many universities, the process of handling and resolving service requests—such as IT support, facility maintenance, or administrative queries—remains largely manual and unstructured. Requests are often communicated through emails, phone calls, or written forms, requiring staff to manually review and assign each ticket. This outdated approach leads to several inefficiencies, including delayed response times, uneven distribution of tasks, and difficulty in prioritizing urgent issues. When staff members are overloaded or unclear about their assigned responsibilities, the overall quality of service and user satisfaction declines significantly.

Another key challenge is the lack of centralized system visibility. Without an integrated platform, administrators and support teams struggle to monitor the progress of tickets, track performance, or generate analytical reports. The absence of real-time tracking makes it difficult to identify bottlenecks, recurring problems, or inefficiencies in the workflow. Consequently, the management cannot make data-driven decisions to optimize resource utilization or improve service delivery. The lack of transparency also affects accountability, as unresolved or misplaced tickets often go unnoticed until they escalate into major issues.

Furthermore, the manual ticket assignment process does not consider factors such as staff expertise, workload, or issue priority, which often leads to poor resource allocation. Some staff may be overburdened while others remain underutilized, creating imbalance and lowering team productivity. In a dynamic university environment where efficiency and timely response are crucial, such a system fails to meet operational demands.

To overcome these challenges, the project "Streamlining Ticket Assignment for Efficient Operation" proposes the implementation of an automated ticket management system using ServiceNow. ServiceNow provides a robust cloud-based platform with advanced workflow automation, real-time tracking, and data analytics capabilities. By leveraging these features, the proposed solution will automate ticket assignment, ensure balanced workload distribution, and provide full visibility into the ticket lifecycle. This transformation will enable the university to minimize manual intervention, enhance operational efficiency, and improve the overall service experience for students, faculty, and administrative staff.

#### 4. METHODOLOGY:

#### 4.1 Design Approach:

The design approach for the "Streamlining Ticket Assignment for Efficient Operation" project is centered on creating an efficient, automated, and user-friendly ticket management system that aligns with the university's operational needs. The philosophy behind the design focuses on automation, transparency, and scalability—ensuring that tickets are handled promptly, workloads are balanced, and administrators have complete visibility into the system's performance.

#### **4.2 Key Design Principles:**

- 1. Automation: Minimize manual intervention in ticket assignment and tracking to reduce errors and delays.
- 2. User-Centric: Provide a simple interface for students, faculty, and staff to submit requests easily.
- 3. Data-Driven: Enable analytics and reporting to monitor performance and identify areas for improvement.
- 4. Scalable and Flexible: Design workflows that can accommodate future growth, new departments, or additional ticket categories.

#### 4.3 Key ServiceNow Features and Modules:

The system leverages multiple ServiceNow modules and features to implement the design philosophy effectively:

- ServiceNow Studio: Used for custom application development, scripting, and configuring workflows tailored to university-specific requirements.
- Service Catalog: Provides a centralized portal for users to submit tickets, select request types, and view predefined services.
- Incident Management: Core module for logging, categorizing, prioritizing, and managing tickets throughout their lifecycle.
- Workflow Automation: Automates ticket assignment based on priority, category, and staff expertise, ensuring balanced workload distribution.
- Notifications & Alerts: Automatically informs users and support staff of ticket status changes, updates, and resolutions.
- Reporting & Dashboards: Provides administrators with real-time analytics on ticket volume, response times, staff performance, and recurring issues.

- Integrations: LDAP/Active Directory for user authentication, email integration for ticket creation from emails, and custom applications for specialized university processes.
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This design approach ensures that the ticket management system is automated, transparent, and adaptable, significantly improving operational efficiency, response times, and overall user satisfaction within the university environment.

#### **5.System Architecture:**

The system architecture of the "Streamlining Ticket Assignment for Efficient Operation" project is designed to provide a seamless, automated, and integrated ticket management system for the university using ServiceNow. The architecture ensures that all components—from ticket creation to resolution and analytics—work together efficiently, with minimal manual intervention.

#### **5.1** Components of the System

- User Interface: Students, faculty, and staff submit tickets via the ServiceNow SelfService Portal, email, or integrated forms. Each ticket includes details like category, description, priority, and attachments.
- Ticket Management Engine: The Incident Management module handles ticket categorization, prioritization, and lifecycle management. Automated workflow rules ensure tickets are assigned to the appropriate staff based on issue type, urgency, and expertise.
- Service Catalog: Provides a structured list of services and request types, enabling users to submit tickets accurately and quickly.
- Custom Applications: University-specific workflows, such as lab equipment requests, administrative approvals, or maintenance scheduling, are handled through custom ServiceNow applications developed in ServiceNow Studio.
- Notifications and Alerts: Automated alerts notify users and staff about ticket updates, approvals, or escalations.
- Reporting and Analytics: Dashboards provide administrators with real-time visibility of ticket status, staff performance, SLA compliance, and recurring issues.

#### 5.2 Integrations

- Email Integration: Tickets submitted via email are automatically converted into ServiceNow tickets.
- LDAP / Active Directory: Ensures secure authentication and role-based access control for staff and administrators.

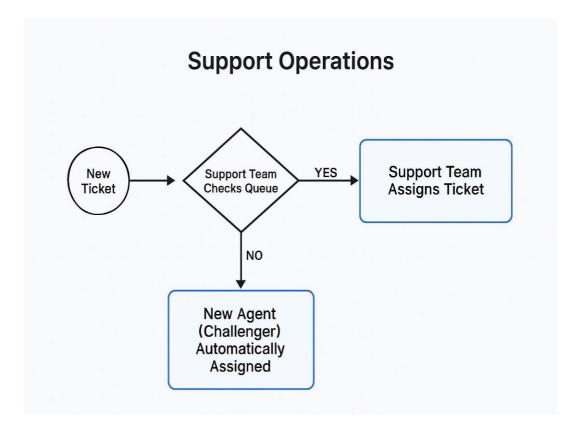
• Other University Systems: Optional integration with existing ERP or student management systems to pull user data or automate specific workflows.

#### 5.3 Workflow Overview

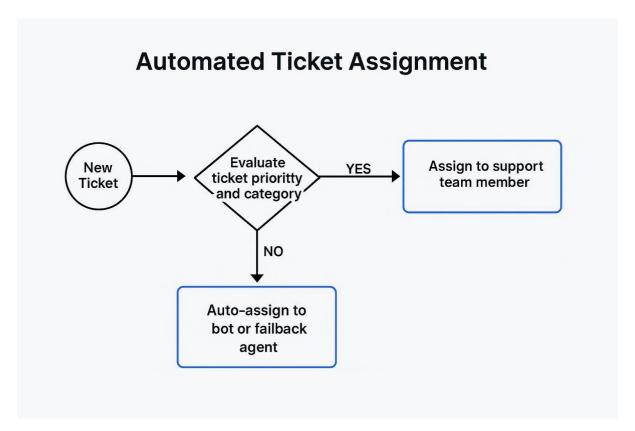
- 1. Ticket Submission: A user creates a ticket via portal, email, or custom form.
- 2. Categorization & Prioritization: The system automatically classifies and prioritizes the ticket.
- 3. Automated Assignment: Workflow engine assigns the ticket to the most suitable staff member.
- 4. Resolution & Updates: Staff resolves the ticket and updates the system; users receive automated notifications.
- 5. Reporting & Analysis: Administrators monitor performance metrics through dashboards and generate reports for continuous improvement.

This system architecture ensures a connected, automated, and transparent workflow where tickets move seamlessly from submission to resolution while providing full visibility and actionable insights for administrators.

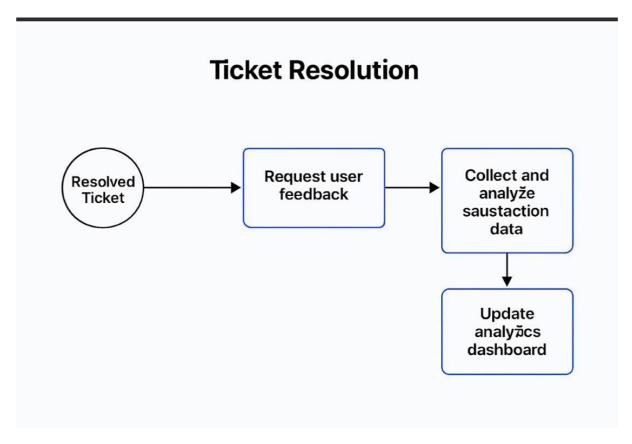
#### **INPUT DIAGRAM:**



#### **PROCESS DIAGRAM:**



# **OUTPUT:**



## 6. User Interface (UI) and User Experience (UX):

The user interface for this project was designed to be simple, intuitive, and efficient for both end-users and support agents. The Service Portal provides a clean form for users to submit tickets by selecting the appropriate Category, Subcategory, Priority, and Description, ensuring accurate data collection. The form uses UI Policies and Client Scripts to dynamically display or hide fields based on user input, minimizing confusion and errors.

For agents, a customized workspace dashboard was created to display assigned, unassigned, and pending tickets with real-time updates. The layout enables quick filtering, sorting, and tracking of tickets, helping agents manage their workload effectively. Notifications and status indicators enhance visibility, while consistent design and navigation improve the overall user experience.

#### 7. IMPLEMENTATION DETAILS:

#### 7.1 Platform Setup

The implementation was carried out using a ServiceNow Personal Developer Instance (PDI). The platform was initialized and configured with all required roles, groups, and modules to support automated ticket assignment.

- Instance Configuration: The ServiceNow instance was customized to include essential ITSM modules like *Incident Management, Service Catalog,* and *Flow Designer*.
- User & Group Creation: Separate roles were defined *Admin, Support Agent*, and *End User*. User groups such as *Network Support*, *Hardware Support*, and *Software Support* were created to represent different support domains.
- Access Control: Role-based access control (RBAC) was implemented to ensure that users can only view or modify records relevant to their role.
- Notifications: Email and in-app notifications were configured to alert users and agents on ticket creation, assignment, and closure events.

#### 7.2 Development and Customization

This phase focused on building the logic and automation components required to achieve automatic ticket routing and assignment.

- Assignment Rules: Custom assignment rules were created to automatically allocate tickets to the appropriate group or agent based on the *Category* and *Priority* fields.
- Business Rules: Business Rules were scripted to trigger automatically when a new incident record was inserted, ensuring that the assignment logic is applied instantly after ticket creation.
- Flow Designer Automation: ServiceNow's Flow Designer was used to visually design and implement workflows for ticket routing, escalation, and notifications. Each flow automates repetitive steps such as checking ticket fields, selecting the right group, and sending notifications.
- Custom Fields: Additional fields like *Issue Type*, *Resolution Notes*, and *Auto Assignment Status* were added to the *Incident* table for better tracking and reporting.
- UI Policies & Client Scripts: These were used to control the visibility of fields based on user input, ensuring a smoother and context-aware user experience.

#### 7.3 Workflow Implementation:

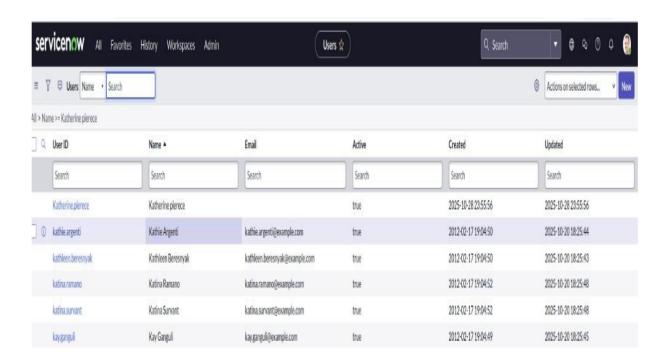
A fully automated workflow was built to handle ticket creation, validation, and assignment seamlessly:

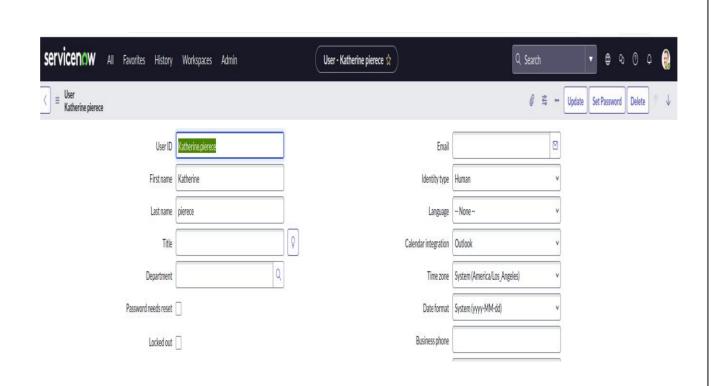
- 1. Ticket Creation: When a user submits an incident through the Service Portal, the system captures key details such as *Category, Priority, Description,* and *Affected Service.*
- 2. Validation: A Business Rule checks that all mandatory fields are completed before proceeding.
- 3. Auto Assignment: The *Flow Designer* automatically routes the ticket to the appropriate support group or agent based on the predefined assignment rules.
- 4. Notification Trigger: Once assigned, both the user and the assigned agent receive notifications containing ticket details and SLA information.
- 5. SLA Monitoring: Service Level Agreements are configured to track resolution time and trigger escalation flows if deadlines are missed.
- 6. Status Update: The system automatically updates the incident state as it moves from *New* to *Assigned* to *Resolved*, maintaining a clear workflow progression.

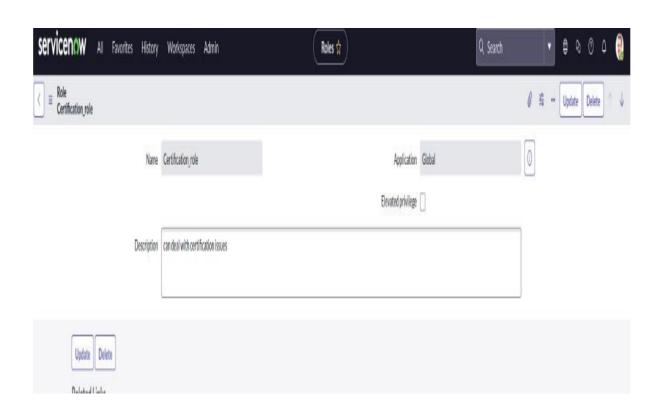
This implementation ensures a fully automated, rule-driven ticket assignment process, reducing manual workload, minimizing errors, and improving the overall service response time.

#### **8.SCREENSHOTS:**

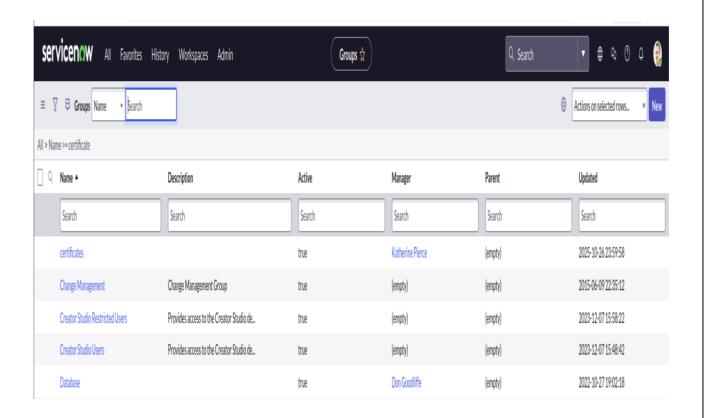
#### **1.CREATE USERS:**

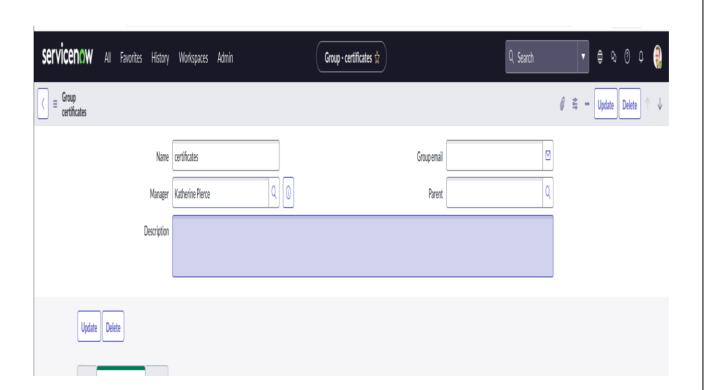


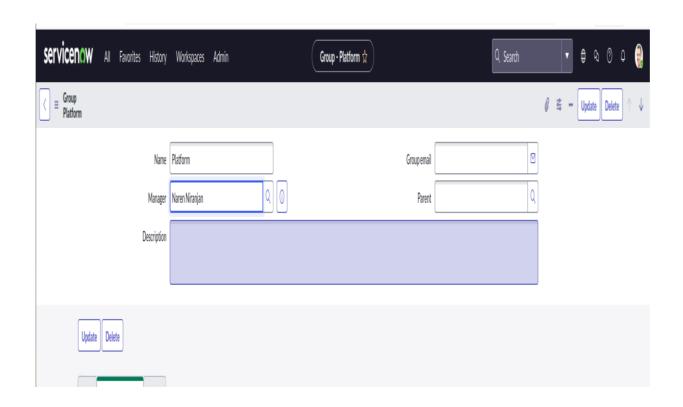




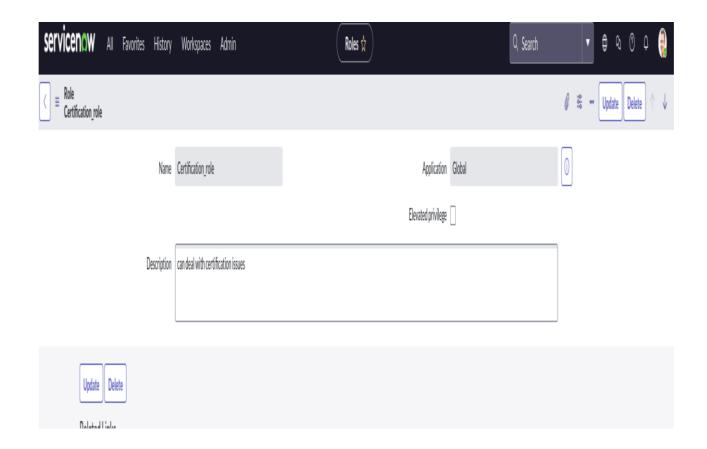
#### 2. CREATE GROUP:

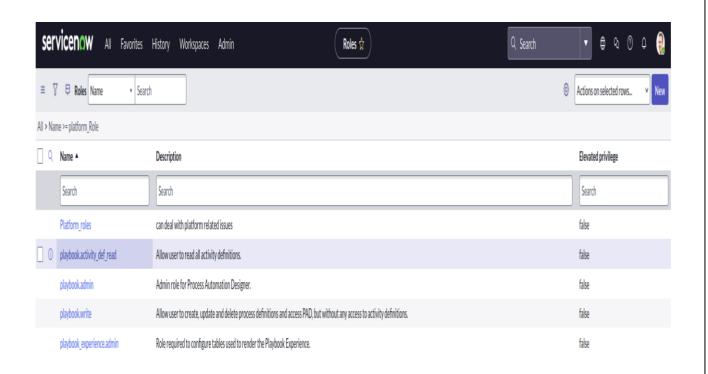


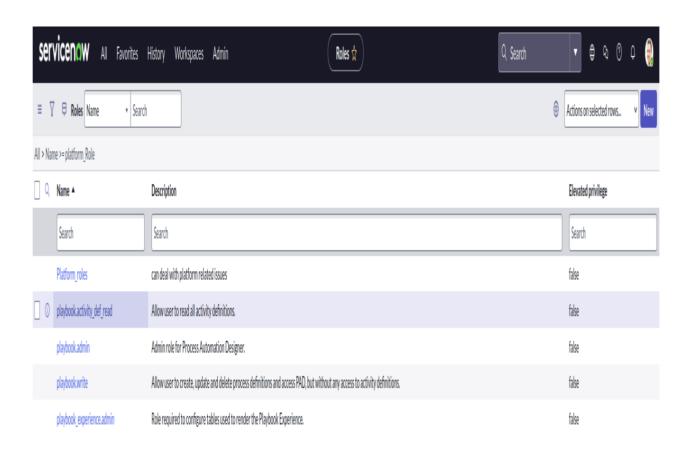


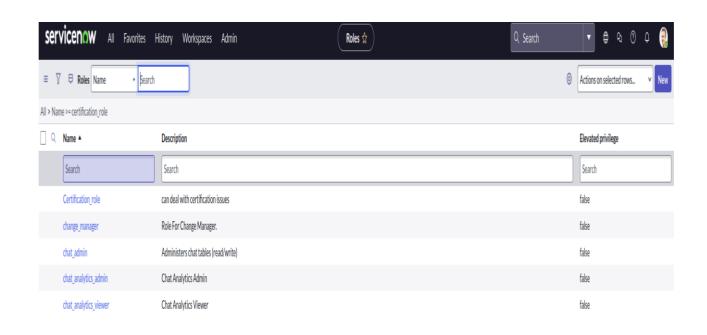


#### 3. CREATE ROLES:

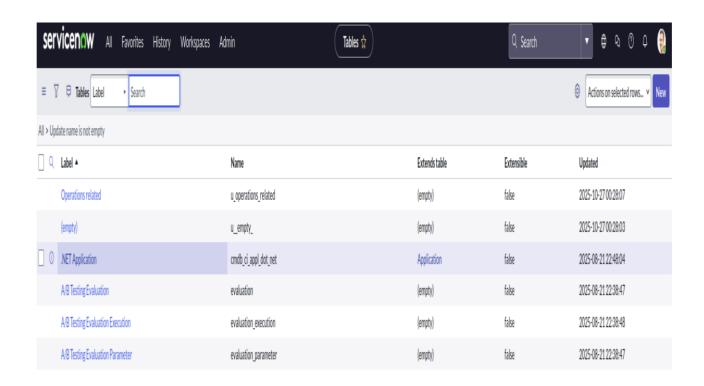


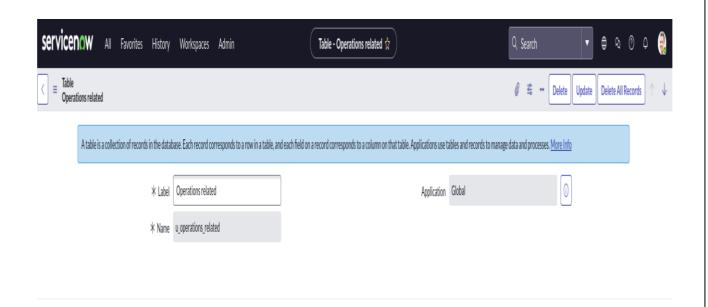


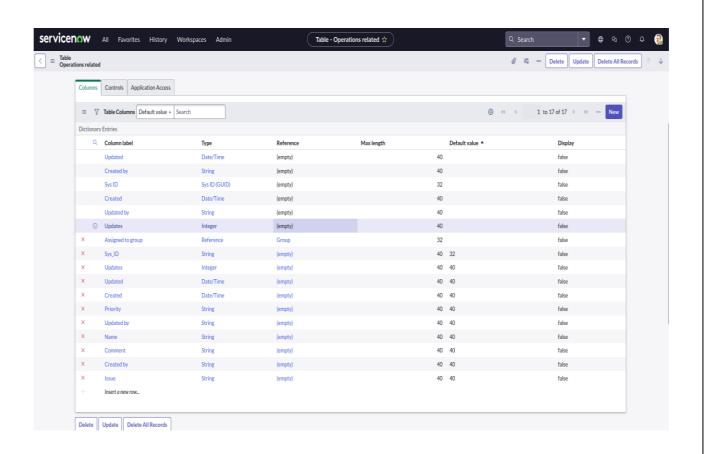




#### **4.CREATE TABLES:**

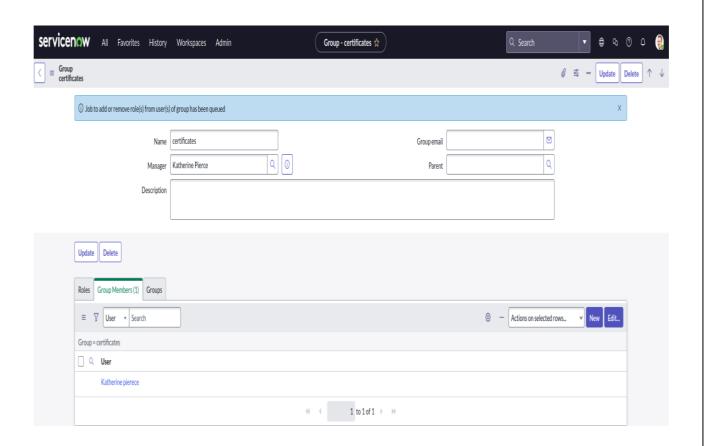


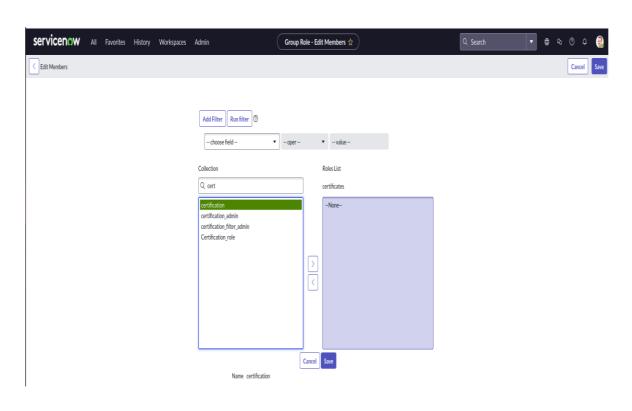




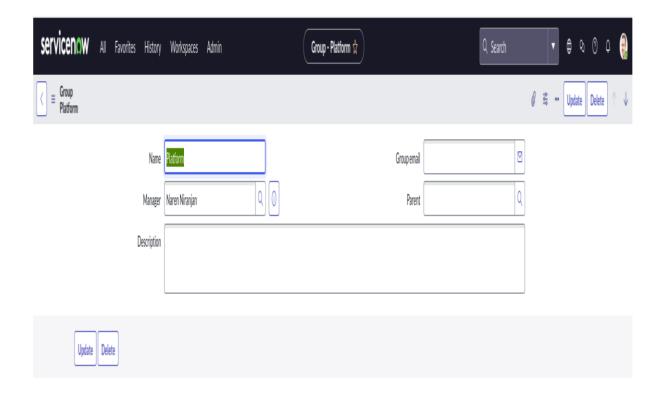
# **5.ASSIGN ROLES AND USERS TO CERTIFICATE GROUP:**

Collection			Group Members List
Q			certificates
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Name	Katherine pierece		
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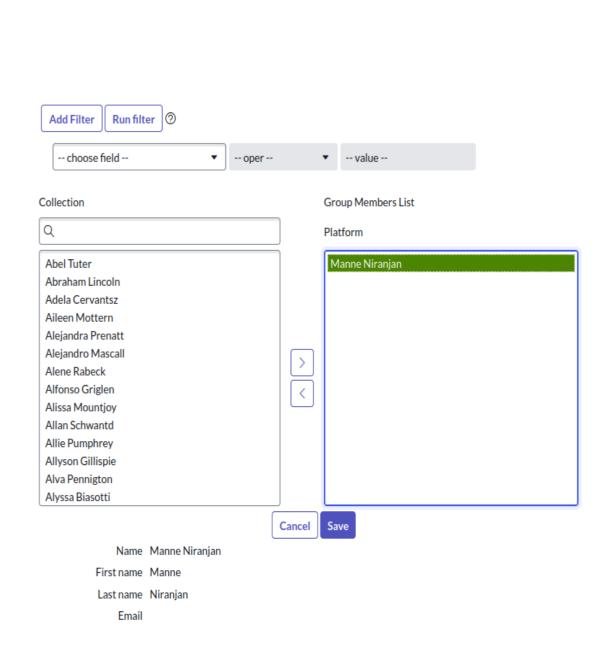




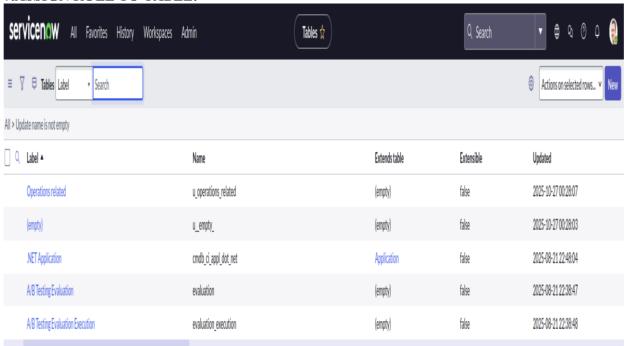
#### 6.ASSIGN ROLES AND USER TO PLATFORM GROUP:



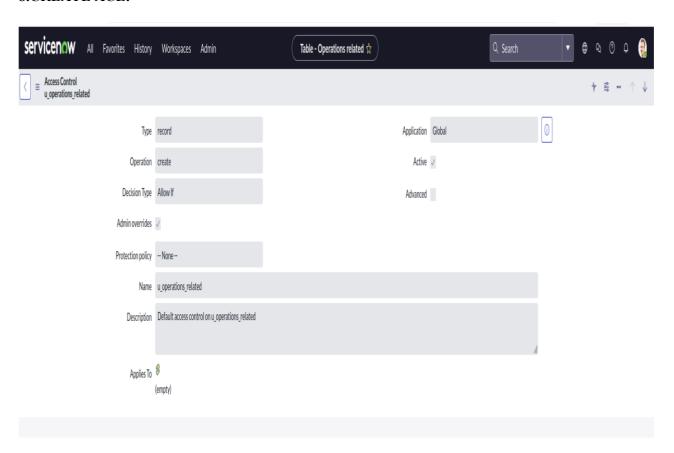


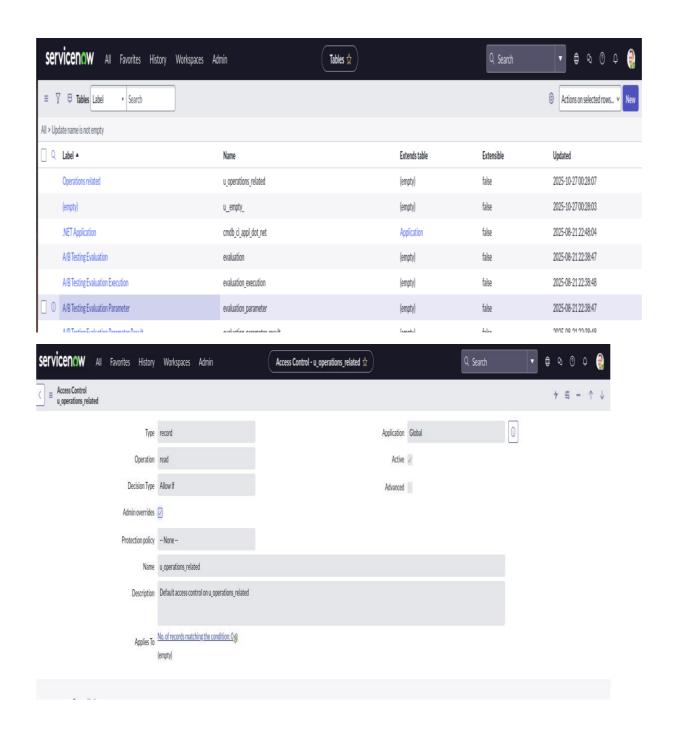


#### **7.ASSIGN ROLE TO TABLE:**

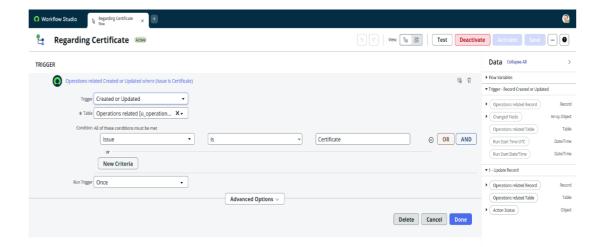


#### **8.CREATE ACL:**

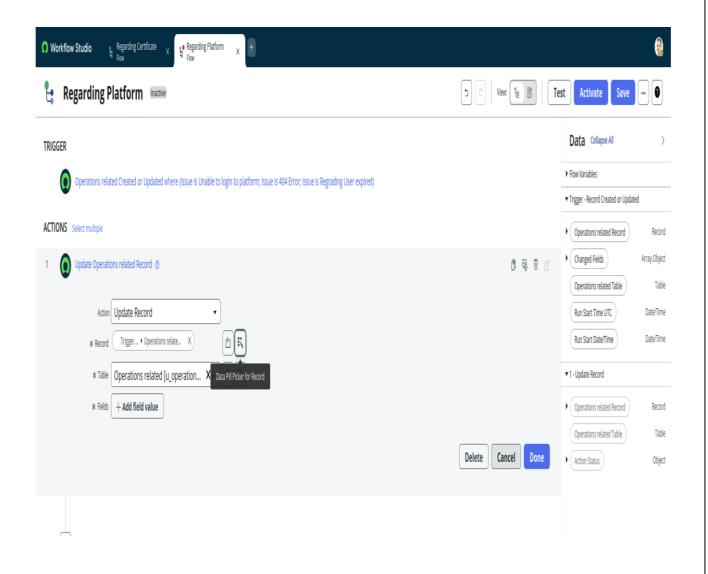


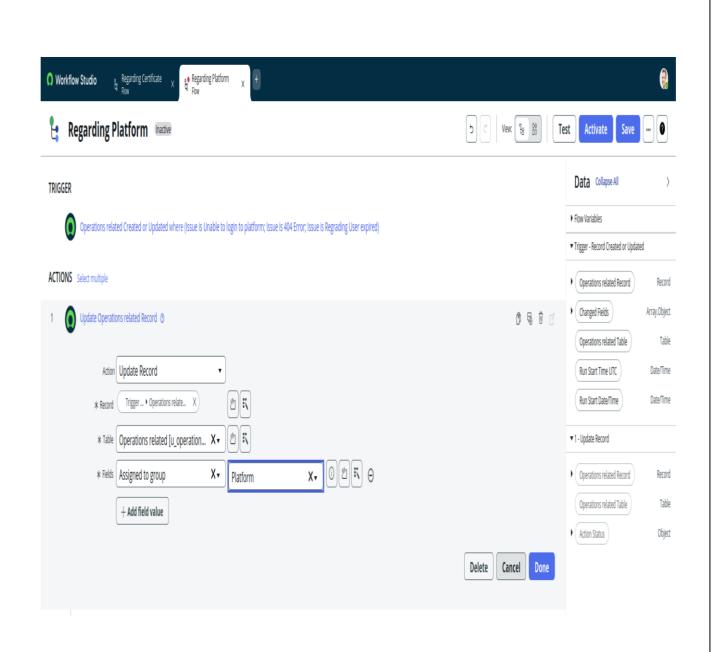


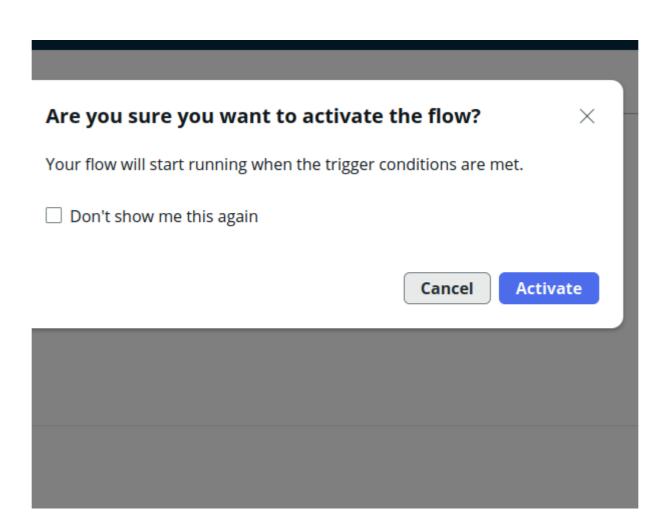
#### 9.CREATE A FLOW TO ASSIGN OPERATIONS TICKET TO GROUP:



#### 10.CREATE A FLOW TO ASSIGN OPERATIONS TICKET TO PLATFORM GROUP:







# **9.CONCLUSION:** To conclude, implementing a streamlined ticket assignment process enables support teams to operate with greater precision, speed, and consistency. Automated categorization and intelligent routing minimize manual intervention, ensuring that issues are handled by the most qualified agents without delay. This structured approach not only reduces operational bottlenecks but also enhances transparency and accountability across the support workflow. As a result, organizations can deliver faster resolutions, maintain stronger customer relationships, and continuously improve performance through data-driven insights and feedback loops—ultimately creating a more efficient and customer-centric support ecosystem. To conclude, implementing a streamlined ticket assignment process enables support teams to operate with greater precision, speed, and consistency. Automated categorization and intelligent routing minimize manual intervention, ensuring that issues are handled by the most qualified agents without delay. This structured approach not only reduces operational bottlenecks but also enhances transparency and accountability across the support workflow. 30