Automated Network Request Management in ServiceNow

Automated Network Request Management in ServiceNow

Project Description:

This project aims to design and implement a streamlined, automated soluΘon for managing networkrelated service requests within ServiceNow. It enables end users to submit requests for network services through a user-friendly self-service portal. The system leverages ServiceNow's workflow engine, catalog items, and approval processes to ensure requests are properly captured, validated, and routed for fulfillment. Upon submission, requests trigger automated noΘficaΘons, task assignments, and—where applicable—integraΘon with network automaΘon tools or scripts to fulfill standard requests without manual intervenΘon.

Project Overview

Project Overview

Date

Project Name
Automated Network Request Management in ServiceNow

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In modern enterprises, network-related service requests such as new connections, relocations, or device configurations are often handled manually, leading to delays, errors, and lack of transparency. At the same time, IT teams face increased workloads from repetitive and standard requests.
This project aims to address these challenges by building an **Automated Network Request Management System in ServiceNow** that streamlines request submission, approval, and fulfillment using workflows, catalogs, and automation tools.

✅ **Purpose**
The primary purpose of this project is to improve efficiency, accuracy, and transparency in managing network-related service requests. By leveraging ServiceNow's platform, the project seeks to:

- Provide a **self-service portal** for users to raise network service requests easily.
- Automate **approval workflows** based on request type and sensitivity.
- Reduce manual effort through **workflow automation and integration** with network tools.
- Ensure **real-time notifications and tracking** for requesters and IT staff.
- Support faster, more reliable, and scalable IT service delivery.

□ **Problem**

- Manual handling of network requests leads to delays, errors, and inconsistent processes.

- Employees lack visibility into the status of their requests.
- IT staff spend excessive time on repetitive tasks instead of focusing on strategic work.
- Absence of standardized workflows reduces SLA compliance and increases operational risk.

🧩 Proposed Solution

Develop a ServiceNow-based solution that includes:

- **Custom Service Catalog** for network-related requests.
- **Dynamic Forms & Variables** to capture detailed request data.
- **Automated Approval Workflows** tailored to request type and sensitivity.
- **Flow Designer Automation** for actions like request creation, updates, notifications, and approvals.
- **Integration (optional)** with network orchestration/automation tools for seamless fulfillment.
- **Analytics & Reporting** for request trends, SLA tracking, and performance monitoring.

👥 Target Beneficiaries

- **End Users/Employees**: Simplified process for raising and tracking requests.
- **IT/Network Teams**: Reduced manual workload, faster processing, and accurate request handling.
- **Management**: Visibility into performance metrics, SLA compliance, and efficiency improvements.

🖥️ Request Sources (Donors Equivalent)

- Employees requesting **new connections or relocations**.
- Teams needing **device configurations or updates**.
- Managers requesting **network changes for projects or events**.
- Admin staff handling **infrastructure-related network requirements**.

⚙️ Operations Workflow (Logistics Equivalent)

- Users submit a request via the **ServiceNow self-service portal**.
- The system captures details through **dynamic forms and variable sets**.
- **Approval workflows** are triggered automatically based on sensitivity.
- Upon approval, **tasks are auto-assigned** to the right team or integrated tool.
- **Notifications & status updates** keep both requesters and technicians informed.

📱 Technology Features

- Real-time request submission through **Service Catalog**.
- **Dynamic forms & UI policies** to capture accurate details.
- **Flow Designer automation** for approvals, task creation, and email notifications.
- **Custom tables & fields** for tracking requests.
- **Dashboards & Analytics** to monitor SLA adherence and resolution trends.
- Optional **integration with orchestration tools** for automatic fulfillment.

🎯 Impact Goals

- Reduce manual effort and errors in network request handling.
- Ensure faster request resolution and SLA compliance.
- Improve user satisfaction with real-time transparency and updates.
- Provide management insights through reporting and analytics.
- Enable scalable automation that can expand to other IT service domains.

🌍 Alignment with Business & IT Goals

- **Operational Efficiency:** Automating repetitive processes.
- **Service Quality:** Ensuring timely and accurate fulfillment.
- **Transparency:** Providing visibility to users and management.
- **Scalability:** Supporting future automation needs across IT services.

Ideation Phase

Ideation Phase

Brainstorm & Idea Prioritization
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Step-1: Team Gathering, Collaboration and Select the Problem Statement

Team Gathering
Team Composition:

- Project Manager
- ServiceNow Developer
- Workflow/Automation Specialist
- Network Administrator
- QA & Testing Lead

Kick-off Meeting:
An introductory session was held to discuss the importance of automating network service requests, reducing manual effort, and improving SLA compliance.

Collaboration

- **Icebreaker Activities:** Each member shared experiences with IT request handling challenges, highlighting inefficiencies in manual processes.
- **Goal Setting:** Define a shared goal:
  👉 *"To design and implement an automated, transparent, and efficient solution in*

ServiceNow for managing network service requests."

- **Ground Rules:** Respect ideas, encourage equal participation, and ensure collaborative decision-making.

Problem Statement Selection
Initial Discussions:

- Requests handled manually → delays & errors.
- Lack of visibility for employees about request status.
- IT teams overloaded with repetitive tasks.
- SLA breaches due to inefficiency.

Brainstorming Problems:

- No centralized automation system for request approvals.
- Manual form entries leading to incomplete data.
- Lack of real-time communication with requesters.
- No integration with orchestration tools for auto-fulfillment.

Problem Framing:
👉 *"How might we build a reliable, automated, and scalable solution in ServiceNow to handle network service requests efficiently, while reducing manual effort and ensuring transparency for users?"*

Step 2: Brainstorming, Idea Listing, and Grouping

Objective
To generate a wide range of creative and practical ideas for improving the handling of network-related requests by automating workflows in ServiceNow.

🌀 Brainstorming Session

- Free-flow idea sharing without judgment.
- Focused on both user experience (front-end forms) and backend automation (Flow Designer).
- Ideas built collaboratively into structured solutions.

📝 Raw Ideas Generated

- Self-service catalog item for network requests.
- Dynamic forms with conditional fields.
- Auto-populated user data via variable sets.
- Automated approval workflows based on sensitivity.
- Flow Designer actions (create record, send notifications, ask for approval).
- Real-time email & portal status notifications.
- Analytics dashboard for SLA & request tracking.
- Optional integration with orchestration tools for direct fulfillment.

🗂️ Grouped Idea Themes

Category	Ideas Included
📦 Request Intake	Service catalog item, dynamic forms, variable sets
✅ Approvals	Automated approval workflows, role-based rules
⚙️ Workflow	Flow Designer: Create Record, Send Email, Ask for Approval, Update Record
📢 Communication	Real-time notifications, portal updates
📊 Analytics	SLA tracking, request volume reports, dashboards

🔗 Integration	Network automation/orchestration tool integration

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Step 3: Idea Prioritization

Objective:
To evaluate and select the most impactful and feasible ideas for initial implementation.

Idea	Impact	Feasibility	Urgency	Priority
Service Catalog Item with Dynamic Forms	High	High	High	⭐ Top
Automated Approval Workflow	High	High	High	⭐ Top
Flow Designer: Notifications & Task Assignment	High	High	High	⭐ Top
Analytics Dashboard	Medium	High	Medium	✅ Consider
Orchestration Integration	High	Medium	Low	⏳ Later

🏆 Top Prioritized Ideas (To Take Forward)

- **Service Catalog with Dynamic Forms** – intuitive request submission.
- **Automated Approvals** – based on role/sensitivity.
- **Flow Designer Automation** – for notifications, record creation, and status updates.

✅ Problem Statement – Final Version

Network service requests are currently handled through manual, inefficient processes, leading to delays, errors, and lack of transparency. Employees face uncertainty about request status, while IT teams are burdened with repetitive tasks.

This project aims to create an **automated, scalable, and transparent system in ServiceNow** to streamline request submission, approval, and fulfillment, ensuring faster resolutions, better user experience, and improved SLA compliance.

🧠 Empathy Mapping – Understanding Stakeholders

🎯 **Objective:**
To empathize with end-users, IT staff, and management involved in the request lifecycle and understand their pains, needs, and goals.

THINK & FEEL

- "Will my request get approved quickly?"
- "I don't know who is handling my request."
- "Why does it take so long for simple requests?"
- "Is the process transparent and reliable?"

SEE

- Sees delays in manual approvals.
- Notices lack of real-time updates.
- Observes repetitive work for IT staff.
- Sees SLA breaches and escalations.

HEAR

- "Your request is still pending."
- "Please follow up with IT."
- "We are waiting for approval."
- Occasionally hears about lost/missed requests.

SAY & DO

- Asks for status updates repeatedly.
- Follows up with IT staff manually.
- Shares frustration with colleagues.
- Sometimes escalates delays to managers.

PAIN

- Delayed request fulfillment.
- No visibility into request progress.
- IT workload increases due to manual tasks.

GAIN

- Faster request resolution.
- Real-time notifications & transparency.
- Reduced manual burden on IT staff.
- Improved user satisfaction and SLA compliance.

Requirement Analysis Phase

Requirement Analysis Phase

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Step-1: Customer Journey Map

End User (Employee):

- Logs into the ServiceNow portal.
- Submits a network-related service request (new connection, relocation, device configuration, etc.).
- Tracks the status of the request in real time.
- Receives notifications on updates and resolution.

IT Approver/Manager:

- Receives automated approval requests.
- Reviews and approves/rejects based on business rules.
- Delegates if needed.

IT/Network Team:

- Receives tasks automatically created by Flow Designer.
- Works on fulfillment with reduced manual effort.

- Updates status in ServiceNow.

Admin/Management:

- Monitors requests and SLA adherence through dashboards.
- Generates reports for auditing and performance improvement.

Step-2: Solution Requirement

🔹 1. Functional Requirements

These describe what the system should do.

ID	Requirement Description
FR1	Users (employees) should be able to log in and raise network requests via ServiceNow self-service portal.
FR2	Dynamic forms should capture details (e.g., request type, device, location, description).
FR3	System should auto-populate user details (name, email, contact).
FR4	Approval workflows should trigger automatically based on request type/sensitivity.
FR5	Tasks should be auto-assigned to the appropriate IT/network team.
FR6	Users and technicians should receive automated notifications (email/portal).
FR7	Requesters should be able to track real-time status of their requests.
FR8	System should store request history for auditing and reporting.
FR9	Dashboards should provide analytics on request volume, SLA compliance, and resolution times.

🔹 2. Non-Functional Requirements

Category	Requirement
Performance	System should process and route requests instantly without delays.

Reliability	Ensure 99.5% uptime with ServiceNow cloud infrastructure.
Usability	Intuitive, mobile-friendly self-service portal for employees.
Security	Secure authentication (SSO/MFA) and encryption of request data.
Scalability	Support growing number of users and additional service domains beyond network.
Maintainability	Easy updates and flow modifications through ServiceNow Flow Designer.

🔹 3. Data Requirements

ID	Data Requirement
DR1	Store user details (employee ID, name, email, phone, department).
DR2	Store network request details (type, description, location, device info).
DR3	Store approval data (approver, status, timestamp).
DR4	Store workflow execution logs and SLA tracking data.
DR5	Store analytics data for reporting (volume, resolution times, trends).

🔹 4. Technical Requirements

Area	Requirement
Platform	ServiceNow platform (PaaS) with Service Catalog & Flow Designer.
Database	Native ServiceNow database (CMDB, custom tables).
Hosting	ServiceNow cloud-hosted environment.
Integration	Optional integration with orchestration/network automation tools (e.g., Ansible, Cisco APIs).
Notifications	Email and ServiceNow in-app notifications.

🔹 5. Stakeholder Requirements

Stakeholder	Needs

Employees (End Users)	Easy way to submit and track network requests.
IT/Network Team	Efficient request handling, reduced manual workload.
Approvers/Managers	Automated, transparent approval workflows.
Admin/Management	Real-time visibility, SLA reports, and audit trails.

Step-3: Data Flow Diagram

Level 0 – Context Level DFD (Overview)

- Input: Employee raises a network request.
- Process: ServiceNow processes request via catalog, workflows, and approvals.
- Output: Request fulfilled, user notified, logs updated.

Level 1 – Detailed DFD

1. Employee submits request → stored in **Network Request Table**.
2. System triggers approval → assigned to **Approver**.
3. If approved → **Flow Designer** creates fulfillment tasks.
4. IT team executes tasks → updates status.
5. Notifications sent → requester updated.
6. Data logged into **Request History & SLA Reports**.

Step-4: Technology Stack Requirement Analysis

🔹 **1. Frontend (User Interface)**

Component	Technology	Purpose

Portal	ServiceNow Service Portal / Employee Center	For employees to raise and track requests.
UI Design	ServiceNow Form Designer, Catalog UI Policies	Build intuitive, dynamic forms.

🔹 2. Backend (Server-Side Logic)

Component	Technology	Purpose
Workflow	ServiceNow Flow Designer	Automate approvals, tasks, and notifications.
Business Rules	ServiceNow Scripting (JavaScript)	Apply conditional logic.
Approvals	Role-based Approval Engine	Automate approvals based on type/sensitivity.

🔹 3. Database (Data Storage)

Type	Technology	Purpose
Records	ServiceNow Tables (sc_req_item, task, custom tables)	Store request details and workflow logs.
CMDB	ServiceNow CMDB	Maintain reference to network assets.

🔹 4. APIs & Integrations

Type	Technology	Purpose
Notifications	ServiceNow Email & Notifications Framework	Send updates to users/technicians.
Orchestration	ServiceNow Orchestration / External APIs	Automate fulfillment with external tools.
Analytics	ServiceNow Performance Analytics	Generate dashboards and reports.

🔹 5. DevOps & Infrastructure

Tool	Purpose
ServiceNow Studio	Development and version control.
Update Sets	Track and migrate changes.
Cloud Hosting	ServiceNow's native cloud hosting.
Monitoring	ServiceNow System Logs & Performance Analytics.

🔹 6. Security Requirements

Security Layer	Technology
Authentication	SSO, MFA
Data Encryption	ServiceNow platform encryption (AES-256).
Role-Based Access	Admin, Approver, End User, IT Technician.
Audit Trails	ServiceNow built-in logging for compliance.

🔹 7. Optional AI Features (Future Scope)

Use Case	Technology
Predict request resolution times	ServiceNow Predictive Intelligence
Auto-routing requests to correct teams	ML-based routing in ServiceNow
Sentiment analysis on feedback	NLP Integration

Project Design Phase

Project Design Phase

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Step-1: Problem-Solution Fit

Problem Statement:
Manual handling of network service requests (new connections, relocations, device configurations, etc.) causes delays, inconsistent processes, lack of transparency, and heavy workload for IT teams. Employees often face uncertainty about their request status, while IT staff spend significant time on repetitive tasks.

✅ **Solution Hypothesis**
Create a ServiceNow-based automated request management system that:

- Provides a **self-service portal** for users to raise requests.
- Uses **dynamic forms** to capture request details accurately.
- Automates **approval workflows** based on type/sensitivity.
- Notifies users and IT staff with **real-time updates**.
- Optionally integrates with network automation tools for **direct fulfillment**.
- Offers **dashboards and reports** for SLA tracking and decision-making.

🛠️ **Key Features of the Solution**

Feature	How it Solves the Problem
Service Catalog with Dynamic Forms	Simplifies request submission and captures accurate details.
Auto-Populated User Details	Reduces errors and speeds up form filling.
Automated Approval Workflows	Removes delays by routing to correct approvers instantly.
Flow Designer Automations	Automates task creation, notifications, and updates.
Real-Time Notifications	Keeps users informed of progress at every stage.
SLA Tracking & Dashboards	Provides visibility into performance and compliance.
Integration with Network Tools (optional)	Automates fulfillment of standard requests without manual intervention.
Reporting & Analytics	Helps management identify trends, bottlenecks, and improvement areas.

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🏗️ Solution Components

Component	Description
Self-Service Portal (Service Catalog)	Allows employees to raise network-related requests.
Dynamic Request Form	Captures request details (device type, location, reason, etc.).
Approval Workflow	Routes requests to managers/IT heads based on rules.
Flow Designer Automation	Automates creation of tasks, sending of notifications, and approvals.
Custom Tables	Stores network request data, approvals, and fulfillment logs.
Notifications System	Sends emails/alerts to users and technicians in real-time.
SLA & Analytics Dashboard	Tracks resolution times, SLA breaches, and request trends.
Integration Module (Optional)	Connects to orchestration tools for automatic execution of standard tasks.

Step-3: Solution Architecture

System Overview:
The solution is built natively on the **ServiceNow platform**, ensuring scalability, performance, data security, and real-time automation. It integrates Service Catalog, Flow Designer, and approval workflows into a centralized request management system.

🔁 High-Level Architecture Diagram (Conceptual)

1. **User (Employee)** → submits request via ServiceNow Service Catalog.
2. **Service Catalog** → captures input using dynamic forms.
3. **Approval Workflow** → routed automatically to manager/IT head.
4. **Flow Designer** → creates tasks, sends notifications, and updates status.

5. **Network Team** → works on fulfillment tasks.
6. **Notifications** → keep users informed (email, portal).
7. **Analytics Dashboard** → provides SLA and performance insights.
8. **Integration (optional)** → external automation/orchestration tools.

🧱 Key Components

Component	Description
Frontend (Portal/UI)	ServiceNow Service Portal for request submission and tracking.
Workflow Engine	Flow Designer for automating approvals, tasks, and notifications.
Authentication	ServiceNow authentication with SSO/MFA.
Approval Engine	Role-based approval workflows configured in ServiceNow.
Notifications	In-app, email, and system-generated alerts.
SLA Dashboard	ServiceNow Performance Analytics for monitoring SLA and KPIs.
Database	ServiceNow custom tables and CMDB for request and asset records.
Integration Layer	ServiceNow Orchestration/REST APIs for external tool integration.

🔄 Integration Points

External System	Purpose
Email Gateway	Send real-time notifications.
Collaboration Tools (e.g., MS Teams/Slack)	Notify employees/IT teams of request updates.
Orchestration/Automation Tools (e.g., Ansible, Cisco APIs)	Automate fulfillment of network changes.
CMDB	Reference network devices and dependencies.

✅ **Final Note:**
The **Automated Network Request Management System in ServiceNow** is designed to **eliminate manual inefficiencies**, provide **transparency to end-users**, and **empower IT teams** with automation and analytics to improve overall service delivery.

Project Planning Phase

Project Planning Phase

Date

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🟩 1. Project Title

Automated Network Request Management in ServiceNow

🟩 2. Project Objectives

- Automate the intake, approval, and fulfillment of network service requests.
- Provide a self-service portal for employees to submit and track requests.
- Reduce IT workload by automating repetitive and standard tasks.
- Improve SLA compliance, transparency, and user satisfaction.

🟩 3. Project Scope

In Scope:

- ServiceNow Service Catalog with dynamic forms.
- Automated approval workflows via Flow Designer.
- Real-time notifications (email/portal).
- SLA tracking and reporting dashboards.

- Optional integration with orchestration tools for fulfillment.

Out of Scope:

- Hardware procurement or physical network setup.
- External financial/budget management systems.
- Non-IT service workflows (handled separately).

🟩 4. Project Timeline

Phase	Duration	Dates
Planning	2 days	June 12 – June 13
Design (Forms & Workflow)	3 days	June 14 – June 16
Development (Catalog + Flow Designer)	8 days	June 17 – June 24
Testing & QA	3 days	June 25 – June 27
Deployment & Feedback Loop	3 days	June 28 – June 30

🟩 5. Key Milestones

Milestone	Target Date
Finalize project requirements	June 13
Catalog & form design approval	June 16
MVP functional version ready (Catalog + Workflow)	June 24
Workflow testing completed	June 27
Go-live in ServiceNow instance	June 30

🟩 6. Team Roles & Responsibilities

Role	Responsibility
Project Manager	Oversee planning, execution, and timelines
ServiceNow Developer	Configure Service Catalog, workflows, and automation
Workflow/Automation Specialist	Design and optimize Flow Designer workflows
QA Engineer	Test catalog items, workflows, and notifications
IT/Network Administrator	Validate network request logic and fulfillment accuracy

🟩 7. Budget & Resources (Optional)

Resource	Estimated Cost / Availability
ServiceNow Instance (PDI/Enterprise License)	Provided
Developer Time	100 hours
Training & Documentation	₹5,000
Reporting/Analytics Tools	Included in ServiceNow

🟩 8. Risk Management

Risk	Mitigation Strategy
Workflow errors or misrouting	Thorough testing in development before go-live
Delays in approval processing	Escalation rules and reminders via Flow Designer
User adoption challenges	Conduct training sessions and provide user guides
SLA breaches due to configuration issues	Regular monitoring and dashboard alerts

🟩 9. Communication Plan

Stakeholder	Communication Method	Frequency
Team Members	WhatsApp / Email	Daily
IT/Network Team	ServiceNow Notifications / Email	Real-time
Approvers (Managers)	Email / ServiceNow Alerts	As required
Project Sponsor/Admin	Weekly Reports & Meetings	Weekly
End Users (Employees)	Portal & Email Notifications	Real-time

✅ This planning document sets the foundation for **structured execution** of the ServiceNow-based automation project with clear milestones, responsibilities, and communication channels.

Project Development Phase

Project Development Phase

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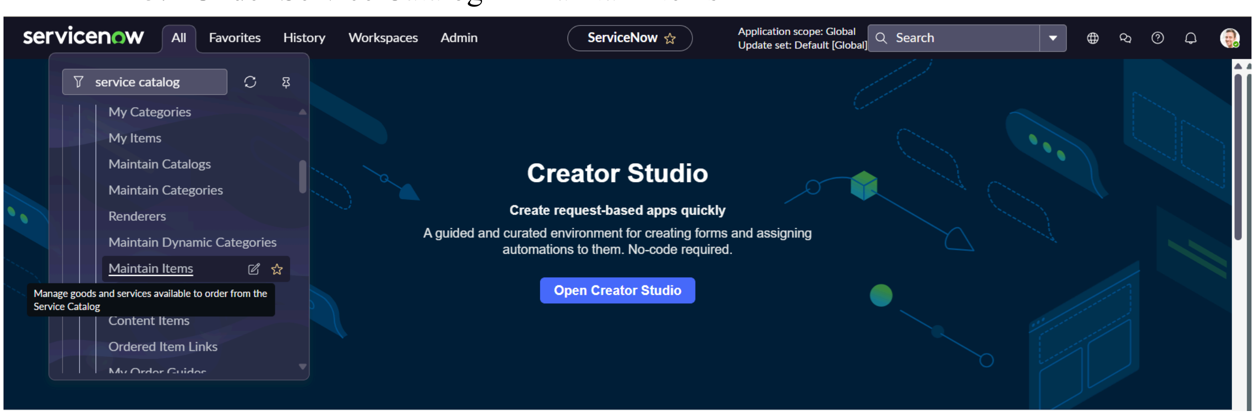
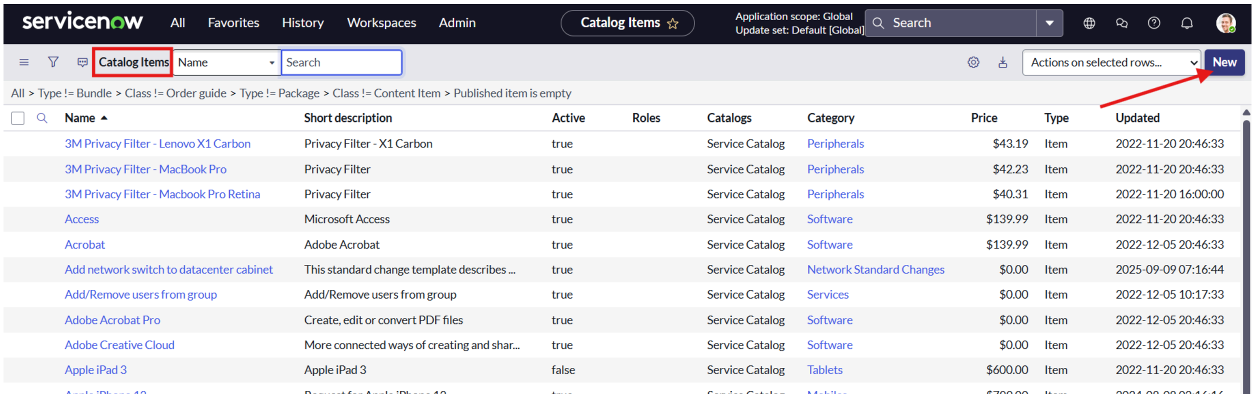
Setting up ServiceNow Instance

1. Sign up for a developer account on the ServiceNow Developer site "https://developer.servicenow.com".
2. Once logged in, navigate to the "Personal Developer Instance" section.
3. Click on "Request Instance" to create a new ServiceNow instance.
4. Fill out the required information and submit the request.
5. You'll receive an email with the instance details once it's ready.
6. Log in to your ServiceNow instance using the provided credentials.
7. Now you will navigate to the ServiceNow.

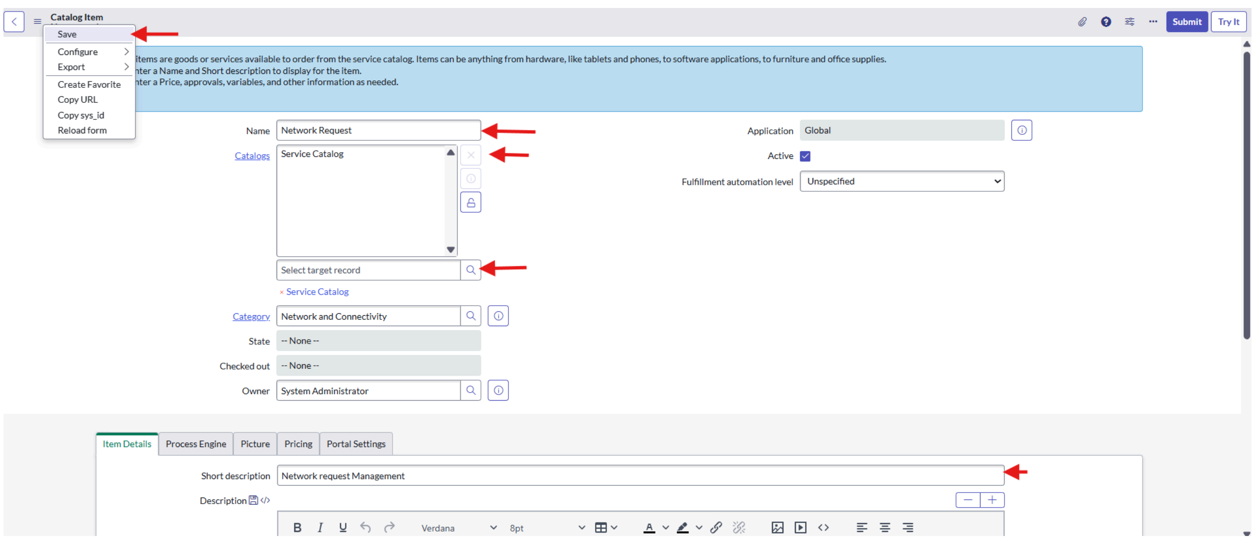
Service Catalog Creation

1. # Creation of Service Catalog
    1. Navigate to Application navigator
    2. Click on All >> search for Service Catalog
    3. Under Service Catalog>> Maintain items





4. Click on New
5. Fill the details >> Name– Network Request
6. Select Catalog>> Service Catalog
7. Select Category>> Network(I category is not there create new category with name Network and Connectivity dont forgot to select catalog as service catalog)
8. Fill the Short Description as Network request Management



9. Click on Save.

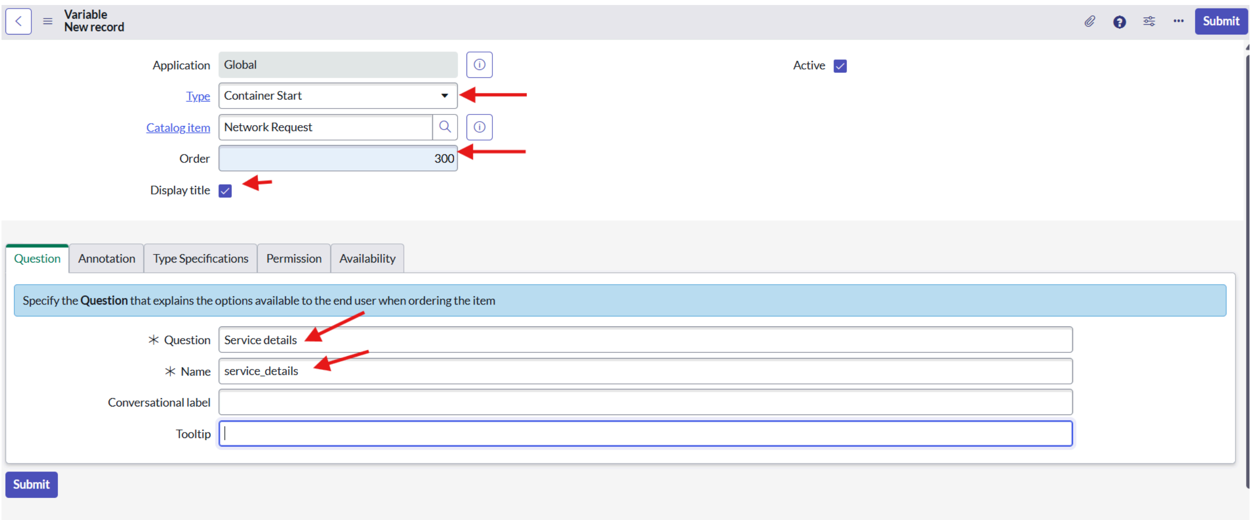
Variables Configuration

Open the catalog item just created.

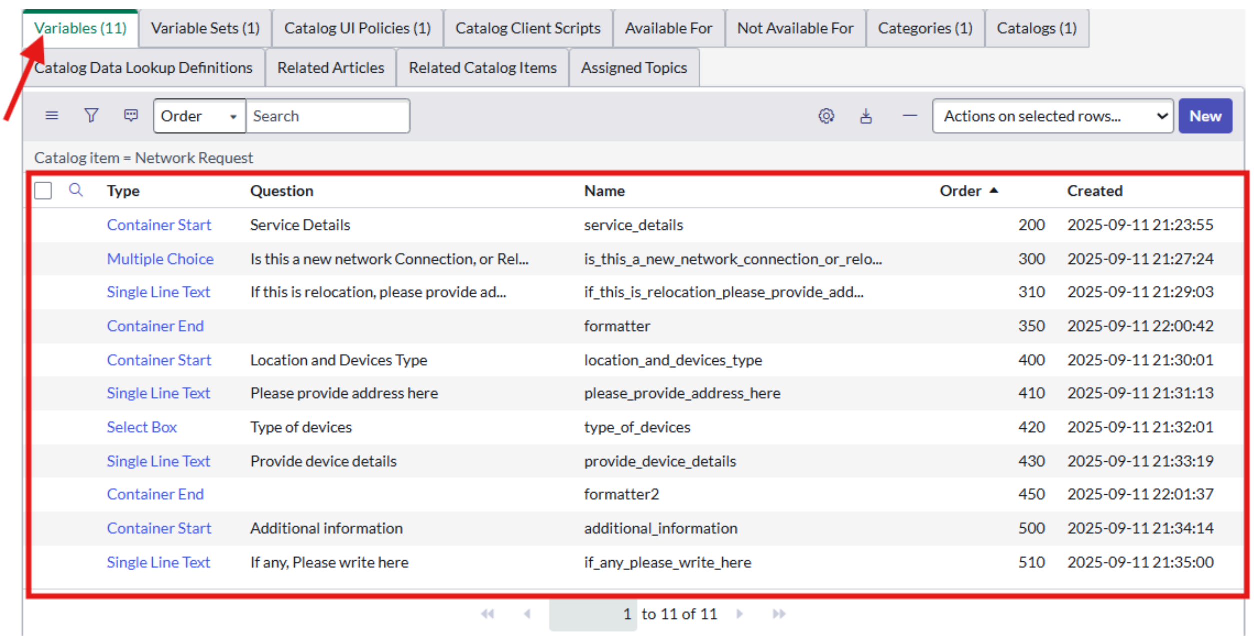
Scroll down to the **Variables** related list and click **New** to create form fields.

1. Select Variables type as Single, Multi line text, reference, choices etc as per requirement
2. Catalog item– Network Request
3. Order–100,200,300,,,,
4. Question– provide the variable label

5. Name–provide the variables name(used for scripting)
6. Tooltip– this will appear when cursor overed on the field
7. Example text – this will suggest what we need to enter on the field.
8. Mandatory, Read-Only– need to configure on demand
9. Auto populate– need to select dependent variable, apply dot walking to get selected



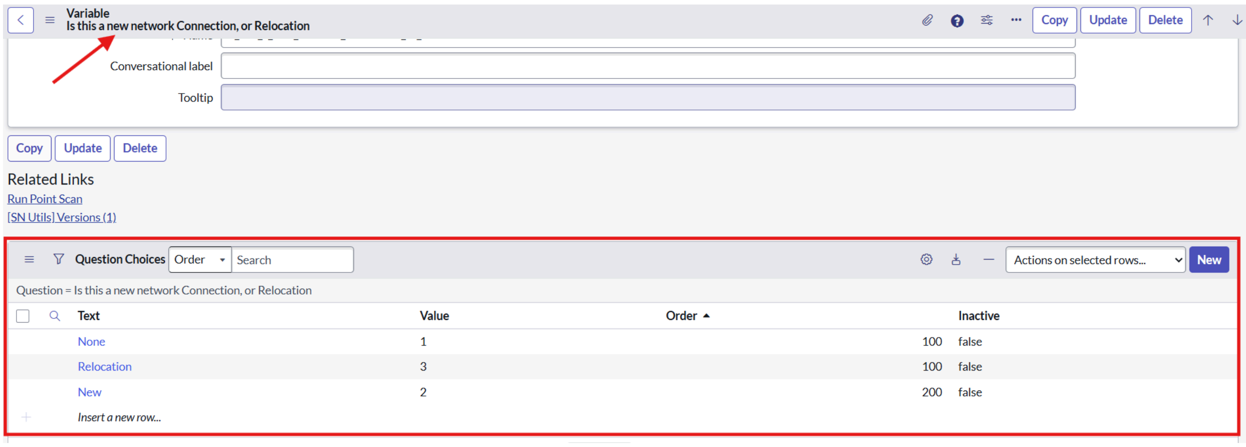
10. value.
11. Click on Save or Submit.



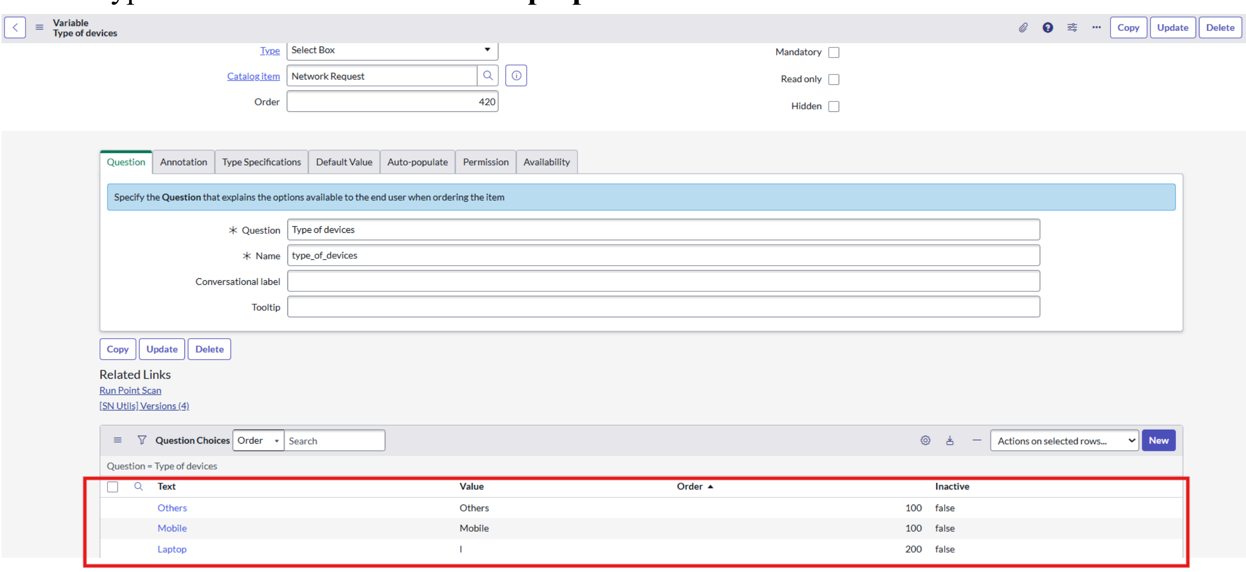
Type	Question	Name	Order	Created
Container Start	Service Details	service_details	200	2025-09-11 21:23:55
Multiple Choice	Is this a new network Connection, or Rel...	is_this_a_new_network_connection_or_relo...	300	2025-09-11 21:27:24
Single Line Text	If this is relocation, please provide ad...	if_this_is_relocation_please_provide_add...	310	2025-09-11 21:29:03
Container End		formatter	350	2025-09-11 22:00:42
Container Start	Location and Devices Type	location_and_devices_type	400	2025-09-11 21:30:01
Single Line Text	Please provide address here	please_provide_address_here	410	2025-09-11 21:31:13
Select Box	Type of devices	type_of_devices	420	2025-09-11 21:32:01
Single Line Text	Provide device details	provide_device_details	430	2025-09-11 21:33:19
Container End		formatter2	450	2025-09-11 22:01:37
Container Start	Additional information	additional_information	500	2025-09-11 21:34:14
Single Line Text	If any, Please write here	if_any_please_write_here	510	2025-09-11 21:35:00

Variables Types

1. Is this a New connection or Relocation? >> **Choice** >> **New/ Relocation/None**



2. If this is a relocation, Please provide your relocated address here>>**String**
3. Types of devices>> **Choice**>> **Laptop/Mobiles/Others**



4. Please provide address here>>**String**
5. Provide device details here>> **String**
6. If anything else, please specify>> **String**

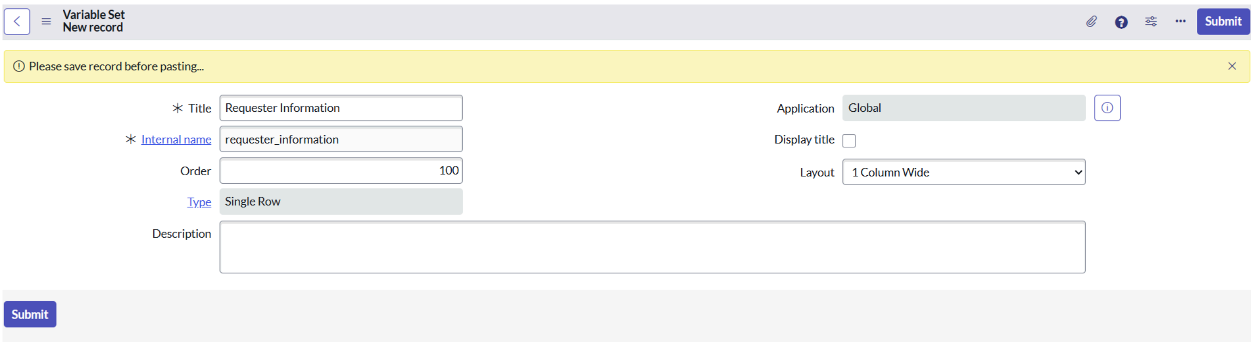
Variable Set Configuration

- To enhance form usability:

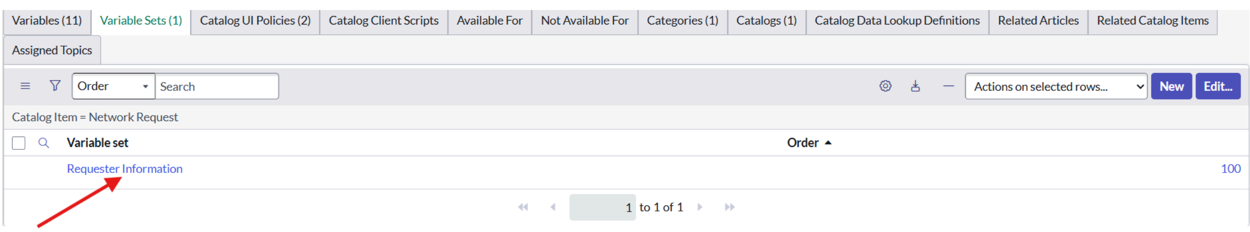
- Navigate to the **Variable Sets** (optional).
- Follow the same procedure as we used for Variables Creation, for the variable set as well.
- Apply variable sets to the catalog item.

Variable set Creation

1. Under variable set click on new

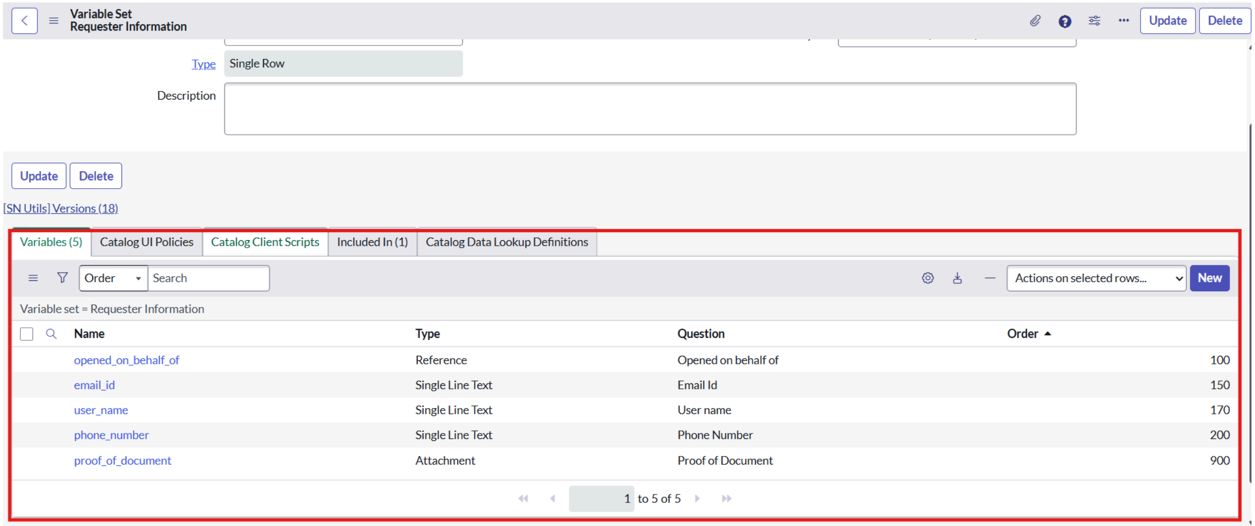


2. Enter Title >> Requester Information
3. Click on submit.



Variables Types

1. Opened on behalf of >> Reference>> reference to user table
2. Email Id >> Single line text >> Auto populate by Opened on behalf of variable.
3. User name >>Single line text >> Auto populate by Opened on behalf of variable.
4. Phone Number >>Single line text >> Auto populate by Opened on behalf of variable.
5. Proof of Document >> Attachment

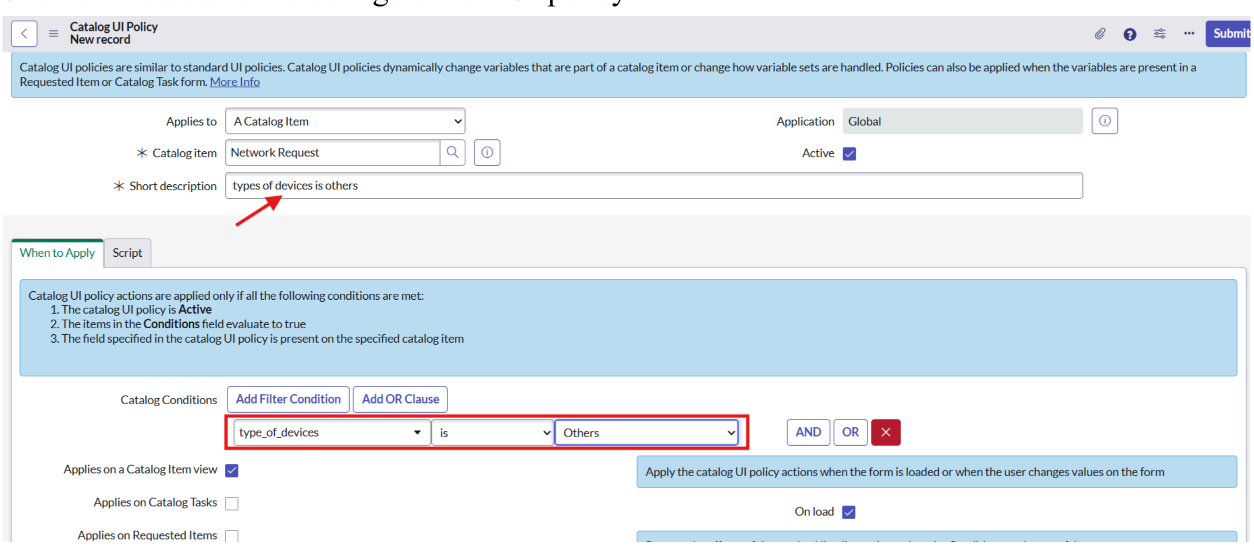


Catalog UI Policy Configuration

Scenario: If user selects types of devices is **Others,** then Please specify field should populate.

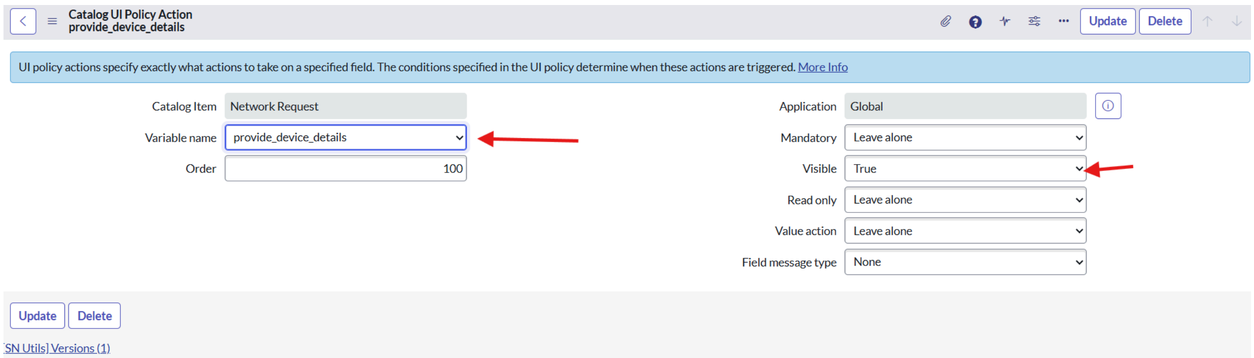
Procedure:

1. Navigate to catalog items
2. Open Network Request item
3. In related list, we have Catalog UI policy
4. Click on New button to configure New UI policy

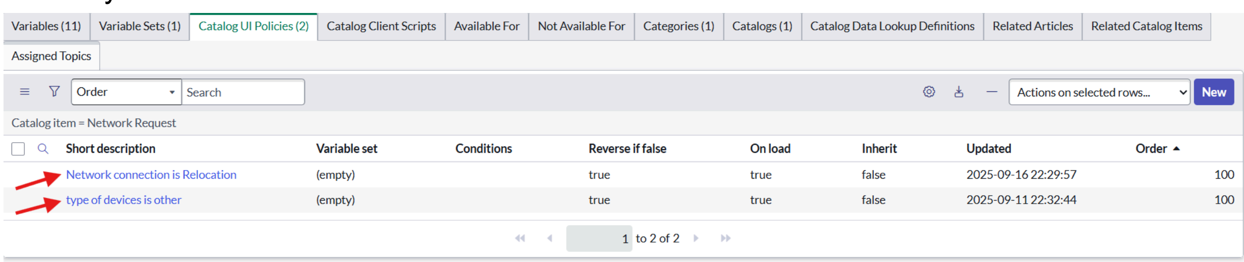


5.
6. Select Applies to as Catalog item
7. Select catalog item as Network Request

8. Provide short description, if required
9. Apply condition>> **types of devices** is **others**
10. Click on save, after saving the form will get UI policy actions in the related list
11. Click on New button to configure new UI Policy action, and Select the variable which we want to display on condition
12. Make Visible True as per our requirement
13. Update the UI Policy and Test the same on Catalog form.

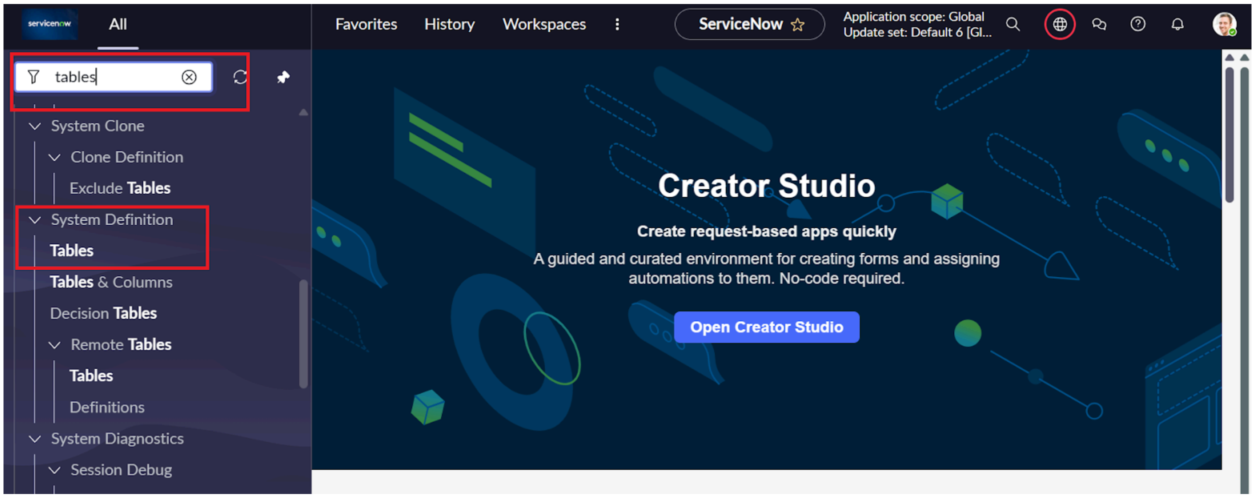


Similarity do it for Network Connection is relocation

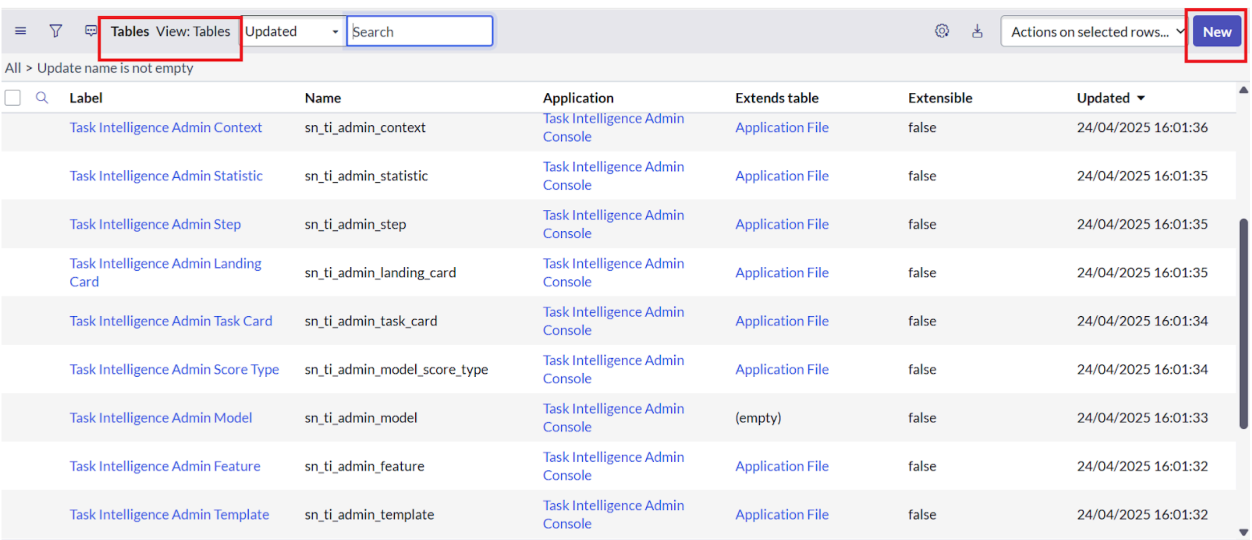


Creation of Table

· **Navigate to**: System Definition > **Tables**.



· Click **New** to create a new table.

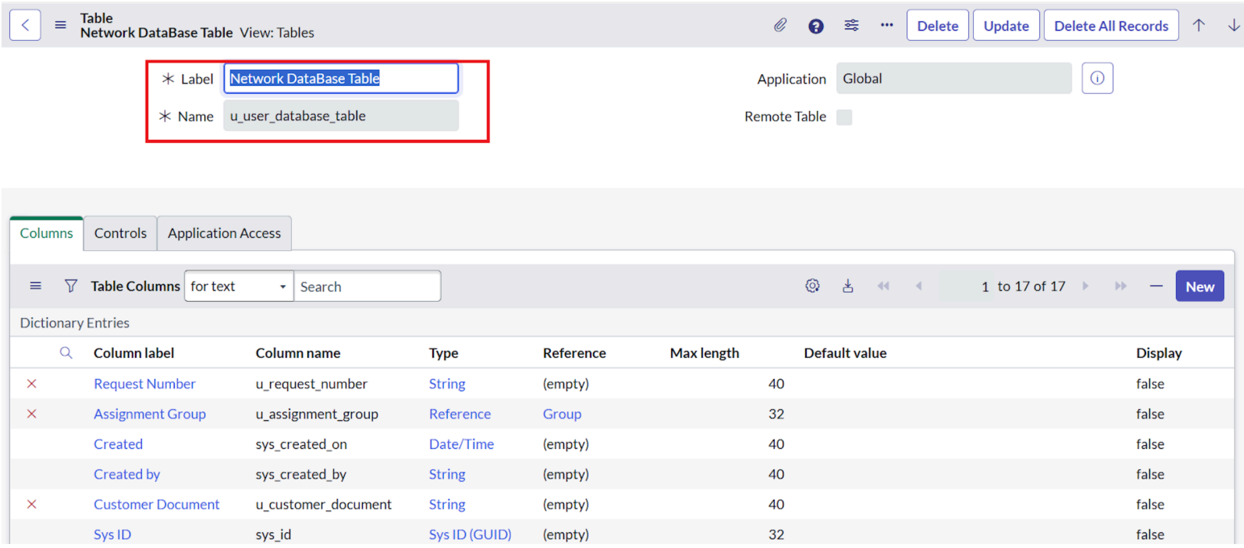


Label	Name	Application	Extends table	Extensible	Updated
Task Intelligence Admin Context	sn_ti_admin_context	Task Intelligence Admin Console	Application File	false	24/04/2025 16:01:36
Task Intelligence Admin Statistic	sn_ti_admin_statistic	Task Intelligence Admin Console	Application File	false	24/04/2025 16:01:35
Task Intelligence Admin Step	sn_ti_admin_step	Task Intelligence Admin Console	Application File	false	24/04/2025 16:01:35
Task Intelligence Admin Landing Card	sn_ti_admin_landing_card	Task Intelligence Admin Console	Application File	false	24/04/2025 16:01:35
Task Intelligence Admin Task Card	sn_ti_admin_task_card	Task Intelligence Admin Console	Application File	false	24/04/2025 16:01:34
Task Intelligence Admin Score Type	sn_ti_admin_model_score_type	Task Intelligence Admin Console	Application File	false	24/04/2025 16:01:34
Task Intelligence Admin Model	sn_ti_admin_model	Task Intelligence Admin Console	(empty)	false	24/04/2025 16:01:33
Task Intelligence Admin Feature	sn_ti_admin_feature	Task Intelligence Admin Console	Application File	false	24/04/2025 16:01:32
Task Intelligence Admin Template	sn_ti_admin_template	Task Intelligence Admin Console	Application File	false	24/04/2025 16:01:32

· Fill **in Table Information**:

- **Name**: Name of the table ------
- **Label**: Backend name of the table------
- **Auto-generate schema**: Leave it checked if you'd like ServiceNow to auto-generate schema fields.

· Click **Submit** to create the table.



Creation of fields

In ServiceNow, fields are created at the **table** level. To create a field, you first need to identify the table where the field will reside.

1. In the **Application Navigator** (left-side panel), type **Tables** in the search bar.

2. Under **System Definition**, click **Tables**. This will take you to a list of all tables in the system.

Select the Table to Add the Field

- From the list of tables, search for and select the **table** you want to add a field to. For example, if you want to add a field to the **Network database** table:

  1. Type "**Network database**" in the search box or scroll through the list.

  2. Click on the **Network database** table name. You'll now see a list of all fields (columns) associated with the **Network database** table.

Open the Table's Columns

- After selecting the table, you'll be brought to a view that lists all the columns (fields) that currently exist on that table.

- To create a new field (column), go to the **Columns** tab (this is where all fields for the selected table are listed).

Create a New Field

1. In the **Columns** tab, click the **New** button located at the top-right corner of the page to create a new field.
2. You'll now be prompted with a form where you need to define the new field. The following fields need to be filled out:

Table Columns | for text | Search | 1 to 16 of 16 | New

Dictionary Entries

	Column label	Column name	Type	Reference	Max length	Default value	Display
×	Request Number	u_rquest_number	String	(empty)	40		false
	Updated by	sys_updated_by	String	(empty)	40		false
	Updates	sys_mod_count	Integer	(empty)	40		false
×	Work Status	u_work_status	String	(empty)	40		false
	Updated	sys_updated_on	Date/Time	(empty)	40		false
×	Device Details	u_device_details	String	(empty)	40		false
×	Date of Enquiry	u_date_of_enquiry	Date	(empty)	40		false
×	Database Number	u_number	String	(empty)	40	javascript:global.getNextObjNumberPadded();	false
×	Requested For	u_requested_for	String	(empty)	40		false
	Created by	sys_created_by	String	(empty)	40		false
×	Customer Address	u_customer_address	String	(empty)	40		false
×	Assigned to	u_assigned_to	Reference	User	32		false
×	Assignment Group	u_assignment_group	Reference	Group	32		false
	Created	sys_created_on	Date/Time	(empty)	40		false
×	Customer Document	u_customer_document	String	(empty)	40		false
	Sys ID	sys_id	Sys ID (GUID)	(empty)	32		false

Define Field Properties

Fill in the following details for your new field:

1. Column Label (Field Label)

- **Description**: This is the name that will be displayed on the forms, lists, and records.
- **Example**: Customer Name

2. Column Name

- **Description**: This is the internal name of the field and is auto-generated based on the column label. It should be unique for each field. Do not manually edit this unless necessary.
- **Example**: customer_name
- **Description**: The type of field determines the kind of data it will store. You need to choose the correct type based on the data you want to store (e.g., text, number, date, etc.). Some of the most common types include:
    - **String**: For short text values (e.g., name, description).
    - **Integer**: For numbers without decimals (e.g., age, number of items).
    - **Choice**: A dropdown list of options.
    - **Reference**: A field that links to another table (e.g., linking to a User table).
    - **Boolean**: A true/false checkbox.
    - **Date**: For a date picker field.
    - **Date/Time**: For both date and time.
- **Example**: String, Choice, Reference

3. Max Length (Optional)

- **Description**: If you are creating a string-type field, you can specify the maximum length of the text allowed.
- **Example**: 255 characters (default length for a string field).

4. Mandatory

- **Description**: Check this box if the field should be required when creating or updating records.
- **Example**: For a "Customer Name" field, this might be required.

5. Default Value (Optional)

- **Description**: You can set a default value for the field if desired. This value will appear automatically when creating a new record.
- **Example**: Set the default value to "New Customer" for a "Customer Name" field.

6. Read-Only

- **Description**: Check this box if the field should be read-only (users cannot modify its value). This is commonly used for calculated or system-generated fields.
- **Example**: "Created Date" or "Record Number".

7: Save the Field

- Once you've configured all the necessary field properties, click **Submit** or **Save** to create the field.
- After saving, ServiceNow will create the new field and add it to the list of columns for the selected table.

Request Approvals Creation(Related List)

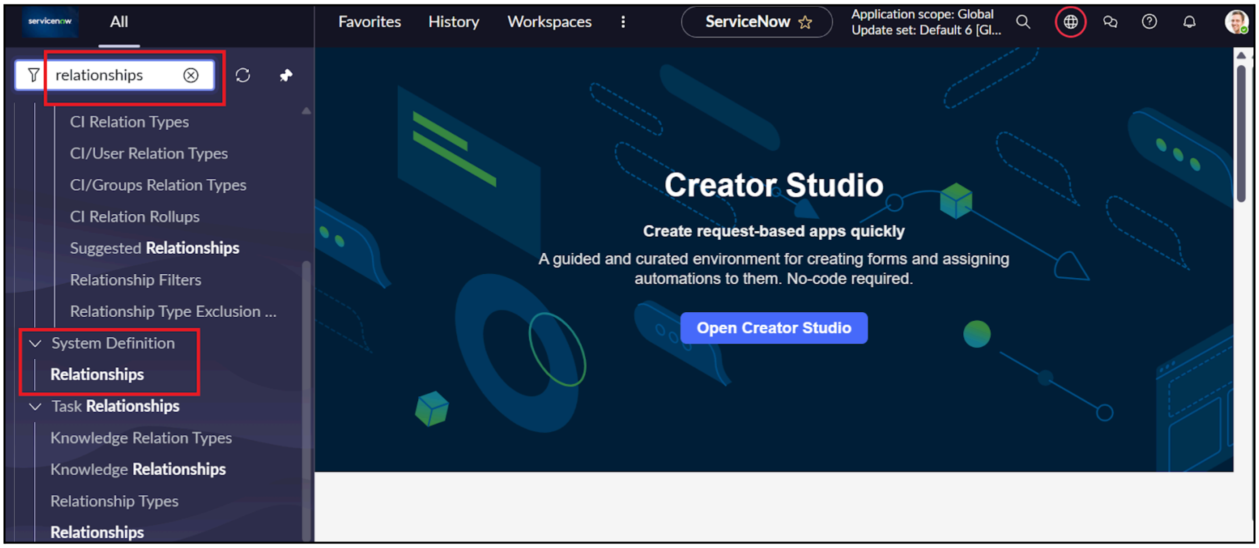
Creation of Related List

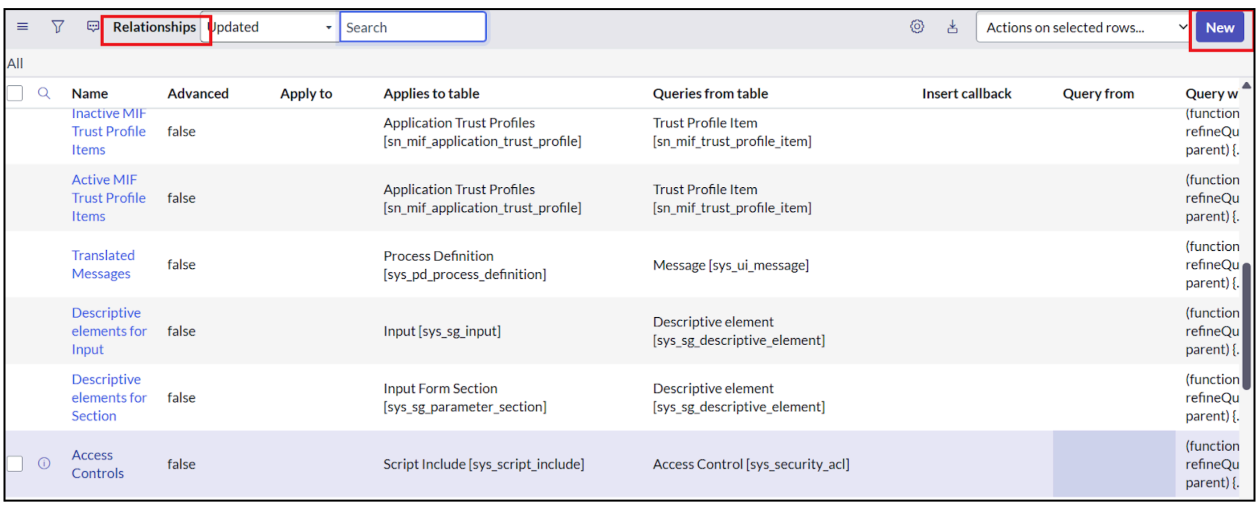
Navigate to **System Definition > Relationships**.

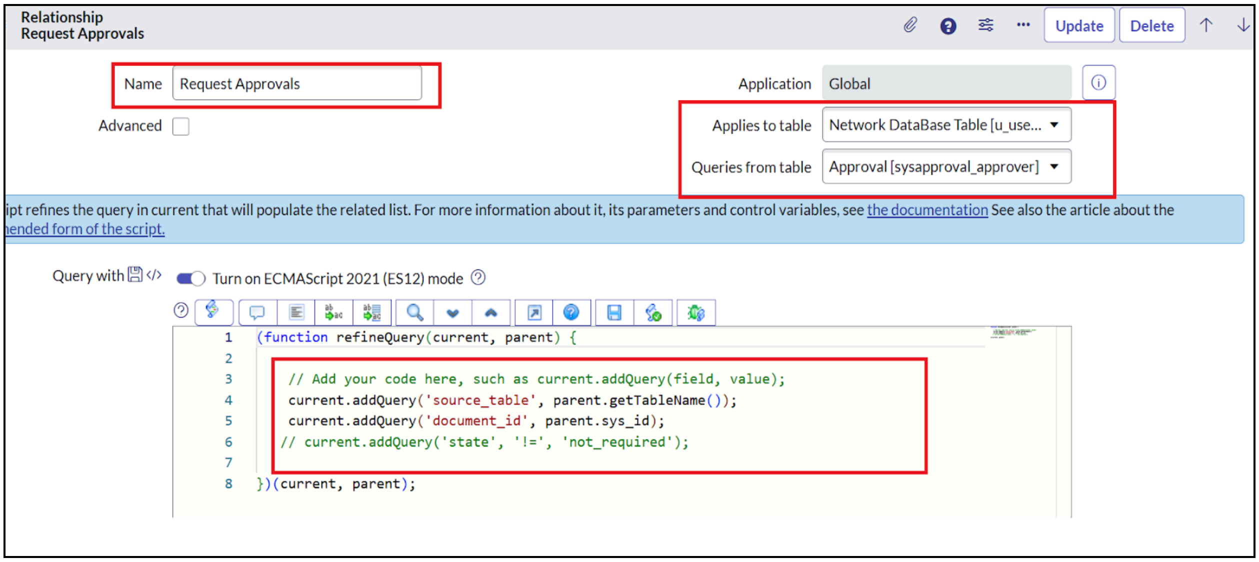
- Click **New** to create a new relationship.
- Fill in the following details:
  - **Name**: Approval Request
  - **Applies to Table** : Network Database table.
  - **Queries from Table** : Sysapprovals table.

- o **Active**: Make sure it's set to **True**.

· Save the relationship.



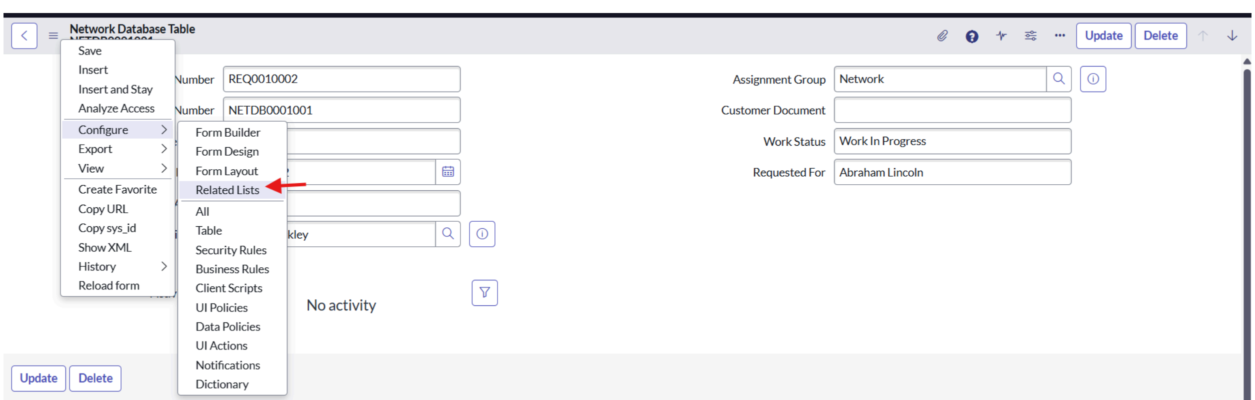


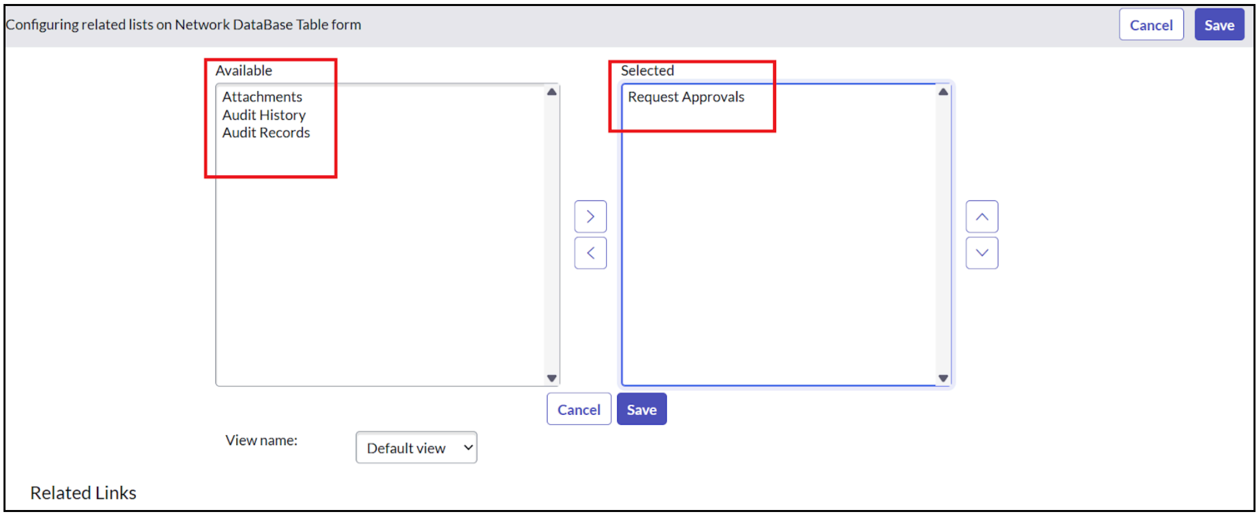


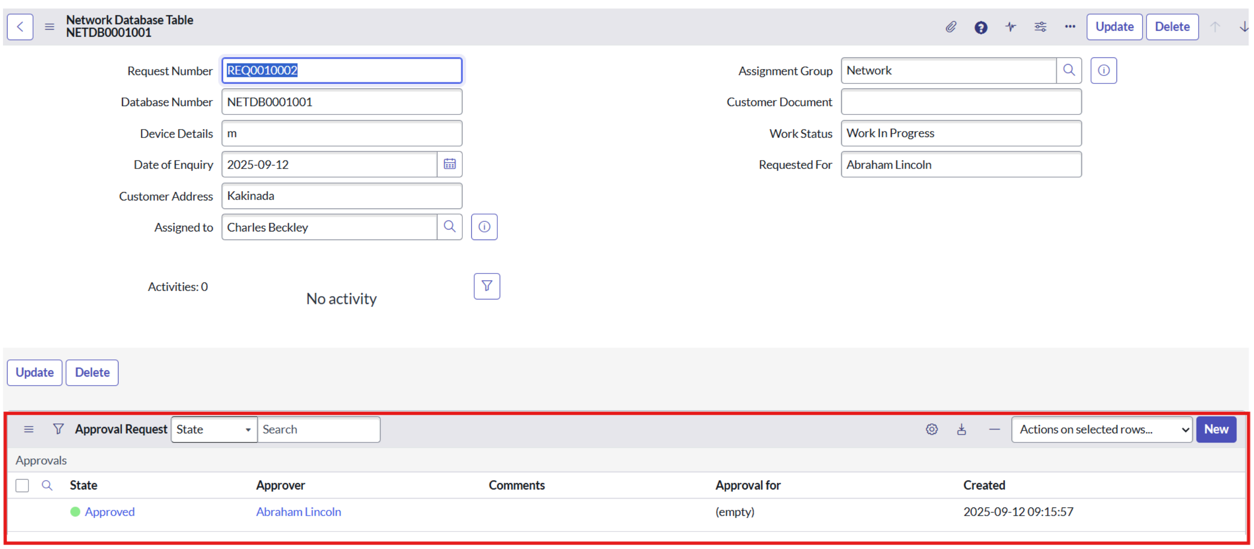
Adding Related List to the Table

You can create a **Related List** on a form to display the related records. This helps in easily viewing the relationships between records.

- Navigate to **Form Designer** for the table where you want to show related records.
- Add a **Related List** widget to the form.
- Select the **Related List** you want to show





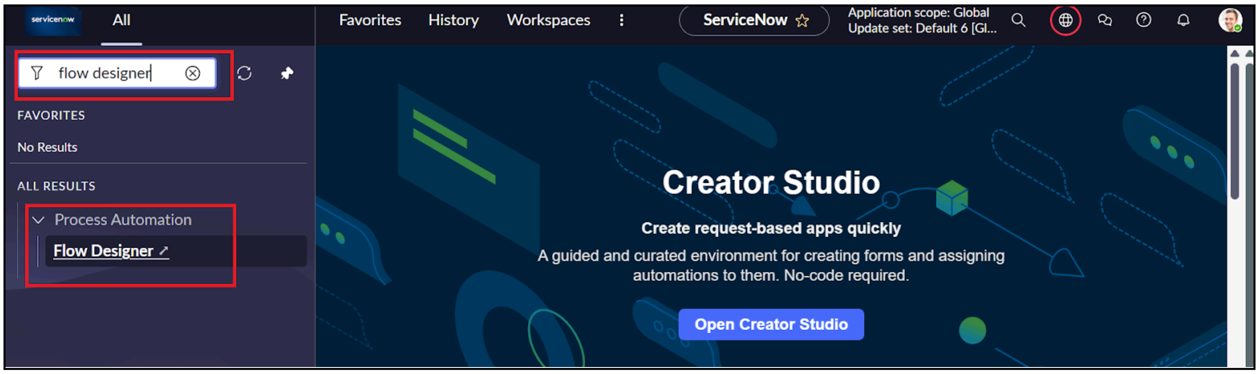


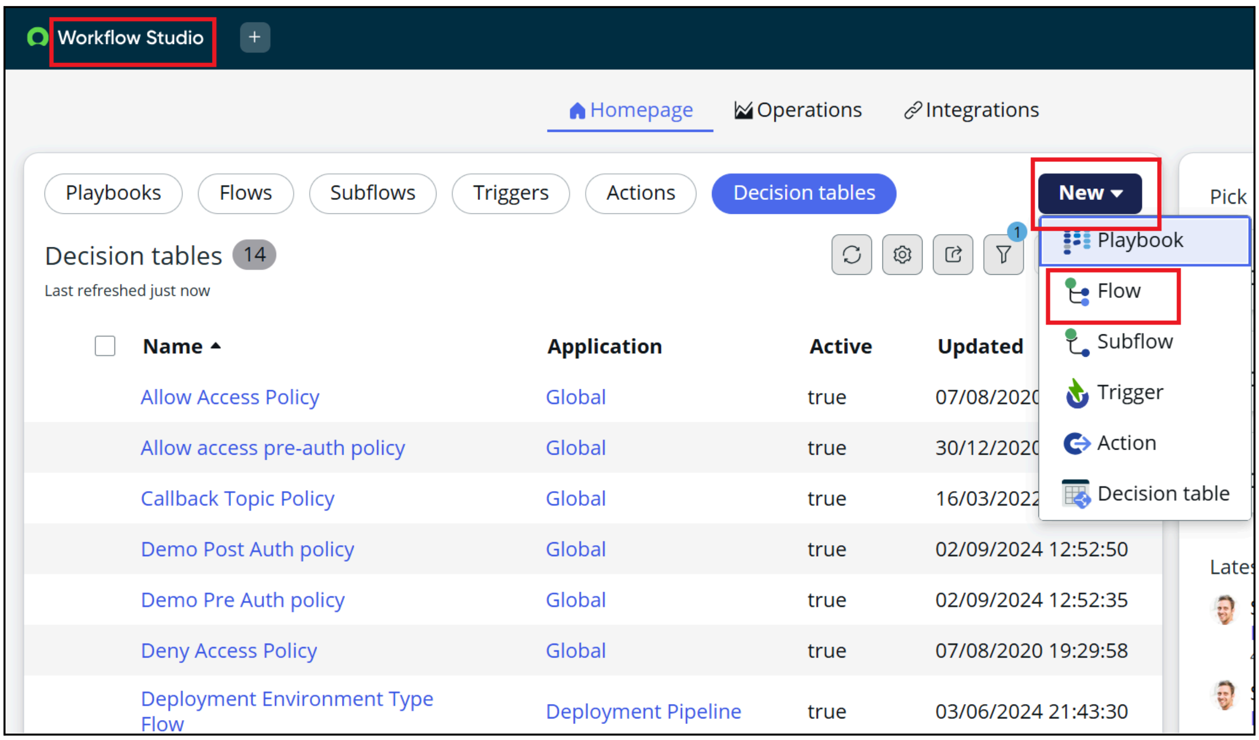
Creation & Implementation of flows, Actions in Flow Designer

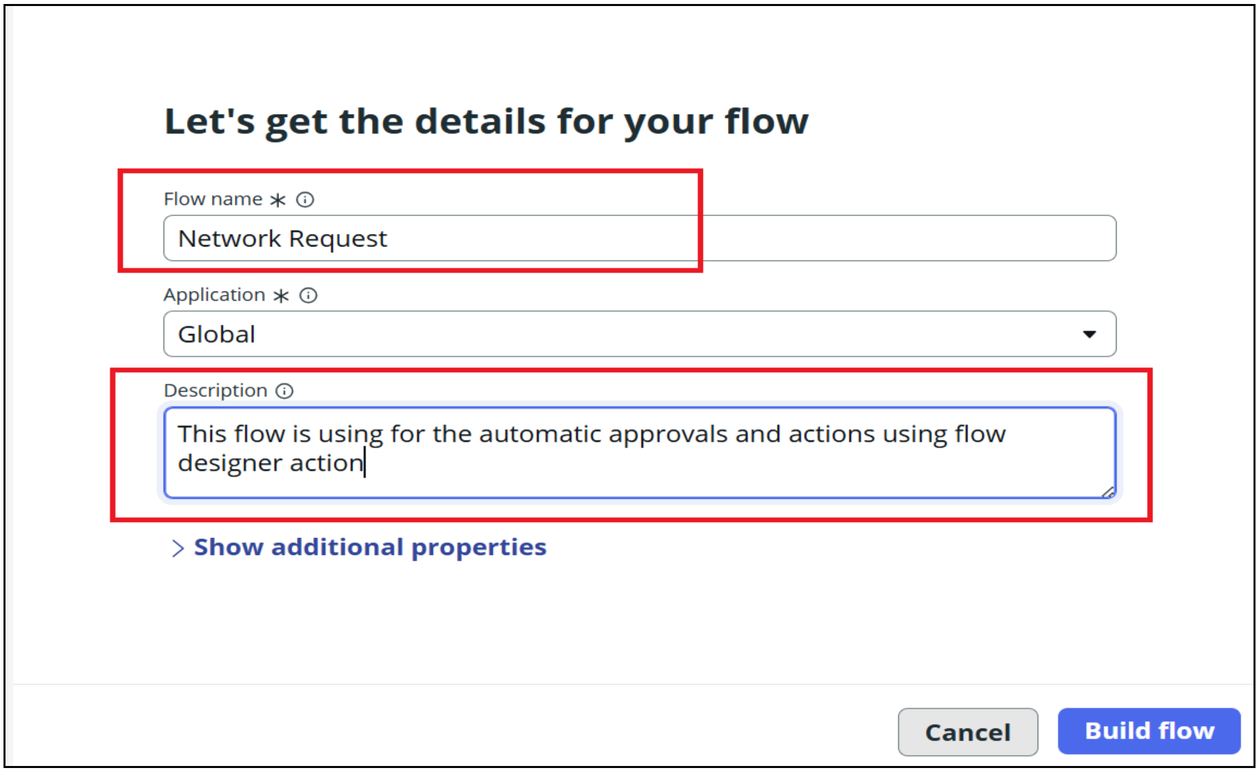
Creation of Flow

1. Navigate to Flow designer home page

2. Click on New to create a new flow
3. Provide flow name as **Network Request**
4. Provide description of flow
5. Click on Build flow.

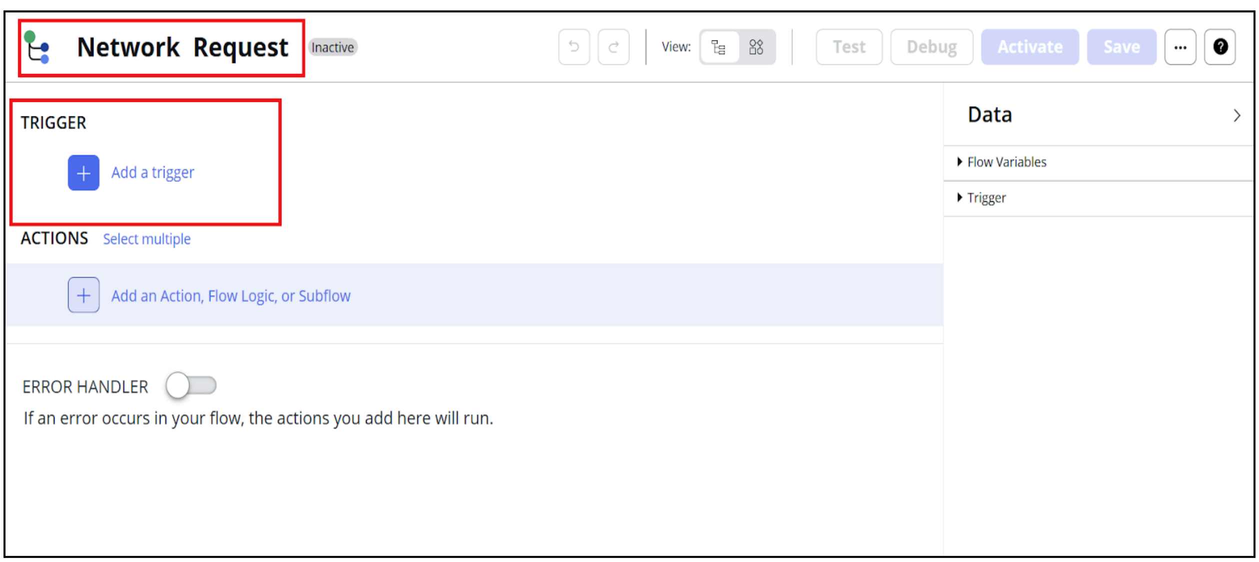






Configuring Trigger

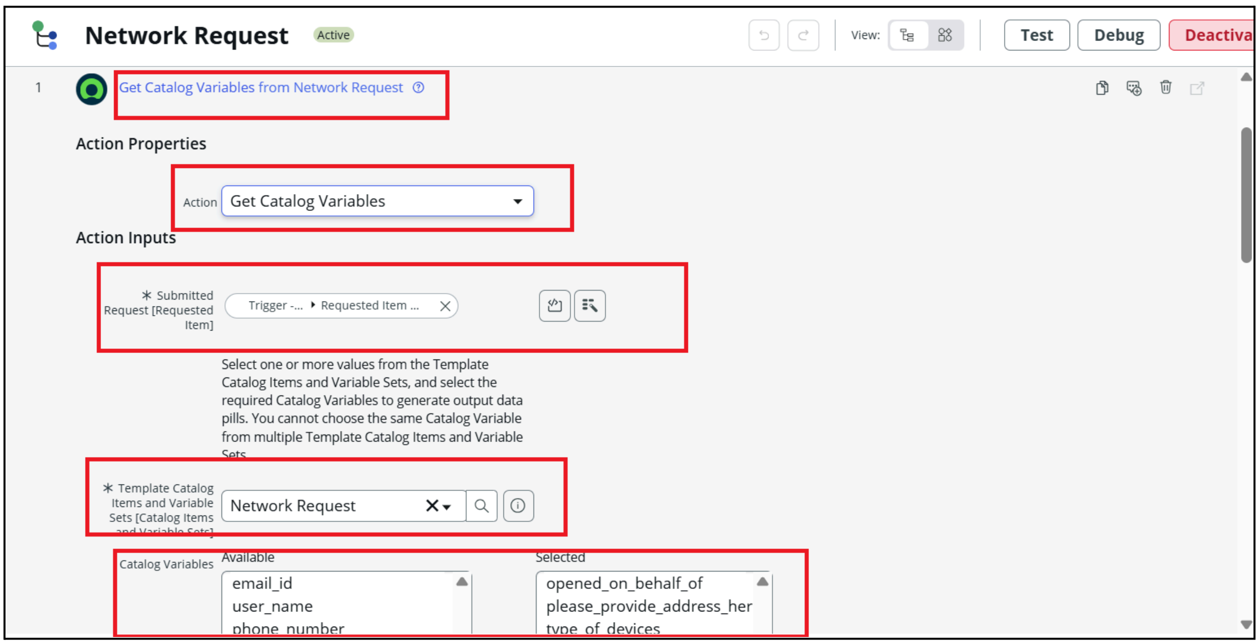
1. Click on (+) Icon to Configure the Trigger
2. Select Trigger as Application >> Service catalog
3. Click on **Done.**



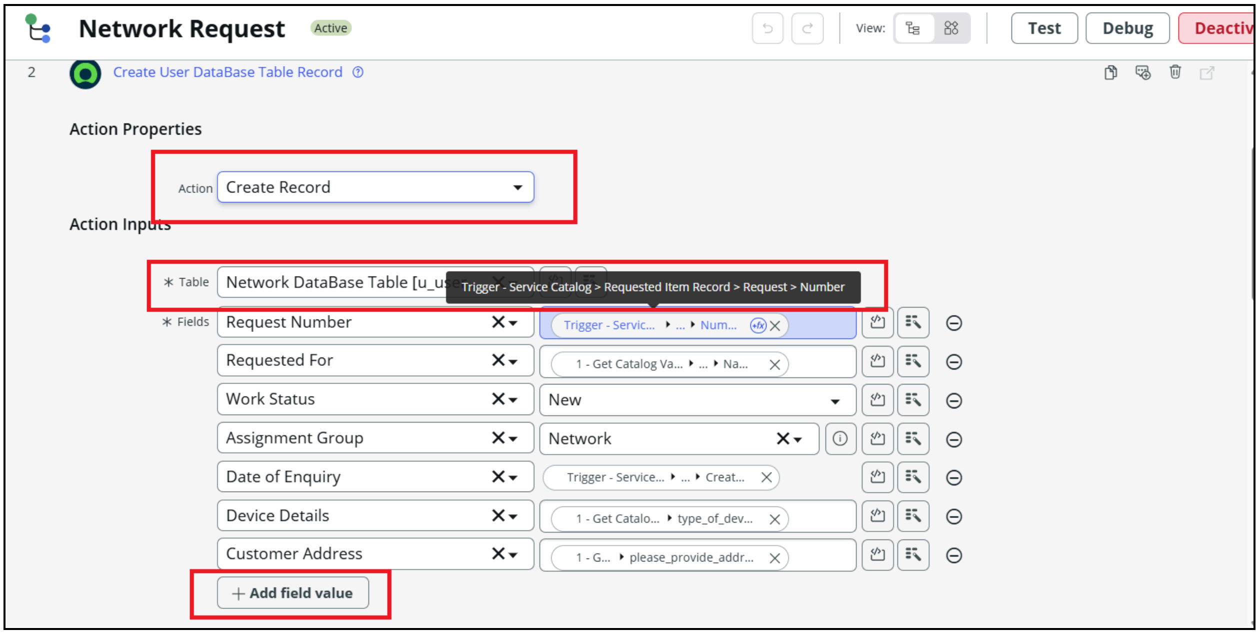
Configuring Actions

Click on Actions button to configure new action

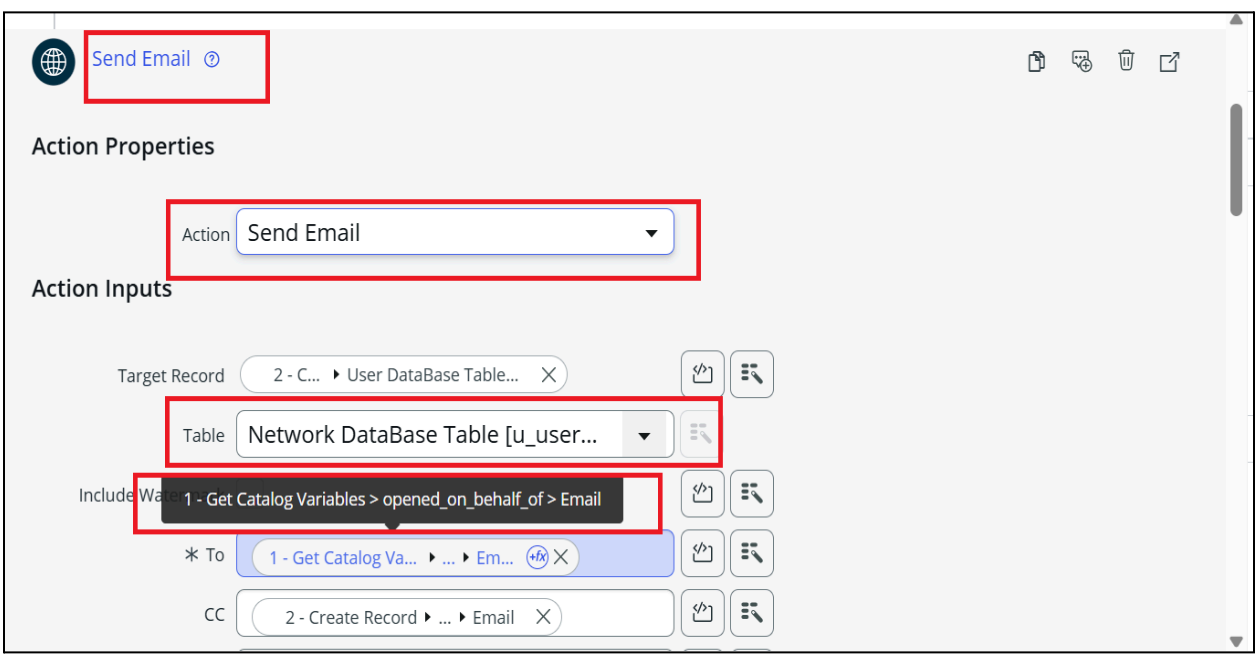
1. **Get Catalog Variables**
   - Click on Action, search for Get Catalog Variables
   - Select Get Catalog Variables
   - Action Inputs>> Trigger>>service catalog>>Requested Item
   - Template catalog items >> Select table >> Network Request
   - Select the Required Variables and Move to the selected area.
   - Click on done

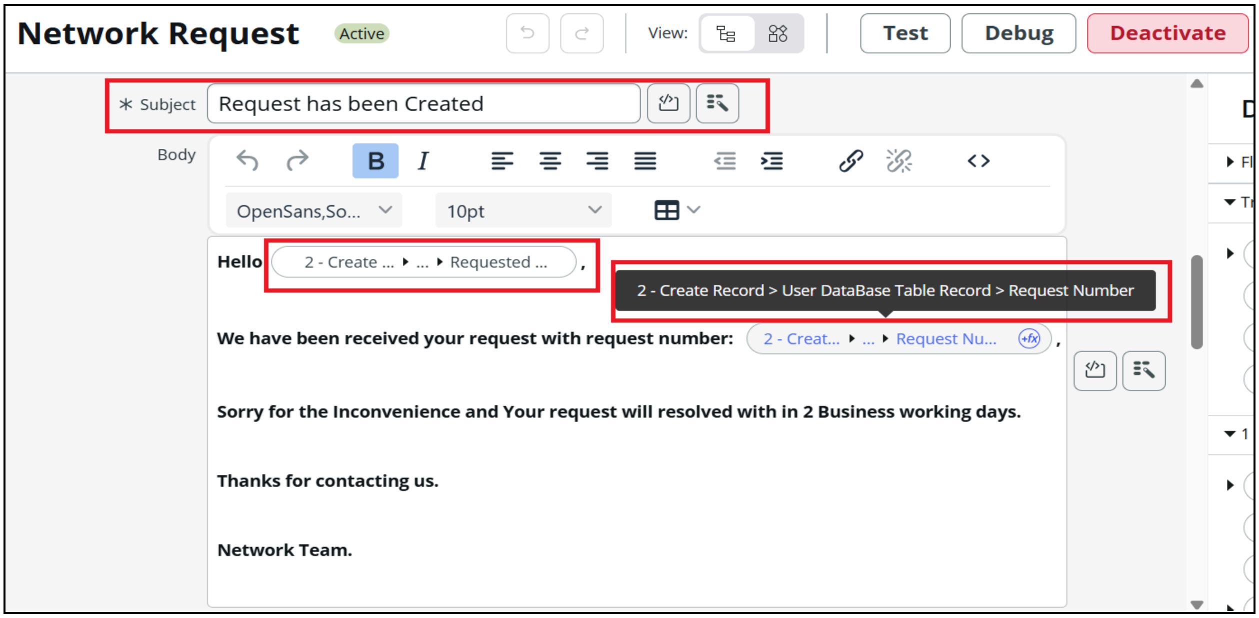


2. **Create Record**
   - Select action as Create Record
   - Select table as Network Database
   - Click on Add fields button to configure the fields
   - Configure the Required fields as shown in the below picture
   - Click on done

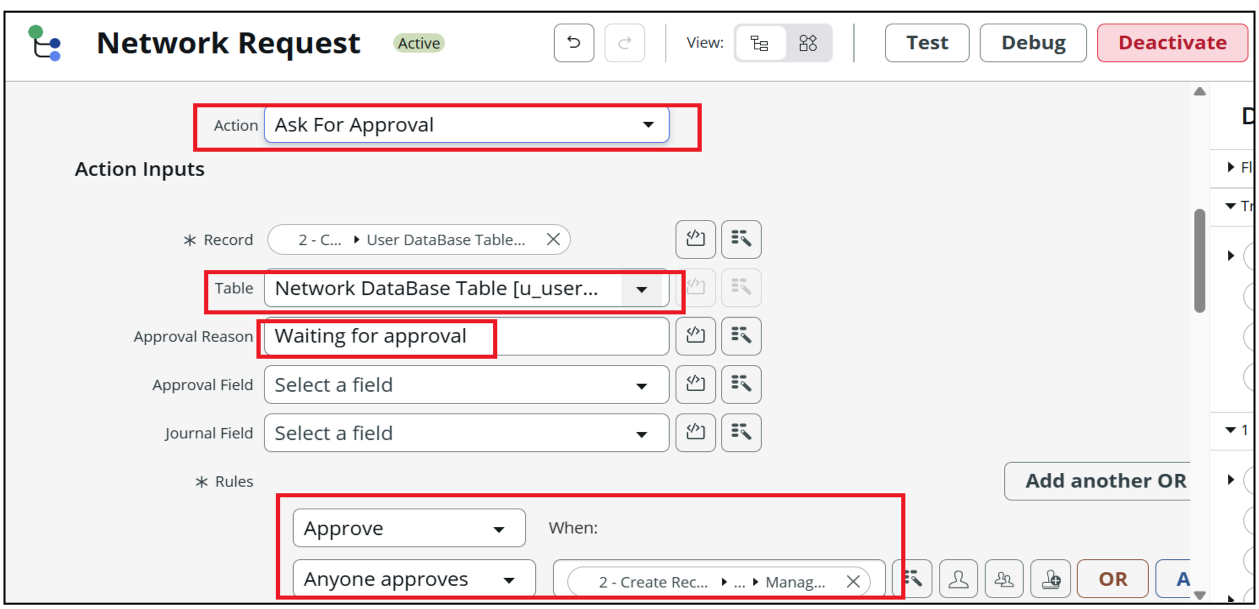


3. **Send Email**
   - Select action as Send Email
   - Select target record >> Create record>> network database table
   - Table will be selected automatically
   - Cofigure To, CC, BCC as per our requirements(select static/dynamic)
   - Provide Subject & Body as shown in the below picture
   - Click on done

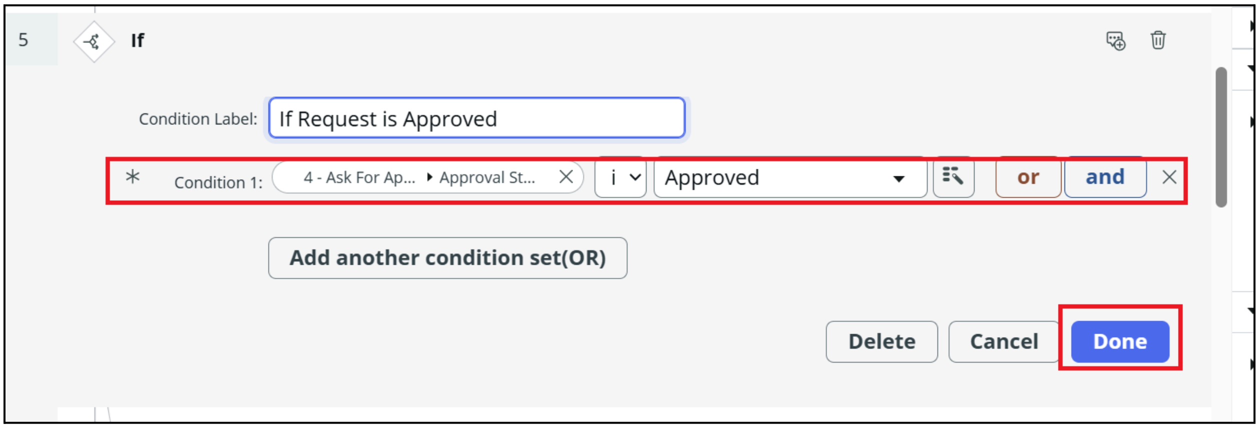




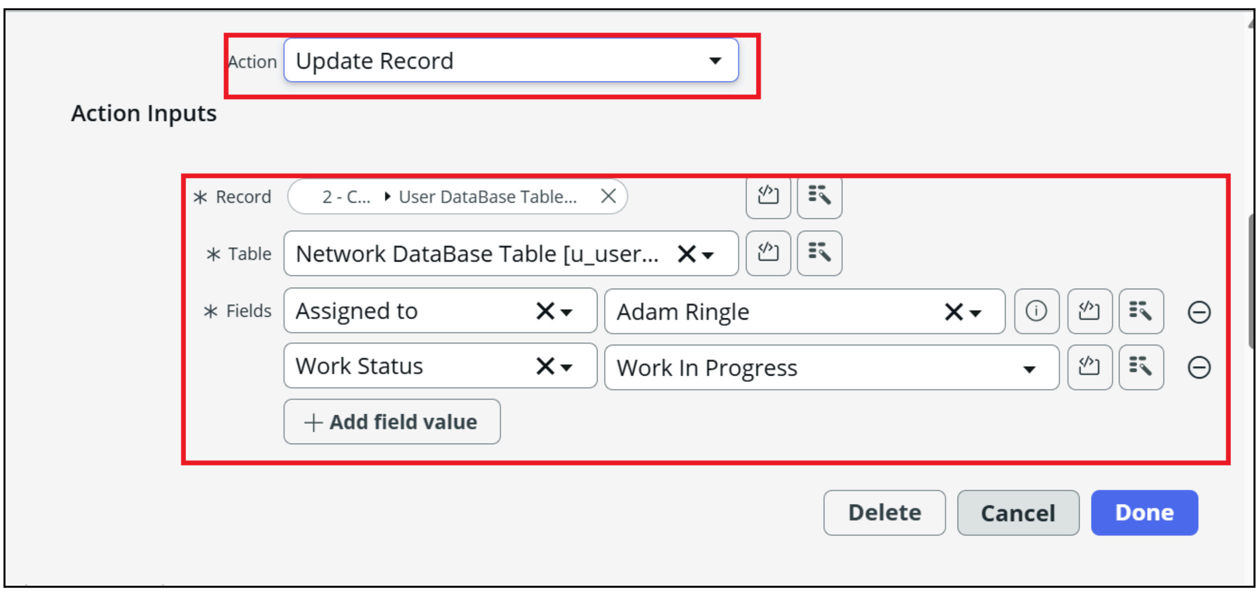
4. **Ask for approvals**
   - Select action as Ask for Approval
   - Select target record >> Create record>> network database table
   - Provide Approval Reason>> Waiting for approval
   - Configure approval rules>> Approve, reject, approve/reject
   - Select approvals as Anyone approves, everyone approves etc.
   - We can select approvals like static/dynamic as shown below
   - Click on done



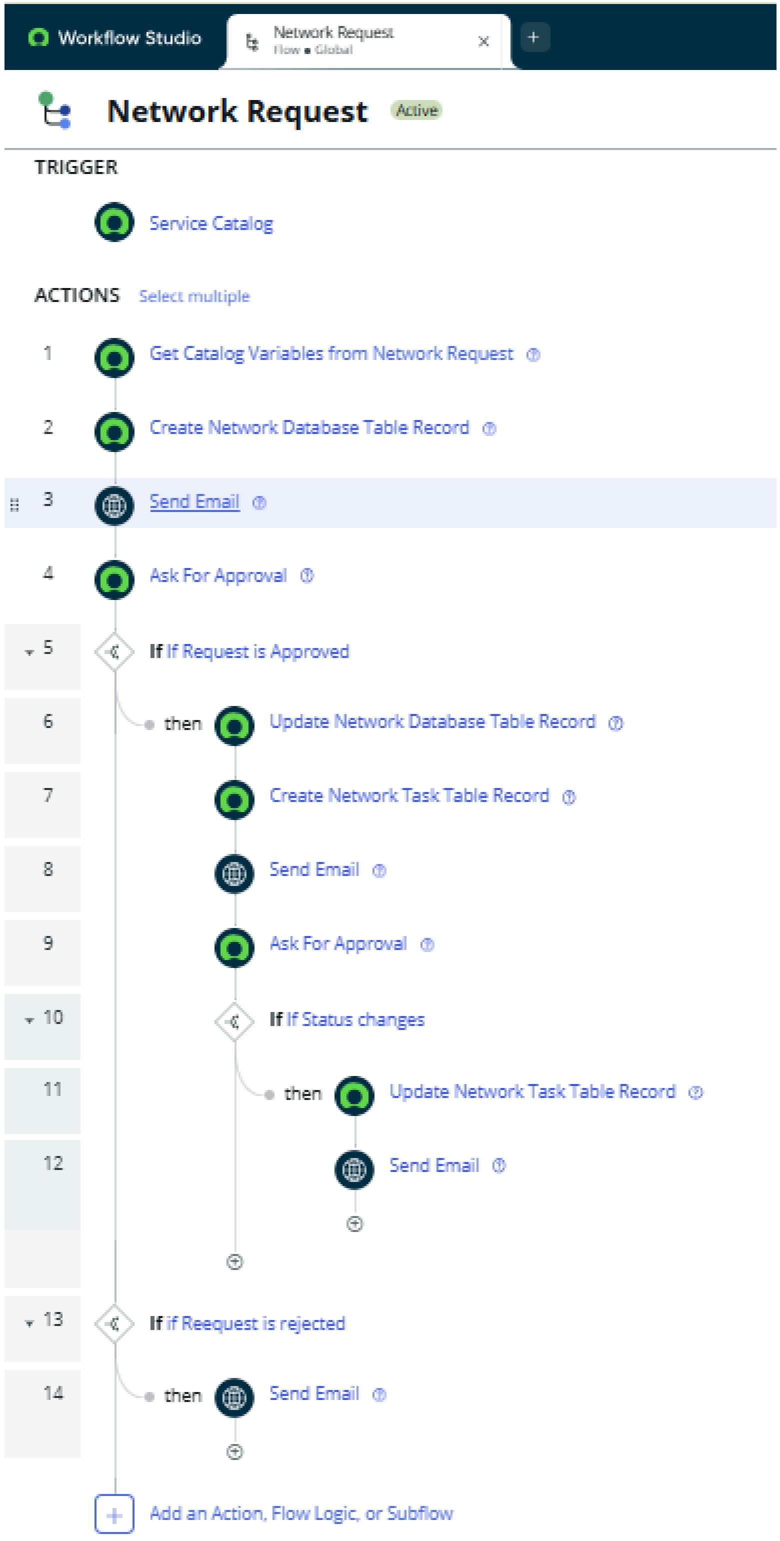
5. **Flow Logic**
    - Select action as flow logic and Select If condition
    - Apply condition >> Ask for approvals state is **Approved/Rejected** as per requirement
    - Click on done



6. **Update Record**
    - Select action as Update Record
    - Select record as >> create record>> network database
    - Table will be selected automatically
    - Configure the fields as per requirement, as shown in below
    - Click on done



Flow Chart



Note: To create this flow or complete the project we also created

1. Another table >> Network task table
2. One relationship for network task table.

And then complete the overall flow.

Project Executable Files

Project Executable Files

Date

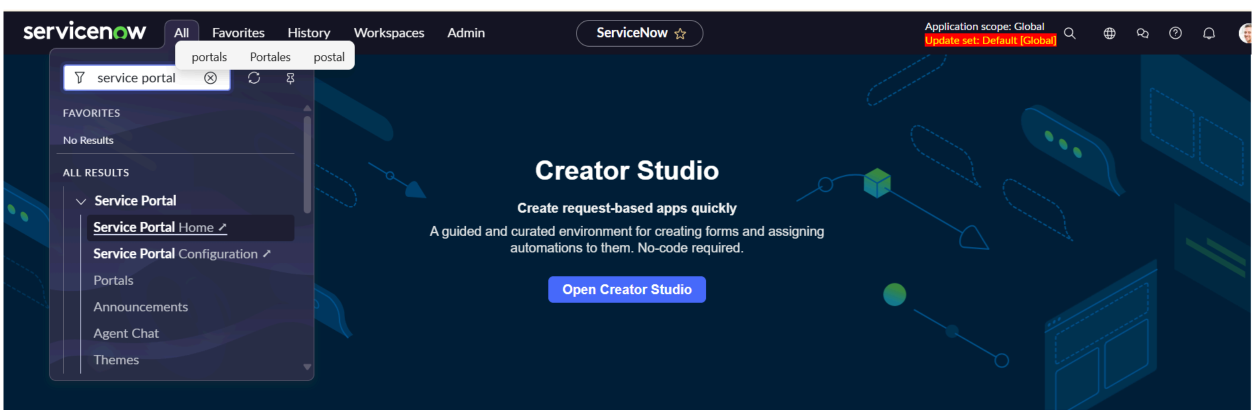
Project Name
Automated Network Request Management in ServiceNow

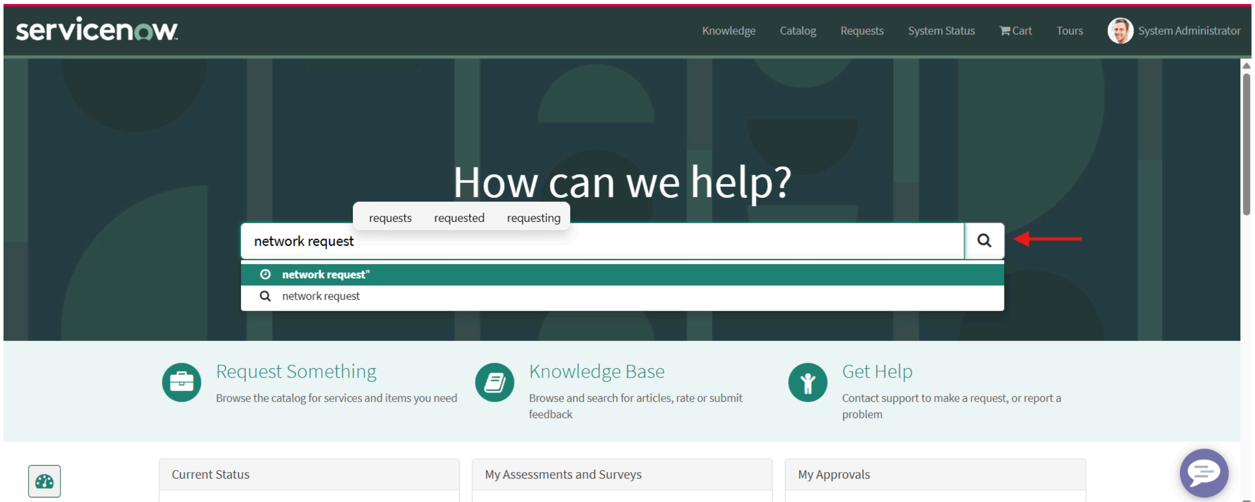
College Name
Ideal Institute Of Technology

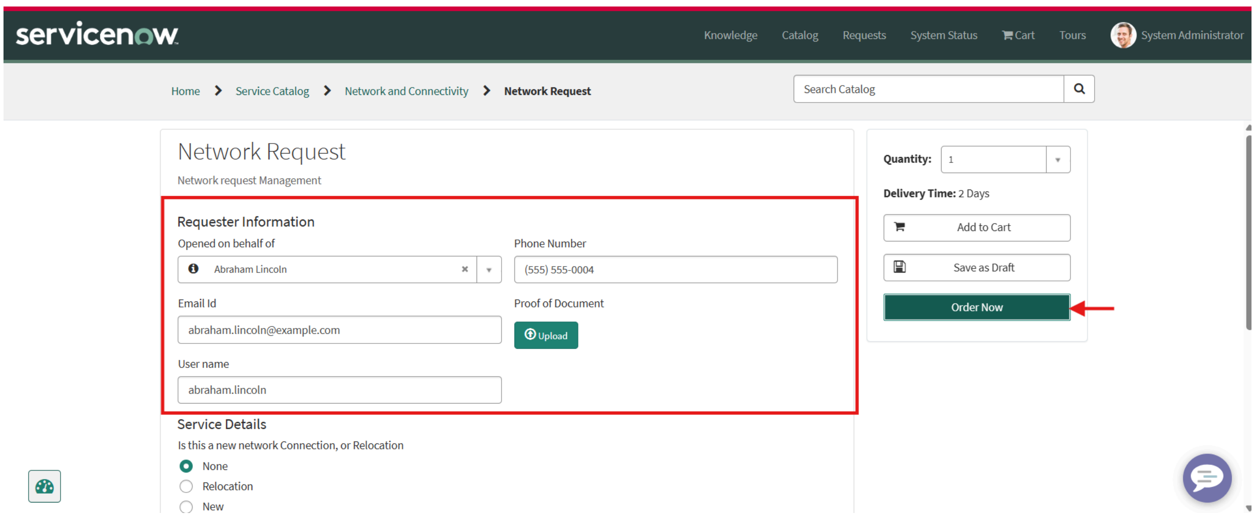
Service Portal

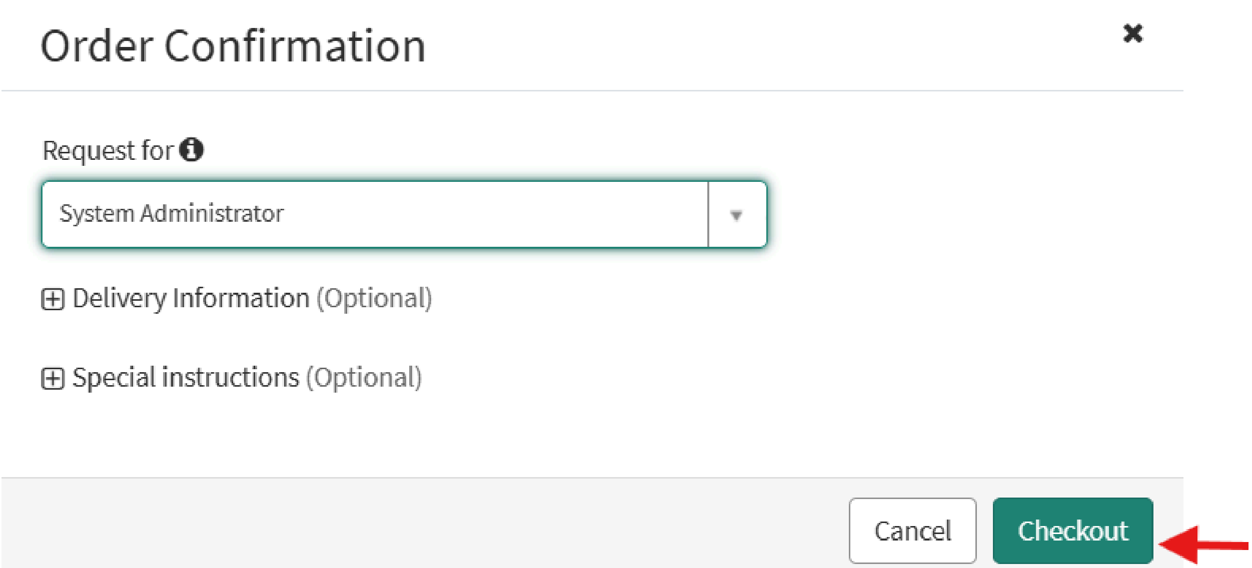
To Execute our project first we should go to service portal and order one Item.

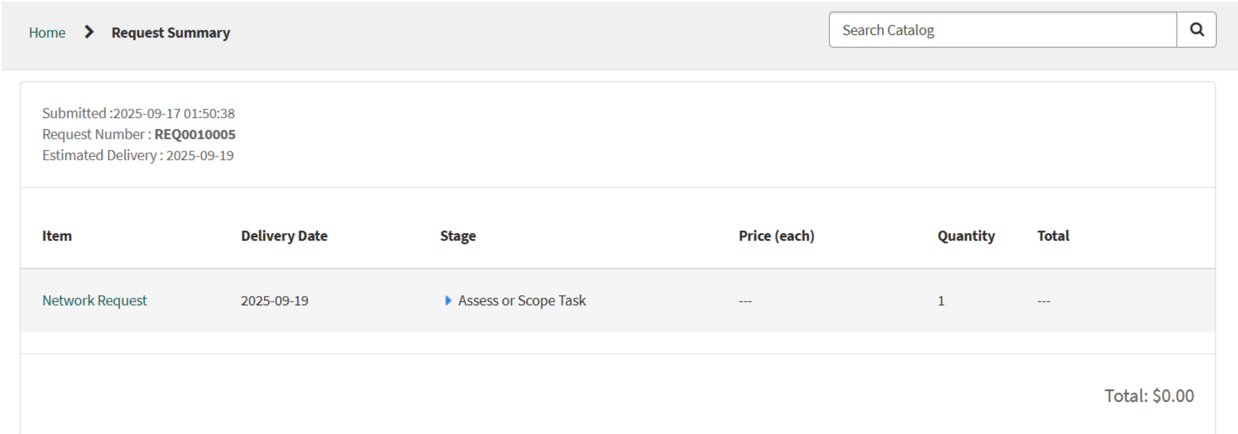
1. Login to ServiceNow PDI
2. Copy the Instance domain ex: https://dev190678.service-now.com.
3. Paste the URL in the Next tab and add Prefix SP to the URL.
   ex: https://dev190678.service-now.com/sp.
4. Search for **Network Requests**.
5. Fill the required details and click on submit
6. New Requests will be generated with request numbers and users will get particular emails on the same.




servicenow
Knowledge
Catalog
Requests
System Status
Cart
Tours
System Administrator
How can we help?
requests
requested
requesting
network request
network request"
network request
Request Something
Browse the catalog for services and items you need
Knowledge Base
Browse and search for articles, rate or submit feedback
Get Help
Contact support to make a request, or report a problem
Current Status
My Assessments and Surveys
My Approvals


servicenow
Knowledge
Catalog
Requests
System Status
Cart
Tours
System Administrator
Home
Service Catalog
Network and Connectivity
Network Request
Search Catalog
Network Request
Network request Management
Requester Information
Opened on behalf of
Abraham Lincoln
Phone Number
(555) 555-0004
Email Id
abraham.lincoln@example.com
Proof of Document
Upload
User name
abraham.lincoln
Service Details
Is this a new network Connection, or Relocation
None
Relocation
New
Quantity:
1
Delivery Time: 2 Days
Add to Cart
Save as Draft
Order Now

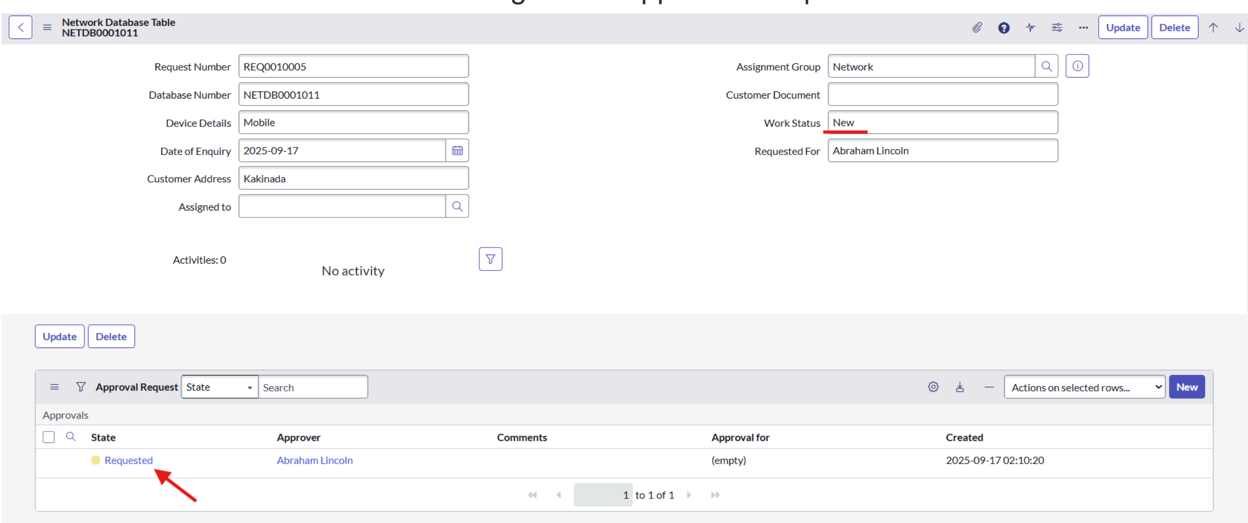

Order Confirmation
Request for
System Administrator
Delivery Information (Optional)
Special instructions (Optional)
Cancel
Checkout

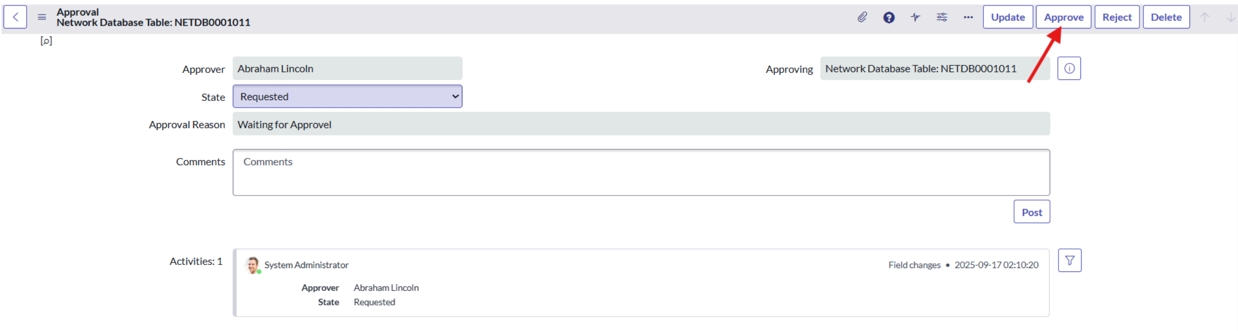


Now check the Workflow.
Click Test >> select one Requested Item Record >> Run.

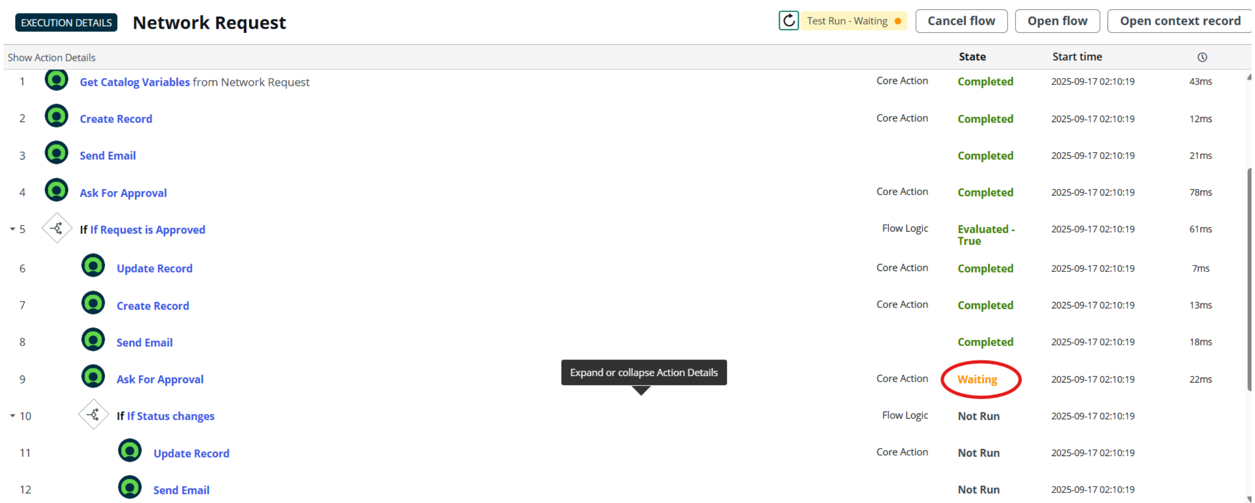
Now Ask for Approval is in Waiting state -> Condition(Ask for Approval is Approve).

Now check on Network Database table give the Approvel >> update.

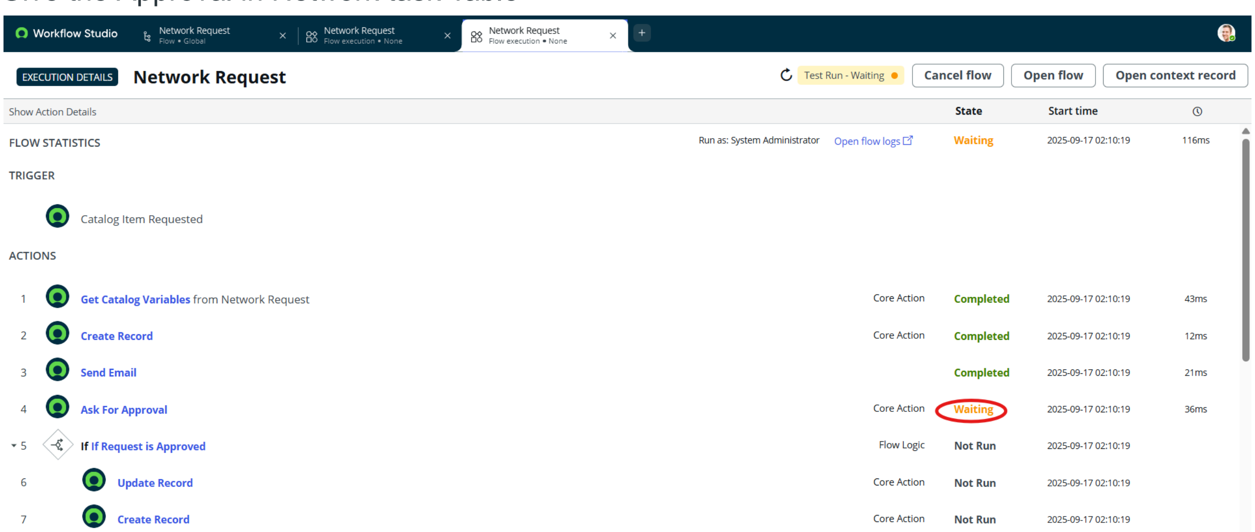


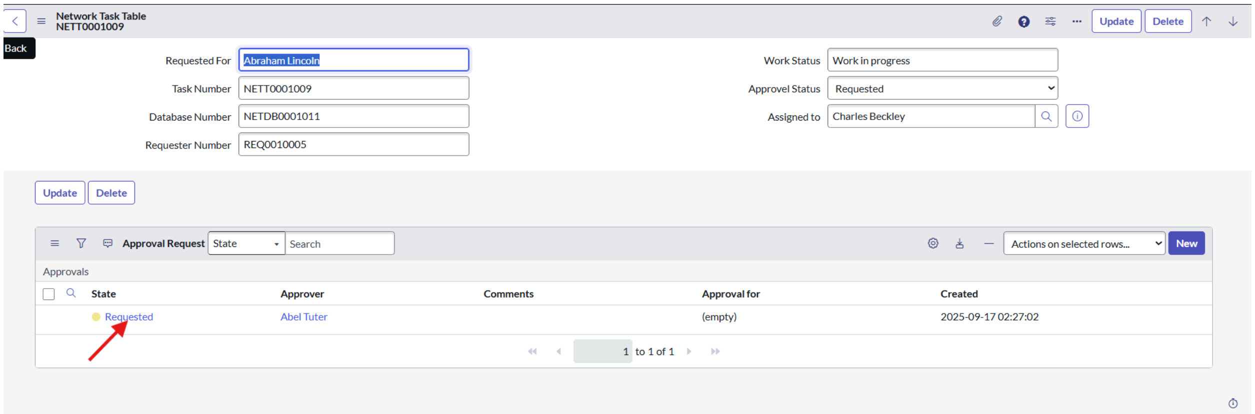


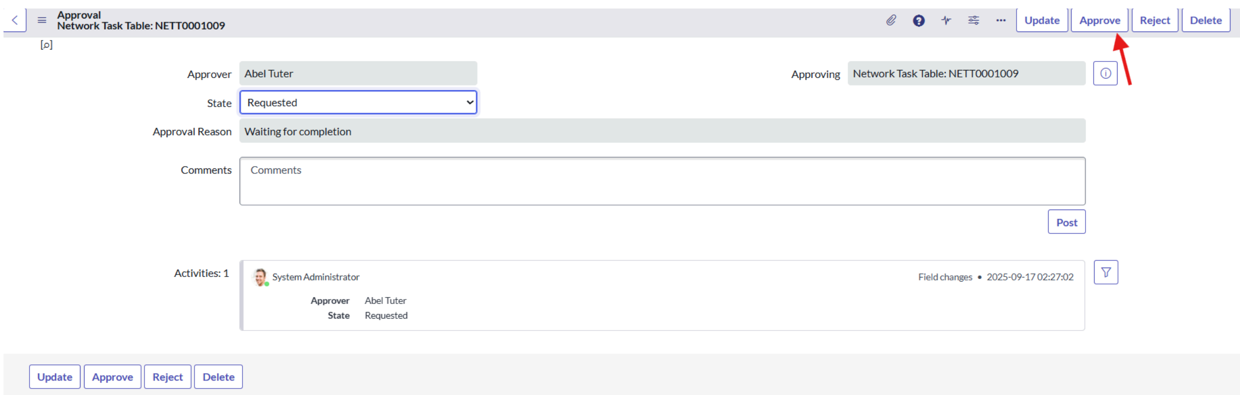
Now check on Flow



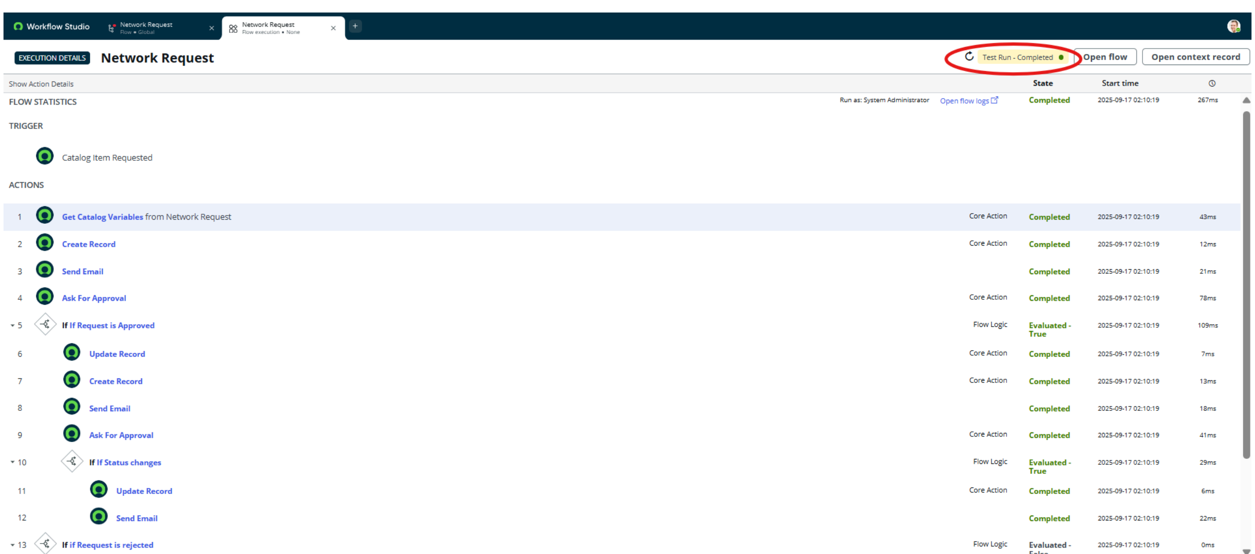
Give the Approval in Network task Table







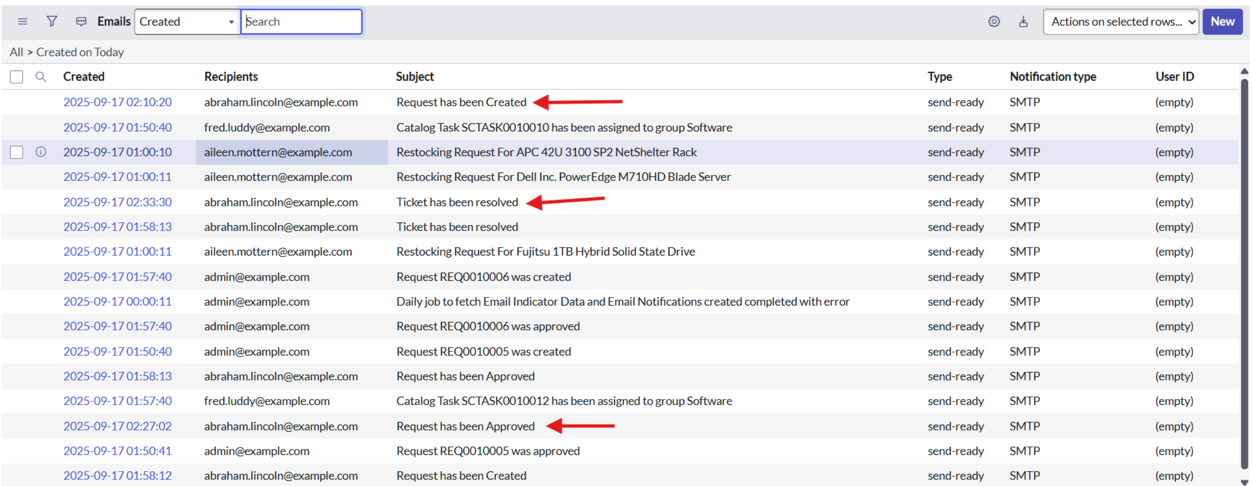
Flow Ran Completedly



Testing Emails

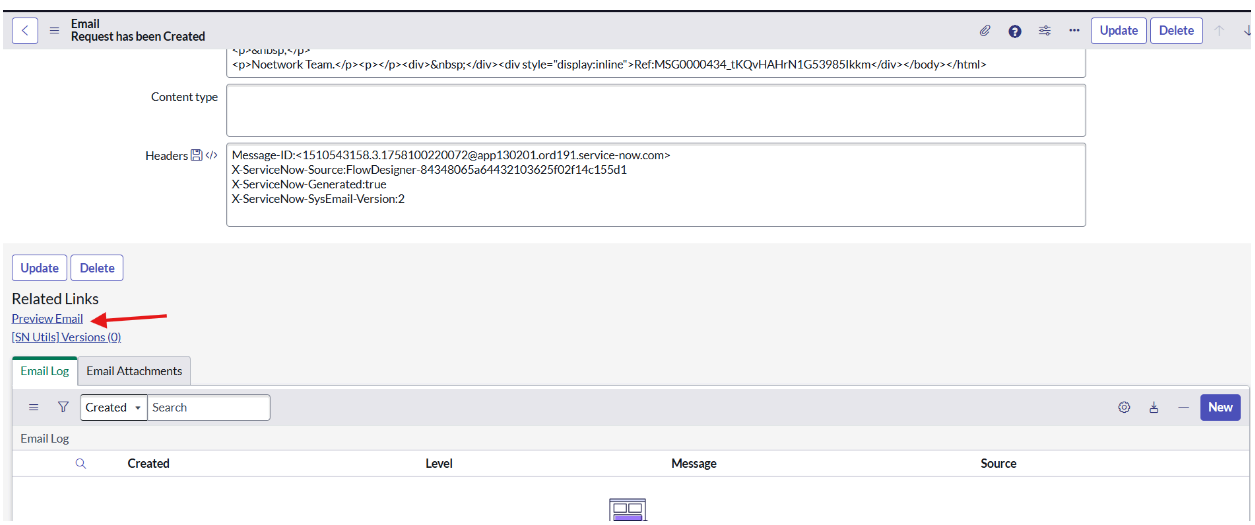
Procedure:

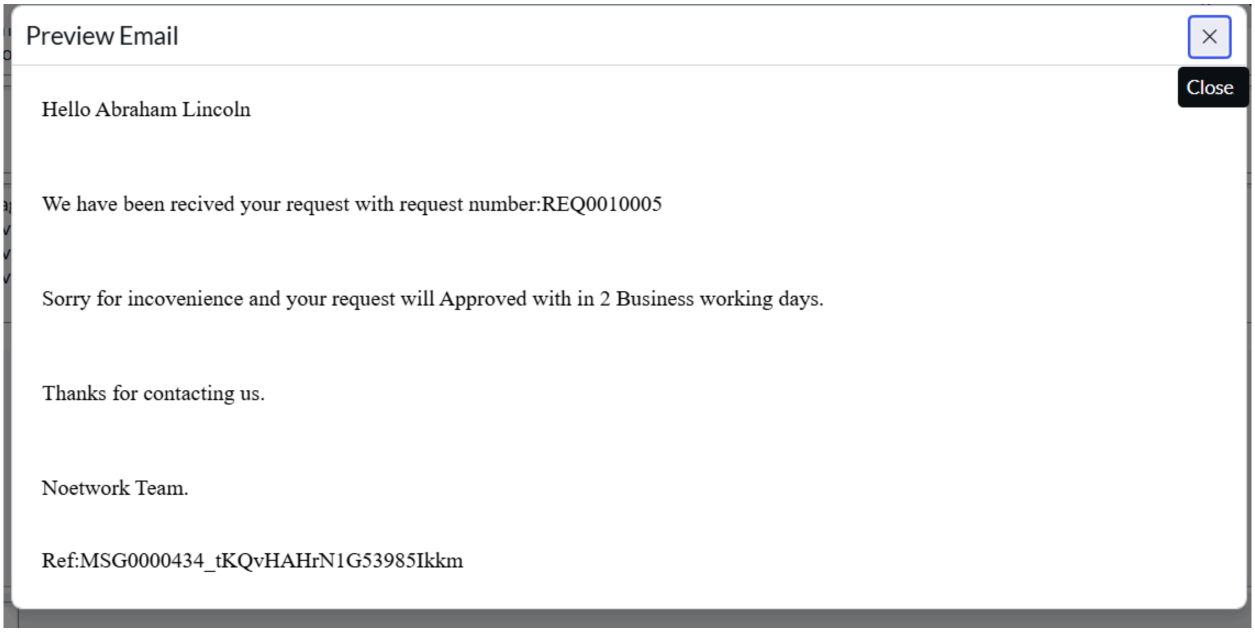
1. Login to ServiceNow PDI
2. System logs>> emails
3. Apply filter>> created on today
4. Search with To, BCC, CC, Subject to get to know what are the emails triggered on the particular request.



Created	Recipients	Subject	Type	Notification type	User ID
2025-09-17 02:10:20	abraham.lincoln@example.com	Request has been Created	send-ready	SMTP	(empty)
2025-09-17 01:50:40	fred.luddy@example.com	Catalog Task SCTASK0010010 has been assigned to group Software	send-ready	SMTP	(empty)
2025-09-17 01:00:10	aileen.mottern@example.com	Restocking Request For APC 42U 3100 SP2 NetShelter Rack	send-ready	SMTP	(empty)
2025-09-17 01:00:11	aileen.mottern@example.com	Restocking Request For Dell Inc. PowerEdge M710HD Blade Server	send-ready	SMTP	(empty)
2025-09-17 02:33:30	abraham.lincoln@example.com	Ticket has been resolved	send-ready	SMTP	(empty)
2025-09-17 01:58:13	abraham.lincoln@example.com	Ticket has been resolved	send-ready	SMTP	(empty)
2025-09-17 01:00:11	aileen.mottern@example.com	Restocking Request For Fujitsu 1TB Hybrid Solid State Drive	send-ready	SMTP	(empty)
2025-09-17 01:57:40	admin@example.com	Request REQ0010006 was created	send-ready	SMTP	(empty)
2025-09-17 00:00:11	admin@example.com	Daily job to fetch Email Indicator Data and Email Notifications created completed with error	send-ready	SMTP	(empty)
2025-09-17 01:57:40	admin@example.com	Request REQ0010006 was approved	send-ready	SMTP	(empty)
2025-09-17 01:50:40	admin@example.com	Request REQ0010005 was created	send-ready	SMTP	(empty)
2025-09-17 01:58:13	abraham.lincoln@example.com	Request has been Approved	send-ready	SMTP	(empty)
2025-09-17 01:57:40	fred.luddy@example.com	Catalog Task SCTASK0010012 has been assigned to group Software	send-ready	SMTP	(empty)
2025-09-17 02:27:02	abraham.lincoln@example.com	Request has been Approved	send-ready	SMTP	(empty)
2025-09-17 01:50:41	admin@example.com	Request REQ0010005 was approved	send-ready	SMTP	(empty)
2025-09-17 01:58:12	abraham.lincoln@example.com	Request has been Created	send-ready	SMTP	(empty)

Subject : Request has been created.





Preview Email

Close

Hello Abraham Lincoln

We have been recived your request with request number:REQ0010005

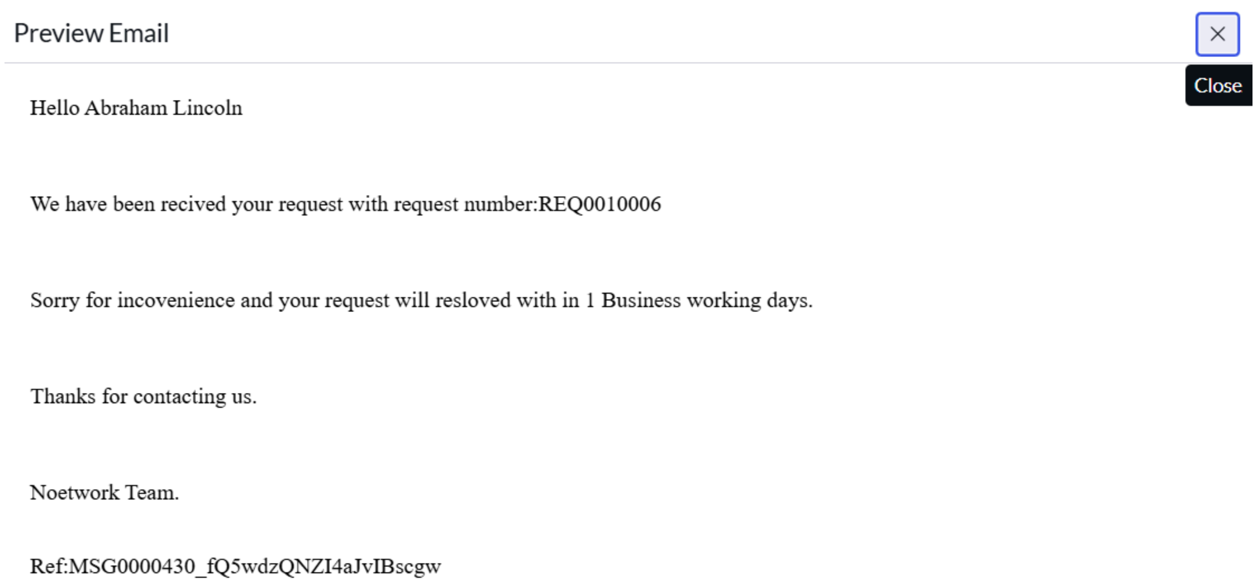
Sorry for incovenience and your request will Approved with in 2 Business working days.

Thanks for contacting us.

Noetwork Team.

Ref:MSG0000434_tKQvHAHrN1G53985Ikkm

Subject : Request has been Approved.



Preview Email

Close

Hello Abraham Lincoln

We have been recived your request with request number:REQ0010006

Sorry for incovenience and your request will resloved with in 1 Business working days.

Thanks for contacting us.

Noetwork Team.

Ref:MSG0000430_fQ5wdzQNZI4aJvIBscgw

Subject : Ticket has been resolved.

Preview Email

Close

Hello Abraham Lincoln

Your Ticket has been resolved, thanks for contacting us.

Thanks for contacting us.

Noetwork Team.

Ref:MSG0000436_1BAU4KKBp73i038xofa1

Functional And Performance Testing

Functional And Performance Testing

Date

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✅ Functional Testing

Functional testing ensures that each feature of the system works as intended.

Test Scenarios and Cases:

Test ID	Feature	Test Description	Expected Result	Status
FT1	Service Catalog	Submit a new network request using dynamic form.	Request is submitted and stored in the system.	Pass/Fail
FT2	Auto-Population	Check if user details (Name, Email, Contact) are auto-filled.	Fields are auto-populated correctly from user profile.	Pass/Fail
FT3	Approval Workflow	Raise a request requiring approval.	Approval request is sent to the designated approver.	Pass/Fail
FT4	Notifications	Submit request and check email/portal updates.	Notifications are sent to requester and IT staff in real time.	Pass/Fail
FT5	Task Assignment	Request approved → verify IT/network team task assignment.	Task is created and assigned automatically.	Pass/Fail
FT6	Request Tracking	Employee checks request status in portal.	Status updates reflect accurately at each stage.	Pass/Fail
FT7	SLA Monitoring	Submit request and verify SLA timer.	SLA countdown begins; breaches flagged in dashboard.	Pass/Fail

FT8	Reporting	Generate request analytics.	Report shows correct volume, SLA, and resolution data.	Pass/Fail

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⚡ Performance Testing

Performance testing validates the system's stability, responsiveness, and scalability under expected load.

Test Types and Goals:

Test Type	Objective	Expected Outcome
Load Testing	Simulate multiple users submitting requests simultaneously.	System handles 100+ concurrent requests without delay.
Stress Testing	Push system beyond normal load (e.g., 500 requests at once).	System degrades gracefully without crashing; error logs captured.
Response Time Testing	Measure time to submit and process a request.	Average response time < 3 seconds.
Endurance Testing	Run workflows continuously for several hours.	No memory leaks, stable performance over time.
Scalability Testing	Increase users and requests to test scaling ability.	System scales efficiently without performance drop.

🔍 Tools & Methods

- **ServiceNow Test Management** for defining and executing test cases.
- **Flow Designer Logs** for debugging automation workflows.
- **ServiceNow Automated Test Framework (ATF):** To simulate form submission, workflow execution, and SLA tracking.
- **Performance Analytics Dashboards:** To track load, request resolution times, and SLA compliance.

Advantages and Disadvantages

Advantages and Disadvantages

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✅ Advantages

Improved Efficiency & Reduced Manual Effort

- Automates request intake, approval, and fulfillment, reducing delays and human errors.
- Frees IT staff from repetitive tasks so they can focus on higher-value work.

Transparency & Real-Time Tracking

- Employees can track request progress through the ServiceNow portal.
- Real-time notifications ensure users and IT teams stay updated.

Better SLA Compliance

- Automated workflows ensure requests are routed and processed within defined timelines.
- Reduces the risk of SLA breaches and escalations.

Scalability

- Easily extendable to other IT services beyond network requests (HR, facilities, ITSM).
- Built on ServiceNow’s cloud-native infrastructure, ensuring enterprise scalability.

Data-Driven Insights

- Provides analytics on request volume, resolution times, and trends.
- Helps management identify bottlenecks and optimize IT operations.

Enhanced User Satisfaction

- Simplified self-service portal improves employee experience.
- Faster fulfillment increases trust in IT services.

Security & Compliance

- Role-based access and encryption protect sensitive request data.
- Built-in audit trails ensure compliance with IT governance policies.

❌ Disadvantages

Initial Setup & Licensing Costs

- Requires ServiceNow licensing and skilled developers.
- Setup and customization may involve significant initial investment.

Dependency on Platform

- Entire system depends on ServiceNow; outages or downtime could affect request processing.

Training & Adoption Challenges

- Employees and IT staff may need training to adapt to the new system.
- Resistance to change could delay adoption.

Customization Complexity

- Advanced requirements (like orchestration integration) may need scripting and expertise.

- Over-customization can increase maintenance burden.

Integration Limitations

- Some external network tools may require custom APIs for integration.
- Compatibility issues could arise during scaling.

Maintenance Effort

- Requires regular monitoring, updates, and optimization.
- Testing is critical whenever workflows or forms are modified.

✅ In summary, the project significantly improves **efficiency, transparency, and SLA compliance**, but requires **careful planning for costs, training, and ongoing maintenance**.

Conclusion

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✅ **Conclusion**
The project *"Automated Network Request Management in ServiceNow"* addresses a critical challenge in IT operations — the inefficiency and lack of transparency in handling network service requests. By leveraging ServiceNow's **Service Catalog, Flow Designer, Approval Workflows, and Analytics**, the project provides a **scalable, automated, and user-friendly solution** that streamlines the entire request lifecycle from submission to fulfillment.

This system not only **reduces manual workload** for IT teams but also **enhances user satisfaction** by providing real-time visibility into request status. Through **automation, SLA tracking, and reporting**, the solution ensures improved compliance, efficiency, and accountability.

While challenges such as initial setup cost, training needs, and integration complexity must be managed, the overall benefits of automation significantly outweigh the drawbacks. The project provides a foundation for extending automation across multiple IT domains, making it a **future-ready and enterprise-aligned solution**.

With proper implementation, monitoring, and continuous improvement, this project has the potential to transform IT service delivery, enhance operational excellence, and serve as a **model for enterprise workflow automation**.

Future Scope

Future Scope

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🔮 Future Scope

The *"Automated Network Request Management in ServiceNow"* project has significant potential to evolve into a **comprehensive enterprise IT service automation platform**. As organizations continue to demand efficiency, transparency, and scalability, this system can expand into multiple domains beyond network services. Below are the key areas for future growth:

🌐 1. Expansion to Other IT Services

- Extend the same model to ITSM domains like **hardware requests, software access, HR services, and facility management**.
- Enable a **centralized service portal** covering all enterprise service requests.

📲 2. Mobile App Enhancements

- ServiceNow mobile app integration for request submission and tracking.
- Push notifications for approvals and SLA reminders.
- Voice-enabled request creation via AI assistants.

🤖 3. AI & Predictive Intelligence

- Use ServiceNow **Predictive Intelligence** to auto-route requests to the right teams.
- AI-based predictions for **SLA breach risks** and proactive escalations.
- Recommendation engine for frequently requested services.

🧠 4. Real-Time Monitoring & Auto-Healing

- Integrate with network monitoring tools to automatically **create requests from detected issues**.
- Enable **self-healing automation scripts** for standard network fixes.

🏢 5. Enterprise & Vendor Integrations

- Connect with enterprise collaboration tools (MS Teams, Slack) for request approvals.
- Integrate with vendor APIs (Cisco, Juniper, Ansible) for **auto-execution of network changes**.
- Partnerships with managed service providers for extended support.

🧾 6. Blockchain for Audit & Compliance

- Blockchain-based tracking of request approvals and fulfillment for **tamper-proof audit logs**.
- Increase compliance confidence for regulated industries (finance, healthcare, telecom).

🛡️ 7. Security & Policy Automation

- Automate role-based access approvals (e.g., network VPN, firewall requests).

- Integrate with enterprise IAM systems for **policy-based security enforcement**.

🎓 8. Training & Adoption Programs

- Develop **interactive training modules** within ServiceNow for end users.
- Gamified adoption (badges, points) to encourage usage of self-service portals.

💸 9. Cost Optimization & Monetization

- Use analytics to identify **cost-saving opportunities** by automating repetitive requests.
- Extend the system as a **managed service** to other organizations.

📊 10. Advanced Analytics & Dashboards

- Build real-time dashboards for **SLA tracking, cost savings, and automation coverage**.
- Use AI-driven insights to recommend process improvements.

Links

Links

ServiceNow Developer Instance
link:https://developer.servicenow.com/