Automated Network Request Management in ServiceNow

Project Description:

This project aims to design and implement a streamlined, automated solution for managing network-related 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 notifications, task assignments, and—where applicable—integration with network automation tools or scripts to fulfill standard requests without manual intervention.

Key Features:

- Custom service catalog for common network requests
- Dynamic forms to capture relevant request details
- Automated approval workflows based on request type and sensitivity
- Integration with infrastructure management or orchestration tools (optional)
- Real-time status updates and notifications to requesters and technicians

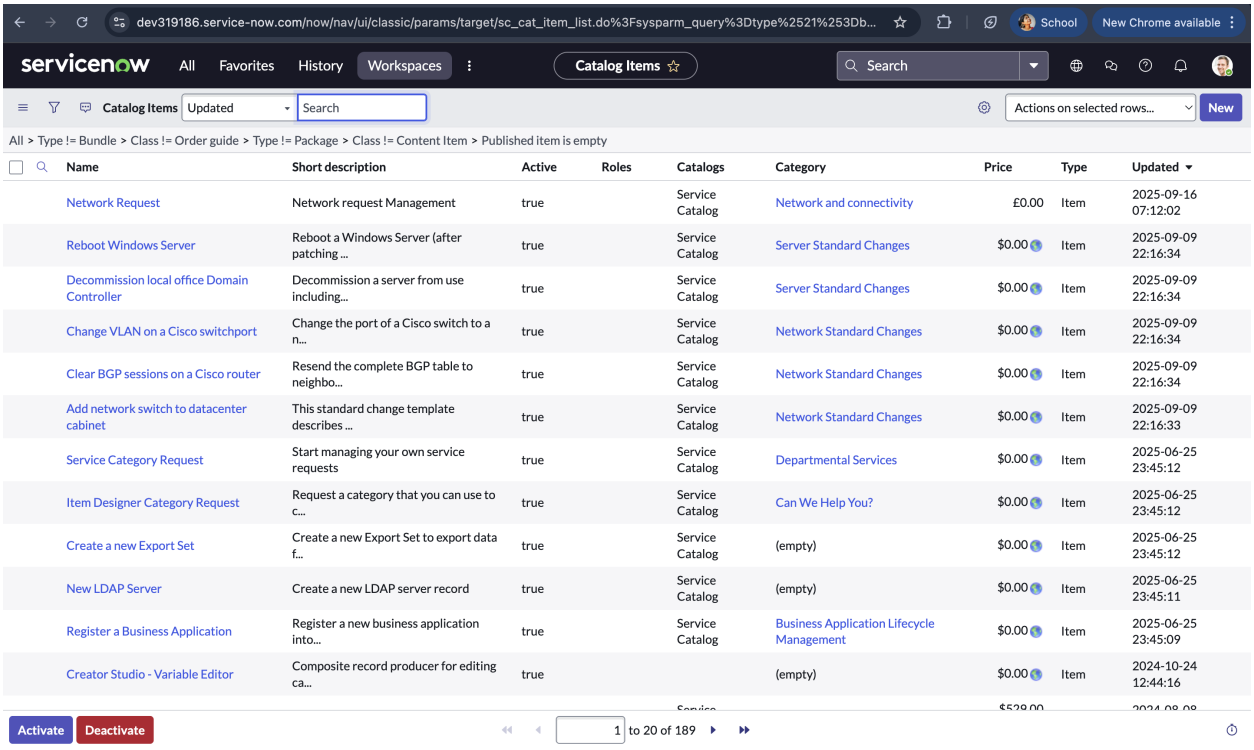
Reporting and analytics on request volume, resolution time, and SLA adherence

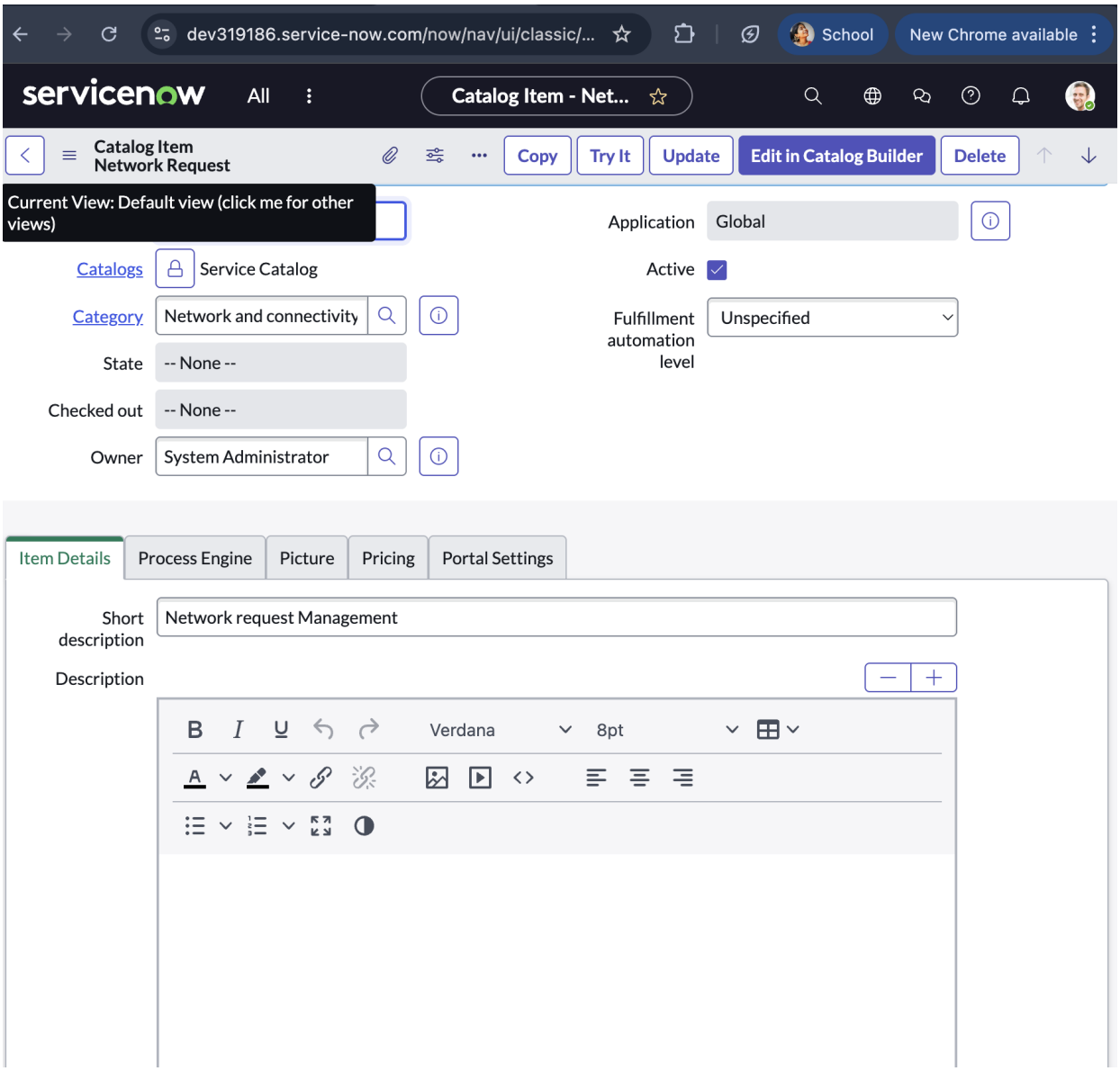
Service Catalog Creation

ServiceNow Catalogue

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
8. Fill the Short Description as Network request Management
9. Click on Save.





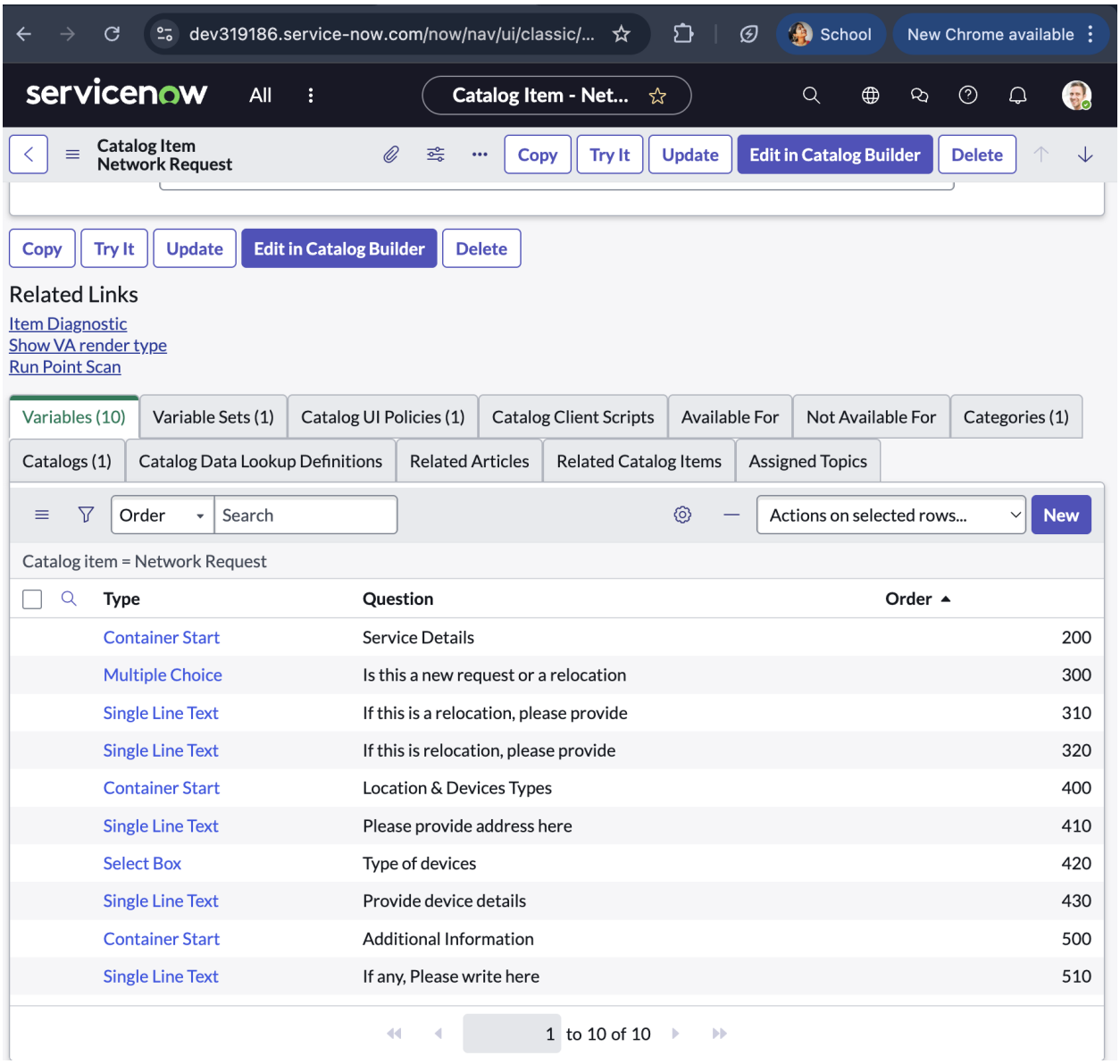
Variables Configuration

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 value.
10. Click on Save or Submit.



Variables Types

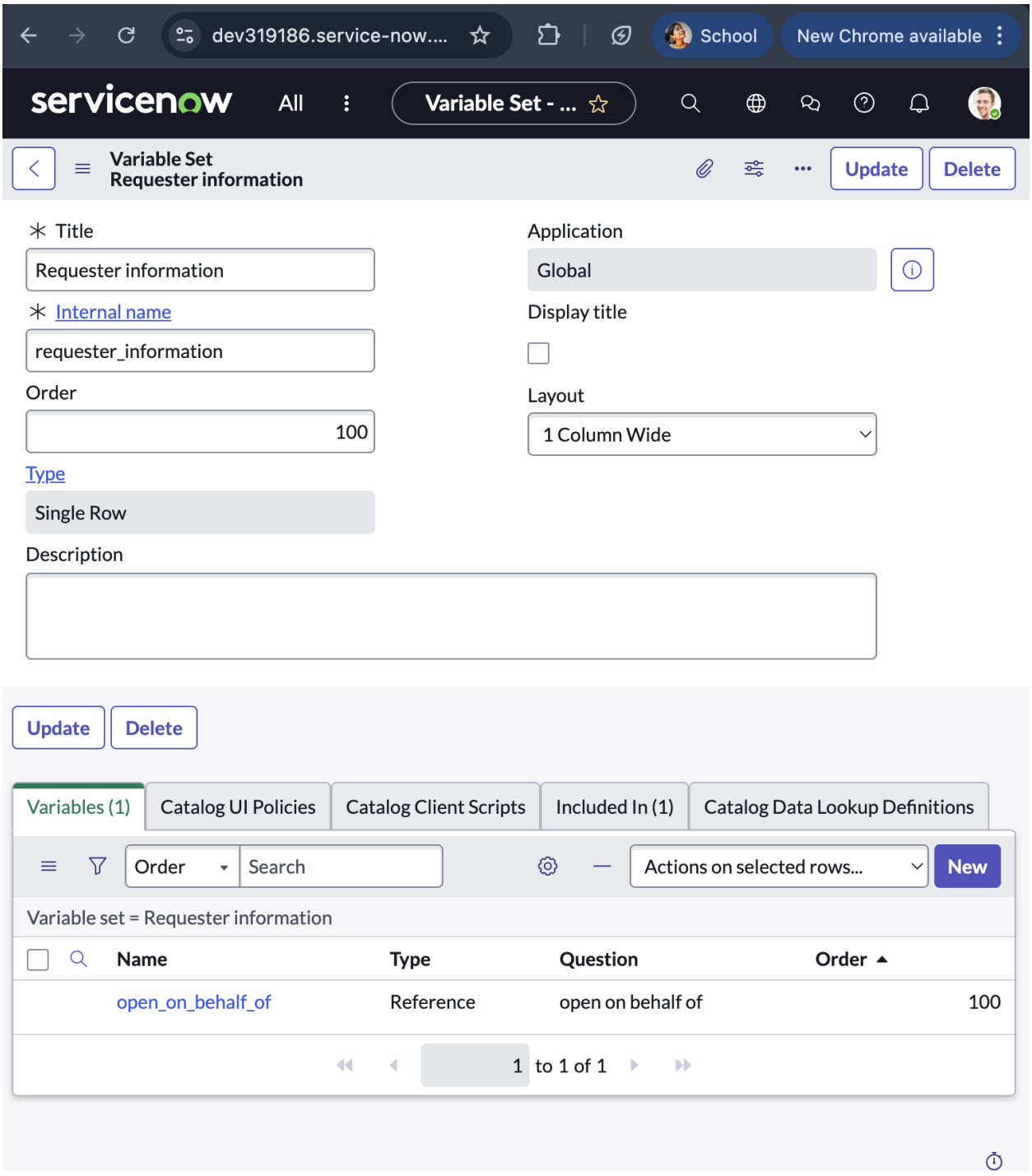
1. Is this a New connection or Relocation? >> Choice >> New/ Relocation/None
2. If this is a relocation, Please provide your relocated address here>>String
3. Types of devices>> Choice>> Laptop/Mobiles/Others
4. Please provide address here>>String
5. Provide device details here>> String
6. If anything 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.

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

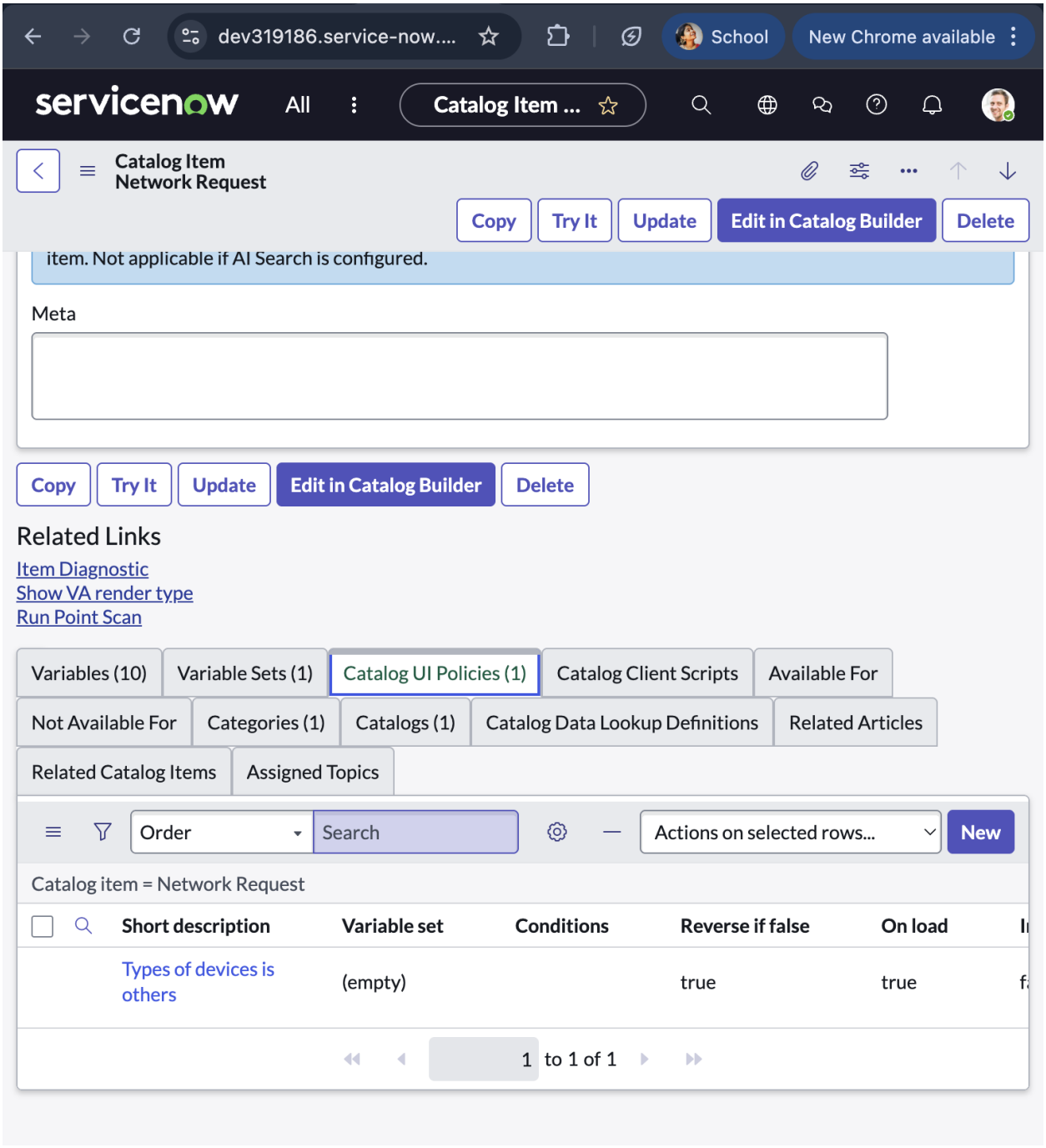

dev319186.service-now....
School
New Chrome available
servicenow
All
Variable Set - ...
Variable Set
Requester information
Update
Delete
Title
Requester information
Internal name
requester_information
Order
100
Type
Single Row
Description
Application
Global
Display title
Layout
1 Column Wide
Update
Delete
Variables (1)
Catalog UI Policies
Catalog Client Scripts
Included In (1)
Catalog Data Lookup Definitions
Order
Search
Actions on selected rows...
New
Variable set = Requester information
Name
Type
Question
Order
open_on_behalf_of
Reference
open on behalf of
100
1 to 1 of 1

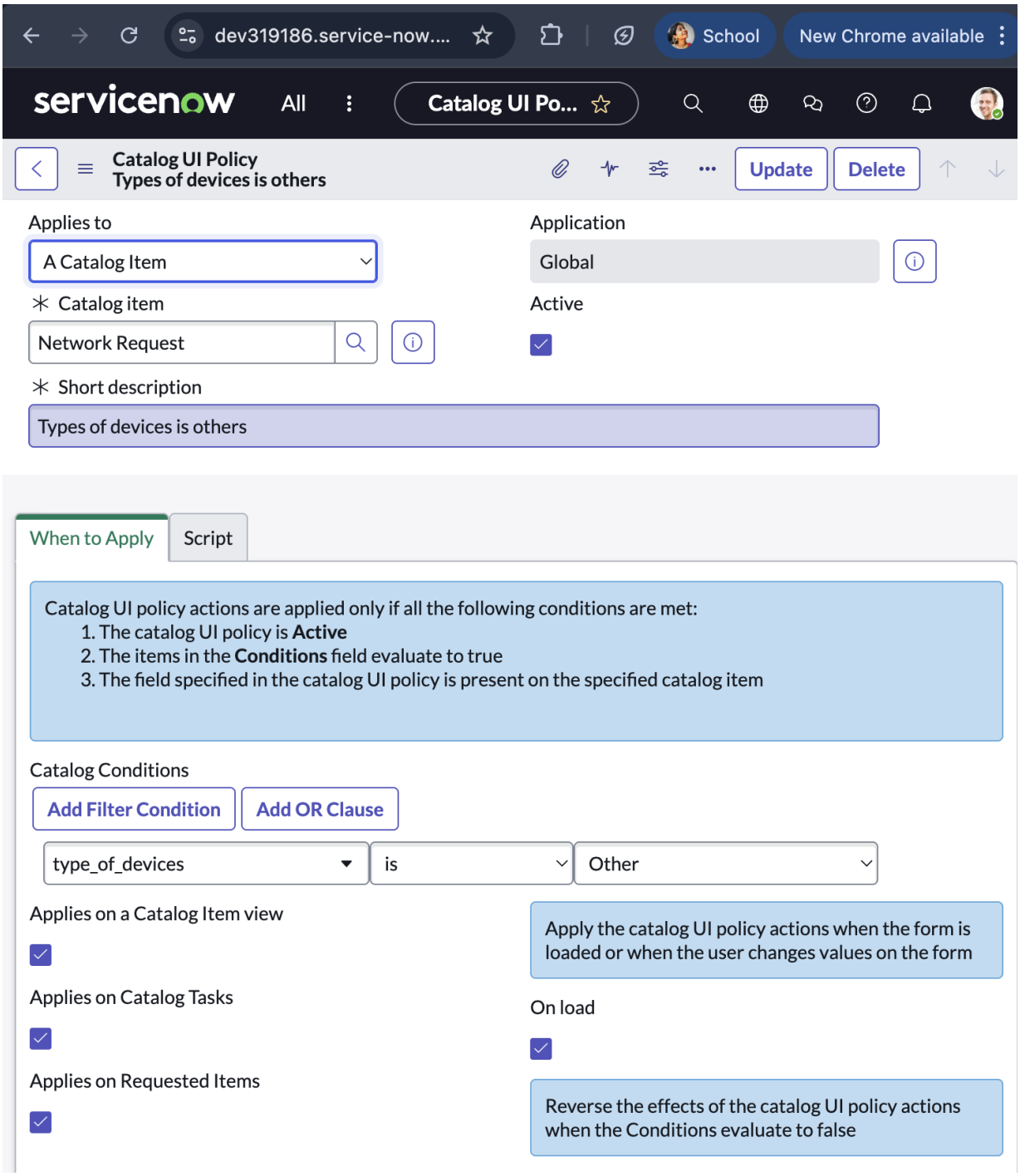
Catalog UI Policy Configuration

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


dev319186.service-now....
School
New Chrome available
servicenow
All
Catalog Item ...
Catalog Item
Network Request
Copy
Try It
Update
Edit in Catalog Builder
Delete
item. Not applicable if AI Search is configured.
Meta
Copy
Try It
Update
Edit in Catalog Builder
Delete
Related Links
Item Diagnostic
Show VA render type
Run Point Scan
Variables (10)
Variable Sets (1)
Catalog UI Policies (1)
Catalog Client Scripts
Available For
Not Available For
Categories (1)
Catalogs (1)
Catalog Data Lookup Definitions
Related Articles
Related Catalog Items
Assigned Topics
Order
Search
Actions on selected rows...
New
Catalog item = Network Request
Short description
Variable set
Conditions
Reverse if false
On load
Types of devices is others
(empty)
true
true
1 to 1 of 1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School
New Chrome available
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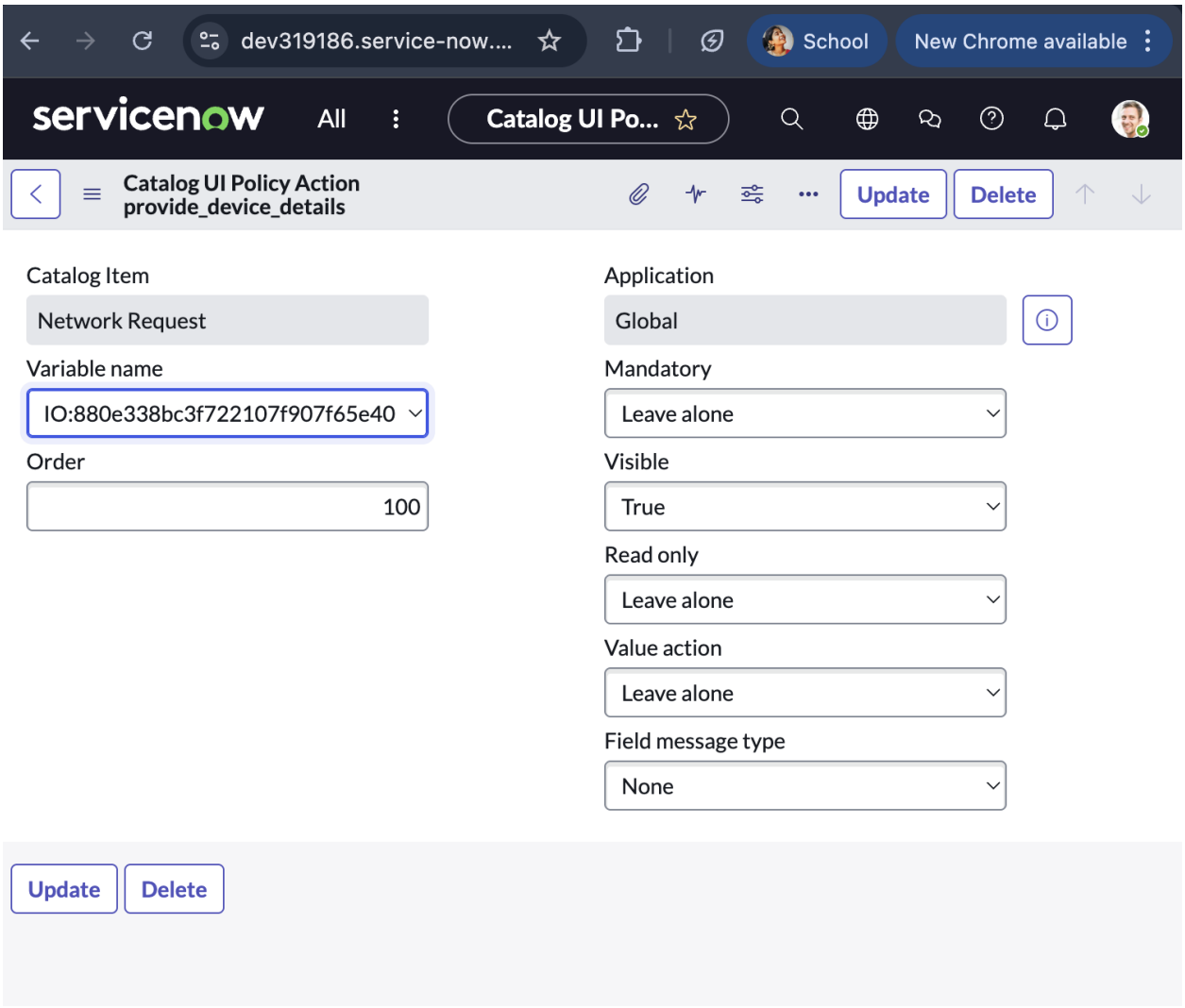
All
Catalog UI Po...
Catalog UI Policy
Types of devices is others
Update
Delete
Applies to
A Catalog Item
Application
Global
Catalog item
Network Request
Active
Short description
Types of devices is others
When to Apply
Script
Catalog UI policy actions are applied only if all the following conditions are met:
1. The catalog UI policy is Active
2. The items in the Conditions field evaluate to true
3. The field specified in the catalog UI policy is present on the specified catalog item
Catalog Conditions
Add Filter Condition
Add OR Clause
type_of_devices
is
Other
Applies on a Catalog Item view
Apply the catalog UI policy actions when the form is loaded or when the user changes values on the form
Applies on Catalog Tasks
On load
Applies on Requested Items
Reverse the effects of the catalog UI policy actions when the Conditions evaluate to false



Creation of Table

Creation of Table

Creation of Table

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

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

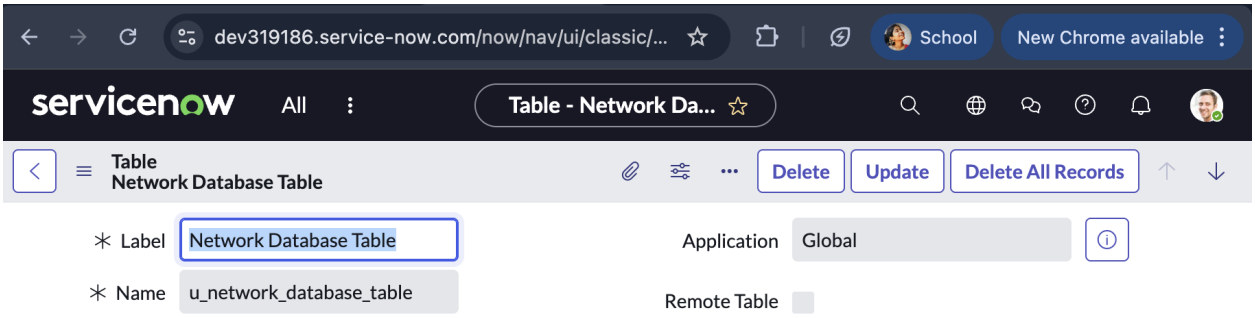
· Fill **in Table Information**:

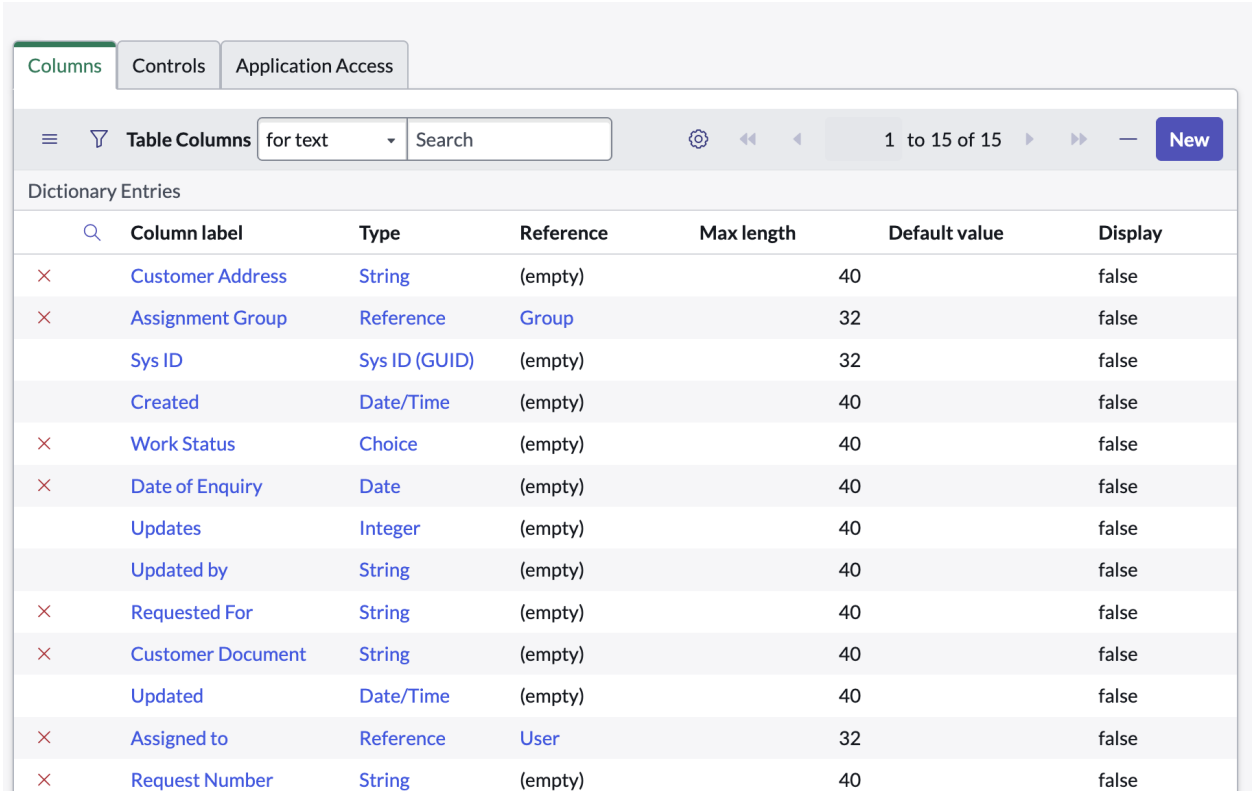
· **Name**: Name of the table ------

· **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.





Column label	Type	Reference	Max length	Default value	Display
Customer Address	String	(empty)	40		false
Assignment Group	Reference	Group	32		false
Sys ID	Sys ID (GUID)	(empty)	32		false
Created	Date/Time	(empty)	40		false
Work Status	Choice	(empty)	40		false
Date of Enquiry	Date	(empty)	40		false
Updates	Integer	(empty)	40		false
Updated by	String	(empty)	40		false
Requested For	String	(empty)	40		false
Customer Document	String	(empty)	40		false
Updated	Date/Time	(empty)	40		false
Assigned to	Reference	User	32		false
Request Number	String	(empty)	40		false

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.

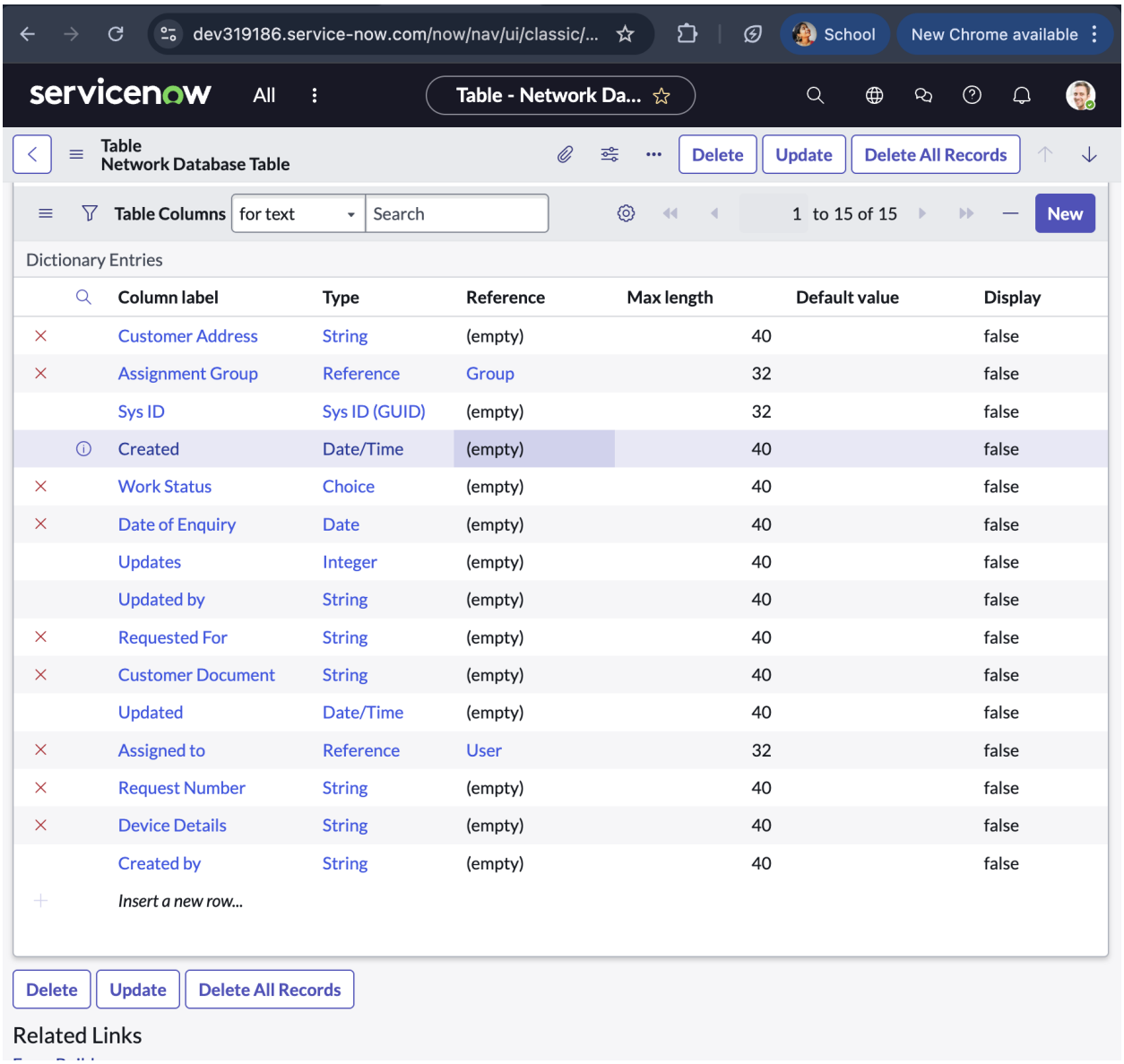
Open the Table's Columns

· 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:



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.

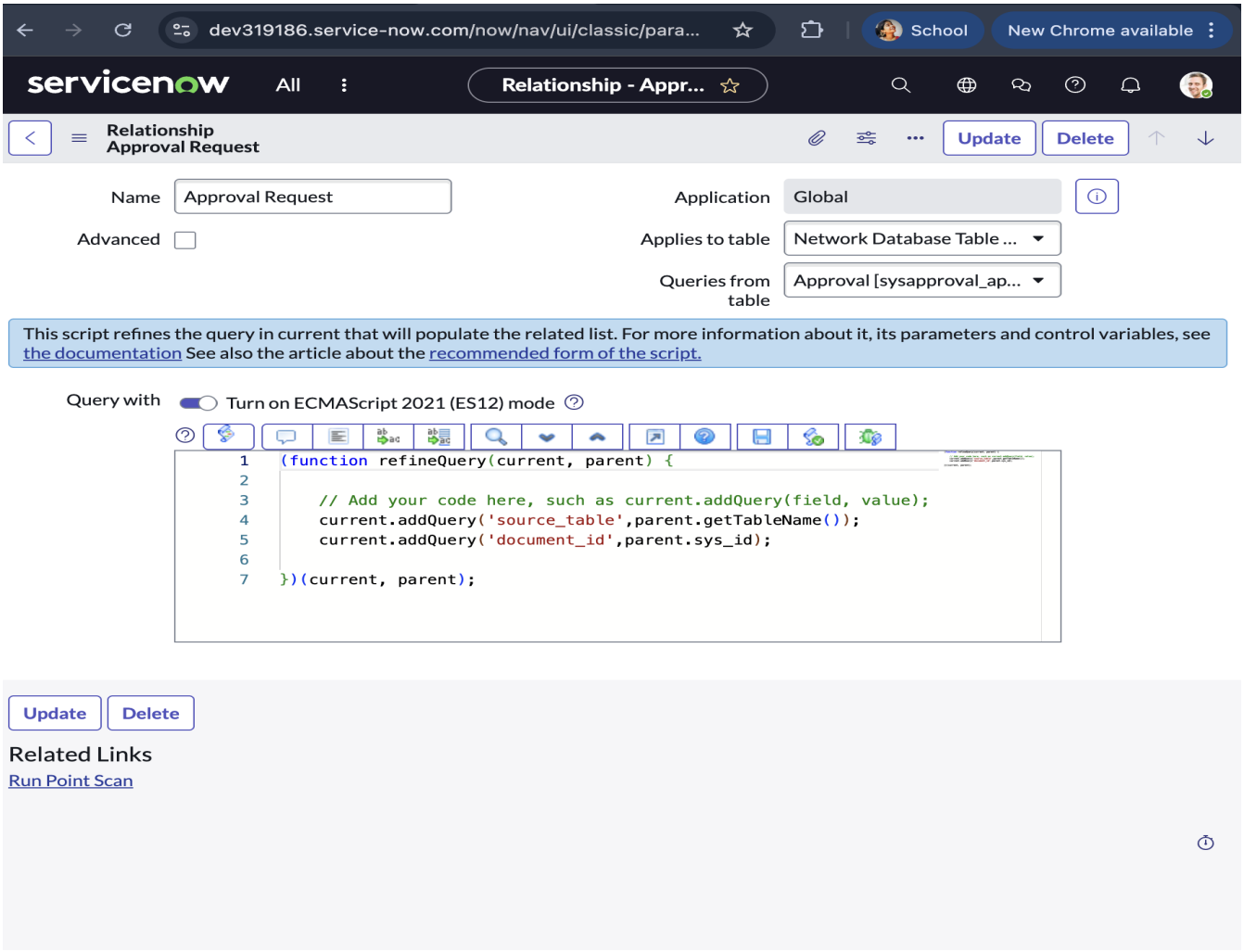
Request Approvals Creation(Related List)

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.
  - 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

Overview of flows,Actions in Flow Designer

Flow Designer Overview

Flow Designer allows you to automate business processes by designing, testing, and

implementing flows that automate tasks, approvals, notifications, and more, across different ServiceNow applications.

Key Features:

· **No-code interface** for building automation.

· **Reusable Flow Actions** to create modular components.

· Ability to automate processes **across multiple tables** and **integrate with other systems**.

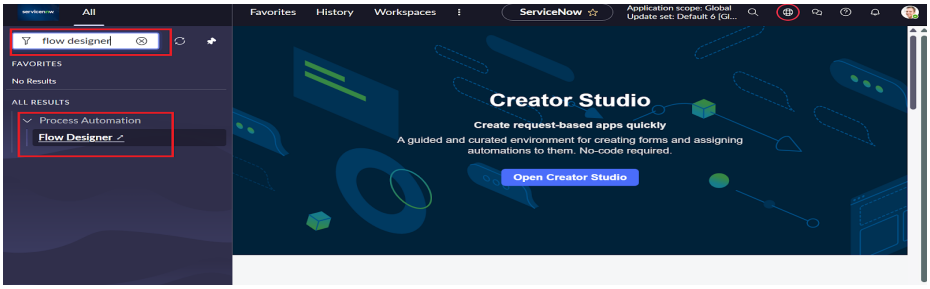
· **Conditional logic**, approvals, notifications, and integrations can be easily included in your flows.

· Full integration with **ServiceNow Orchestration** for complex automation

Navigating to Flow Designer

To access **Flow Designer**:

· Go to **Flow Designer** by typing Flow Designer in the left-hand application navigator, or navigate through **All > Flow Designer**.



Flow Designer Components

Key Components in Flow Designer:

1. **Triggers**:

o **Record Trigger**: Runs when a record is created, updated, or deleted in a specific table.

o **Scheduled Trigger**: Runs at a specific time interval or on a schedule.

o **Custom Event**: Triggered by custom events.

2. **Actions**:

o Actions define what happens when the flow is triggered. Common actions include:

§ **Create Record**: Create a new record in a table.

§ **Update Record**: Modify an existing record.

§ **Send Notification**: Send an email, SMS, or other notifications.

§ **Run Script**: Execute custom scripts for advanced logic.

3. **Data Pills**:

o These are dynamic references to data from records or previous steps in the flow. They are used to populate action inputs.

4. **Conditions & Decisions**:

o Conditions help in making decisions in a flow based on data, which can control the flow's behavior (e.g., send an approval notification if a specific condition is met).

5. **Flow Logic**:

o Includes decision points, loops, and waits for conditions to add complex logic to the flow.

Creating a Flow in Flow Designer

Steps to Create a Flow:

1. **Open Flow Designer**:

o Go to **Flow Designer > Flows**.

2. **Click on New**:

o This will start the process of creating a new flow.

3. **Define Flow Properties**:

o **Name**: Provide a name for your flow - Network Request.

o **Table/Application**: Choose the target table/application for the flow –Application–Service Catalog.

o **Trigger**: Define when this flow should run when a request is created.

o **Description**: Optional but helpful for understanding the purpose of the flow.

4. **Set a Trigger**:

o The **Trigger** defines when the flow is initiated. Common triggers include:

§ **Record Created**: When a record is created in a specific table.

§ **Record Updated**: When a record is updated.

§ **Scheduled**: When a flow should run on a schedule.

§ **Custom Event**: Triggered by a custom event (e.g., a certain event happening in the system).

o Select the relevant trigger for your flow (when a **Request** record is created).

Adding Actions

o After defining the trigger, you can add **actions** that will be executed when the flow is triggered.
Some common actions include:

1. Get Catalog Variables:

- In ServiceNow Flow Designer, the "Get Catalog Variables" action is used to retrieve values from a catalog item or record producer request. This action is especially helpful when you need to use user-inputted variables (from a catalog item) within a flow
- How to Use “Get Catalog Variables” in Flow Designer

1. Open Flow Designer
2. Navigate to: Flow Designer ? Create or open a flow.
3. Ensure the Trigger is Catalog-Based
4. Choose a trigger like Catalog Item Requested or Catalog Task Created.
5. Add Action ? Get Catalog Variables
6. Click + under your trigger or previous action.
7. Choose Action ? "Get Catalog Variables".
8. Select the record input (Requested Item [sc_req_item]) from the Data pill.
9. Set the Catalog item– Network Request
10. You’ll typically input the Requested Item Record from the trigger.

Use Output Variables

The output will include all the catalog variables submitted with the request.

2. Create Record:

- In ServiceNow Flow Designer, the "Create Record" action is used to create a new record in any table (e.g., Incident, Task, Custom Table, etc.) during the execution of a flow.
- This is one of the most powerful and commonly used actions in Flow Designer, allowing you to automate the creation of tasks, incidents, change requests, approvals, and more.

How to Use "Create Record" in Flow Designer

1. Open or Create a Flow

    ○. Go to **Flow Designer** (Flow Designer > Designer)
    ○. Open an existing flow or click **New**.

2. Add a Trigger (if needed)

    ○. e.g., **Record Created**, **Catalog Item Requested**, etc.

3. Add Action ? "Create Record"

    ○. Click the "**+**" under the trigger or another action.

    ○. Select **Action** ? Search for "**Create Record**".

4. Configure the Action:

    ○. **Table**: Select the table where you want the new record created (Network database table).

    ○. **Fields**: Set the field values you want on the new record using static values, data pills, or dynamic inputs.

3. Send Email Action:

- The "**Send Email**" action in ServiceNow Flow Designer allows you to send customized emails as part of an automated flow. It's commonly used to notify users, groups, or stakeholders based on triggers like catalog submissions, record changes, task updates, and more.

How to Use "Send Email" in Flow Designer

1. Open or Create a Flow

    ○. Go to **Flow Designer** (Flow Designer > Designer)

    ○. Open an existing flow or click **New**.

2. Add a Trigger
    - Examples: Catalog Item Requested, Record Updated, Incident Created, etc.
3. Add Action ? "Send Email"
    - Click the "+" button under the trigger or previous action.
    - Select Action ? Search for and select "Send Email".
4. Configure Email Details
    - To: Choose one or more recipients (Users, Groups, Emails). You can use:
        - Data Pills —>Requested For.Caller.email)
        - Static email addresses
    - Subject: Write a subject line. Your Request has been Created
    - Body: Enter the message body using:
        - Plain text
        - HTML formatting
        - Dynamic data pills (like variables, record fields)
5. (Optional) Add CC or BCC
    - Available in the action settings if needed.
6. Save and Test the Flow

4. Ask for Approval

- In ServiceNow Flow Designer, the "**Ask for Approval**" action is used to request approval from one or more users or groups as part of an automated process. It's commonly used in flows for change requests, catalog items, onboarding, and custom workflows where decisions are required.

How to Use "Ask for Approval" in Flow Designer

1. Open a Flow
   - Go to: **Flow Designer** ? Open or create a flow.
2. Add Action ? Ask for Approval
   - Click **+** and select **Action**.
   - Search for and select **"Ask for Approval"**.
   - Select Table/Record– Network Database table.
3. Configure the Approval

A. Who Needs to Approve?

- **Users**: Select specific users (static or from data pills like Requested For, Manager, etc.)
- **Groups**: Assign to a group. The first responder usually determines the outcome unless changed. I.e group manager.

B. Approval Record

- You must associate the approval with a record, typically the trigger record like:
  - Custom Table Record

C. Approval Details

- **Short Description**:The approvers will see the request."

4. Use the Outcome
   - The action outputs an **Approval State** will be like approved, rejected, or skipped.
5. Flow Logics:

- In ServiceNow Flow Designer, Flow Logic actions are used to control the flow's path based on conditions, iterations, or specific structure. They help you make decisions, loop through data, wait for conditions, and handle errors.

Using of If Condition:

- Click the "+" below your previous step (like the approval).

- Choose "Flow Logic" ? "If".

1. Set the Condition in the If block:
    1. Click "Add Condition"
    2. Choose a data pill (such as Approval State, variables.reason, or any field).
    3. Set your condition.
2. Add Actions Inside the If Block
    1. Inside the If (true) block, add actions like:
    2. Create a New table record/Update an existing record
3. Save and Test:
    1. After configuring the flow, click Save and then Test the flow to ensure it behaves as expected.
    2. You can test the flow using sample data or by triggering it manually.
4. Activate the Flow:
    1. Once you've tested the flow and everything looks good, you can activate the flow so that it starts running based on the defined trigger.

Testing and Debugging Flows

Steps to Test and Debug a Flow:

1. Testing:

o After creating a flow, you can test it by triggering the flow manually or creating a test record that matches your trigger conditions.

2. Debugging:

o Use the Flow Execution Logs to debug and track the flow's execution.

o Go to Flow Designer > Flows, select the flow, and review execution logs to identify any issues.

Best Practices for Flow Designer

· **Use Subflows**: For reusable processes, you can create subflows that are called from other flows. This reduces duplication.

· **Keep Flows Simple**: Avoid overly complex flows. Break up large processes into smaller, more manageable subflows.

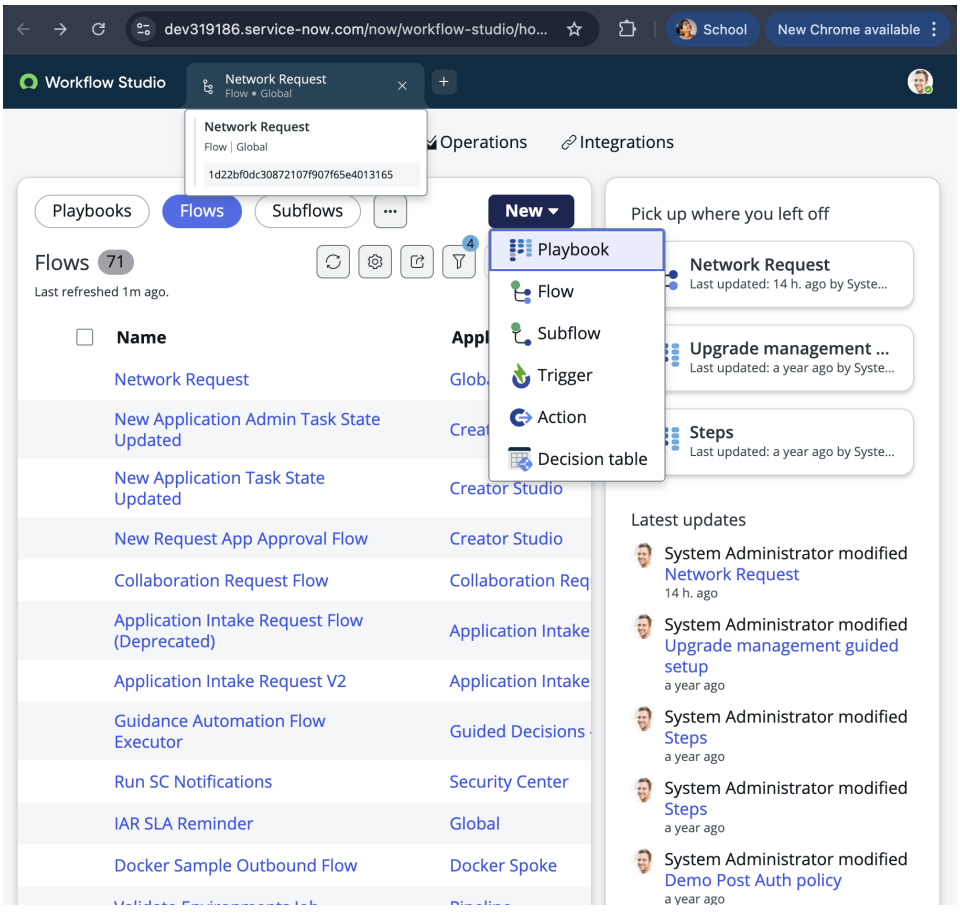
· **Error Handling**: Make sure your flows are capable of handling errors gracefully.

· **Naming Conventions**: Use clear, consistent naming conventions for flows, actions, and subflows.

· **Testing**: Always test your flow thoroughly before activating it in a production environment.

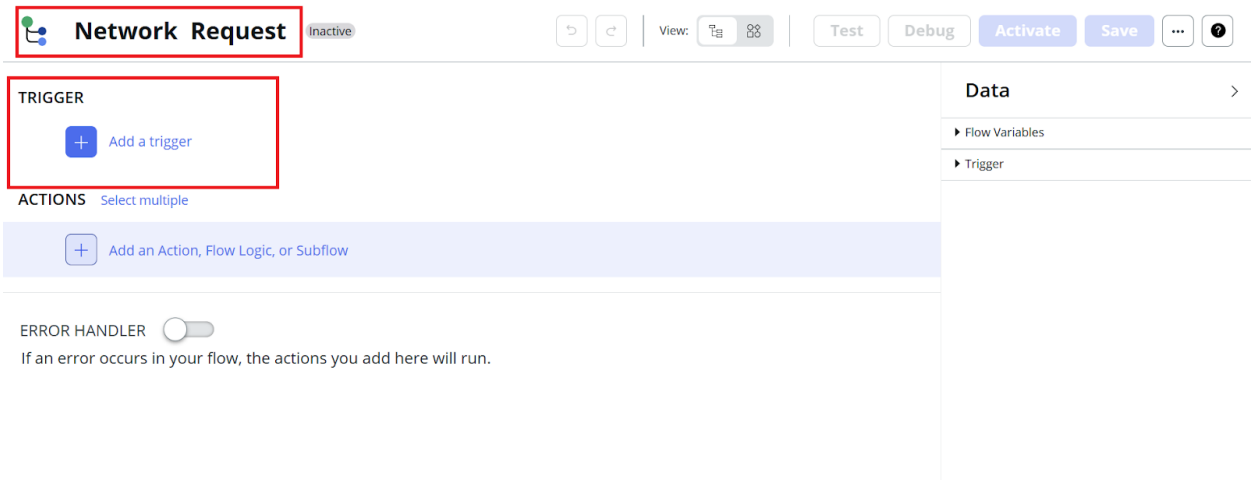
Creation of Flow

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.**

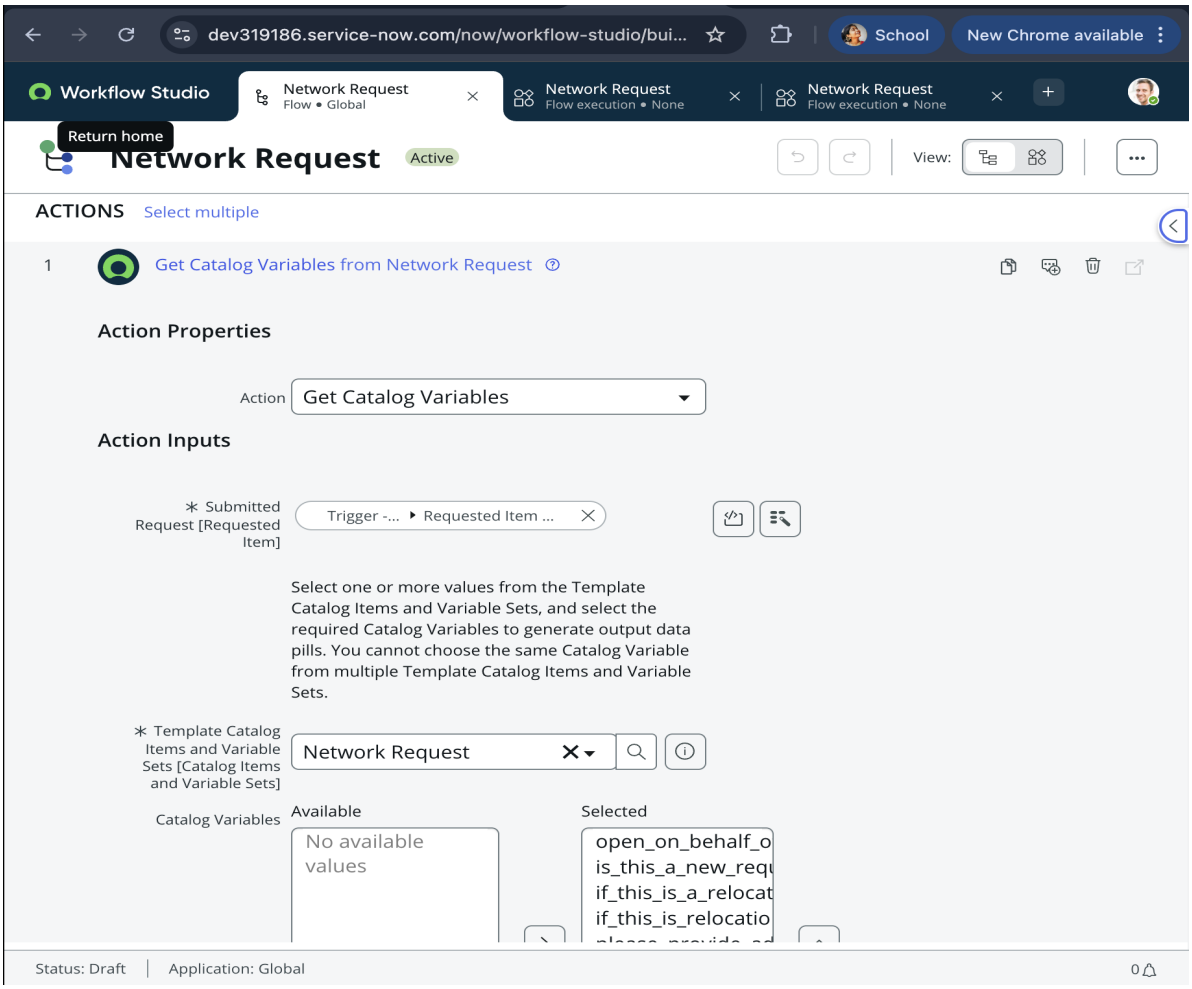


Configuring Actions

Click on Actions button to configure new action

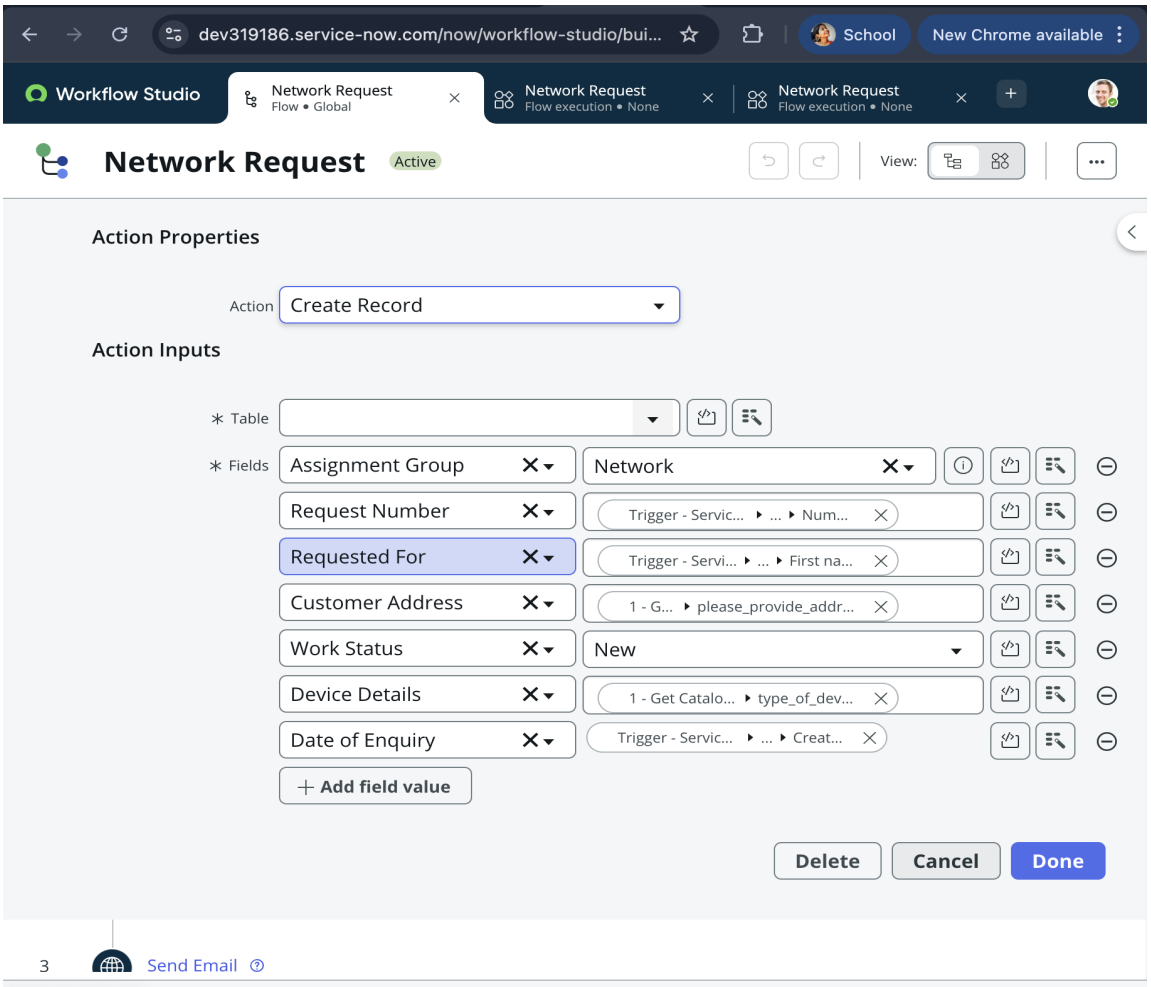
1. Get Catalog Variables

- 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



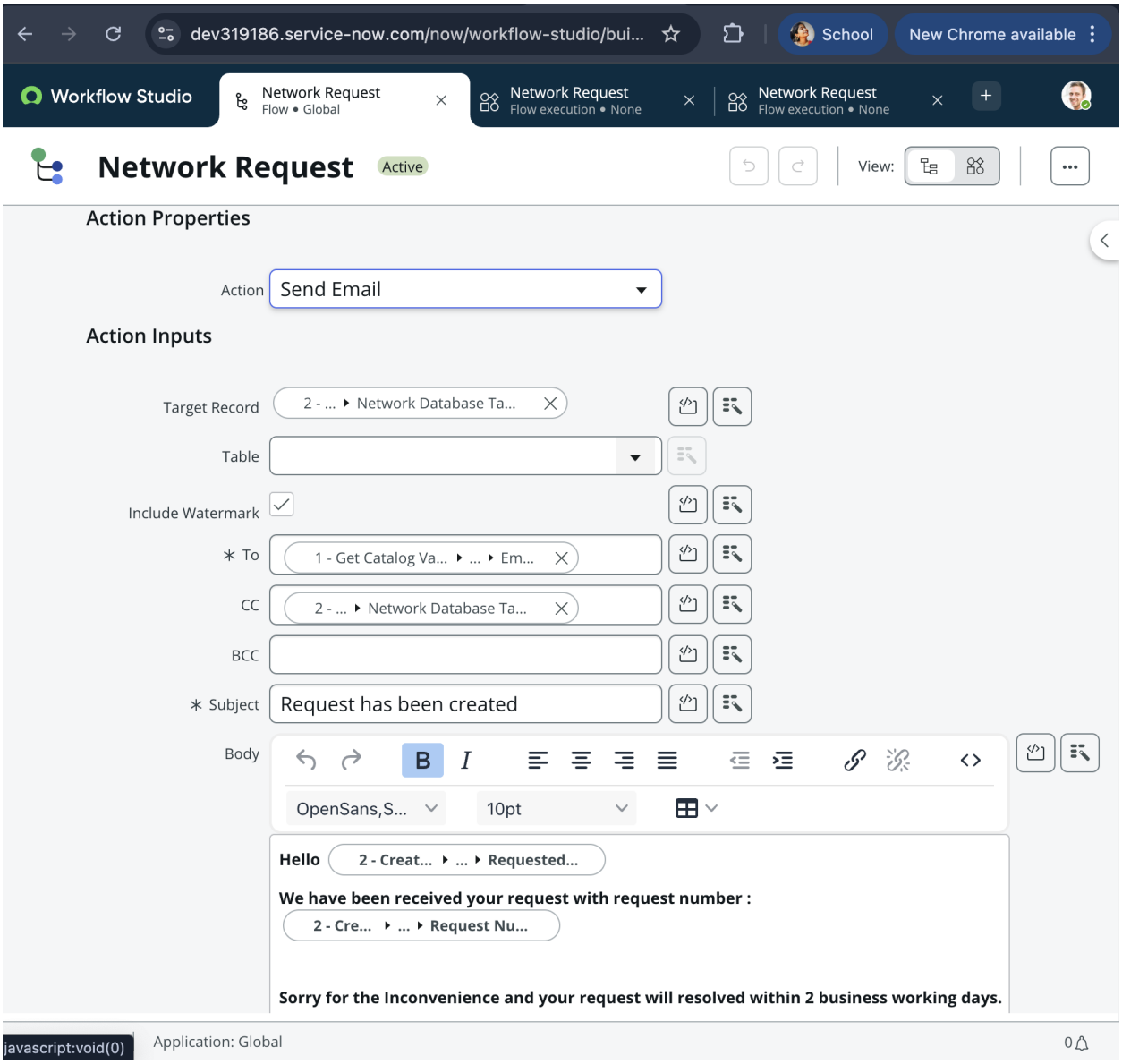
2. Create Record

- 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



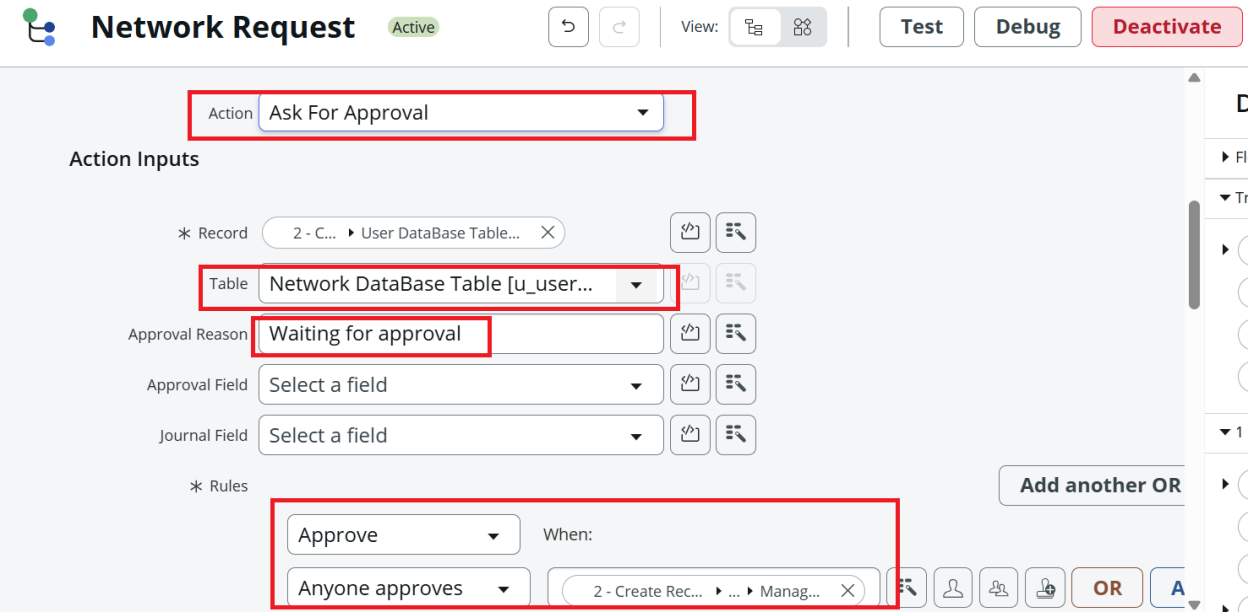
3. Send Email

- 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



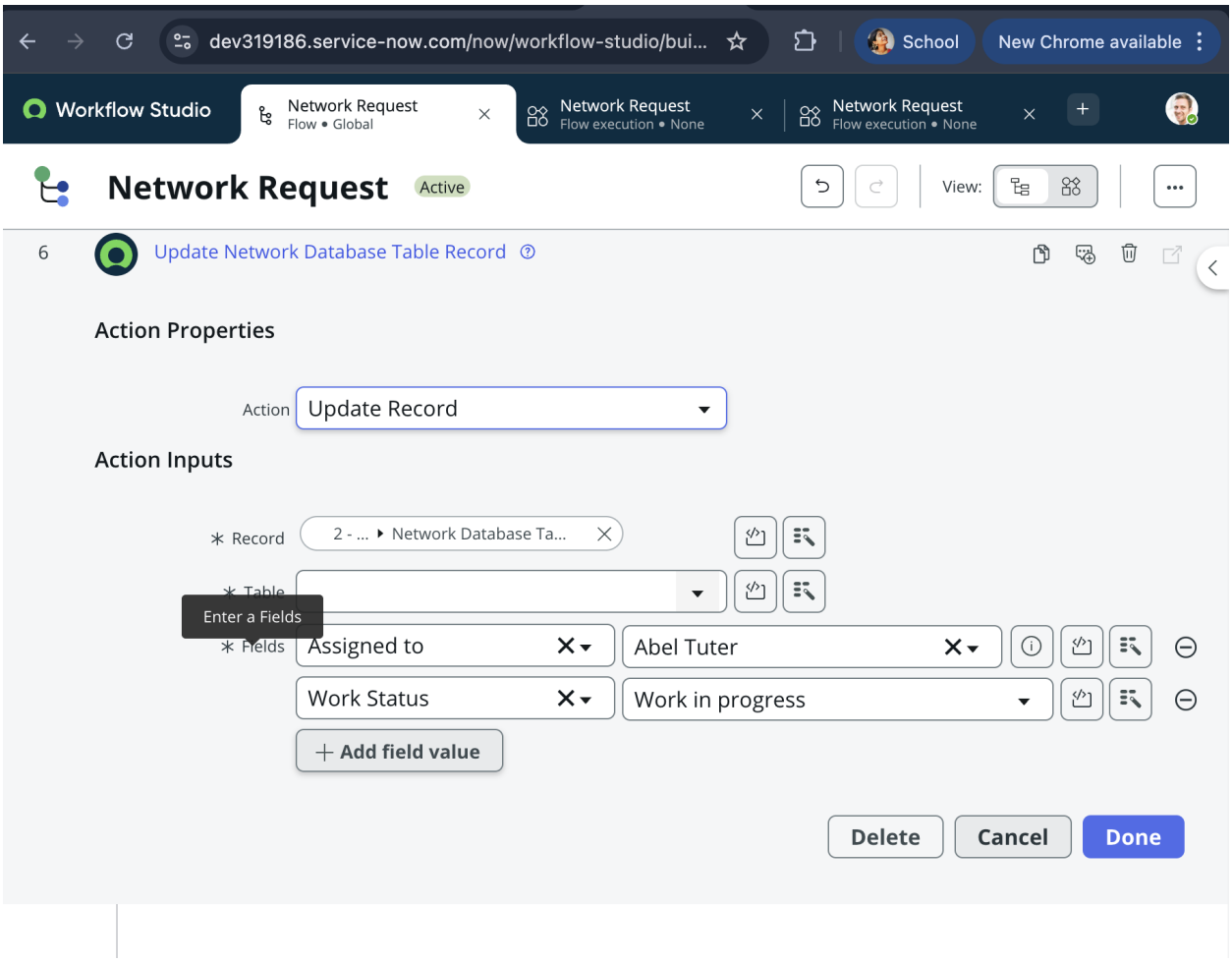
4. Ask for approvals

- 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

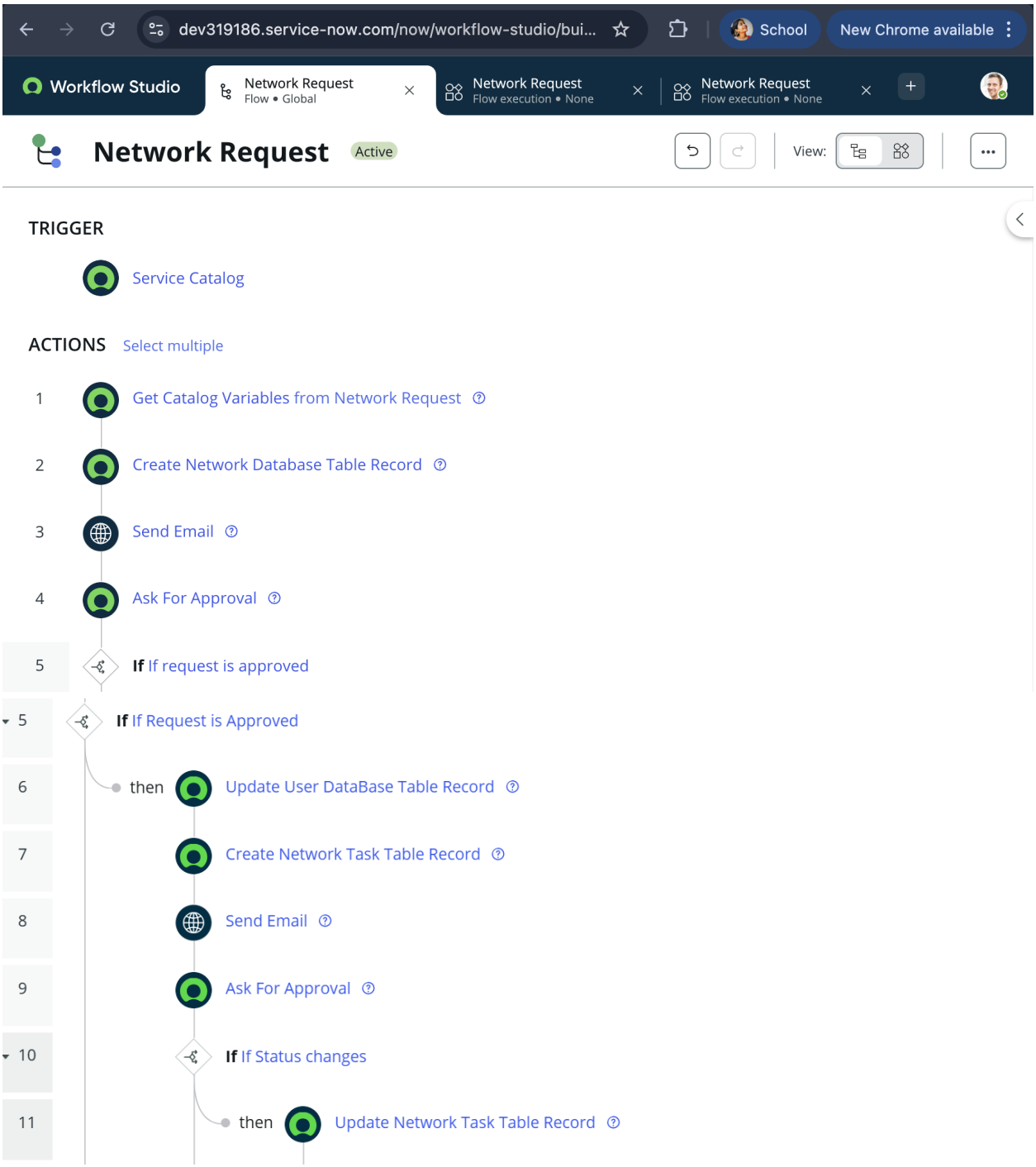


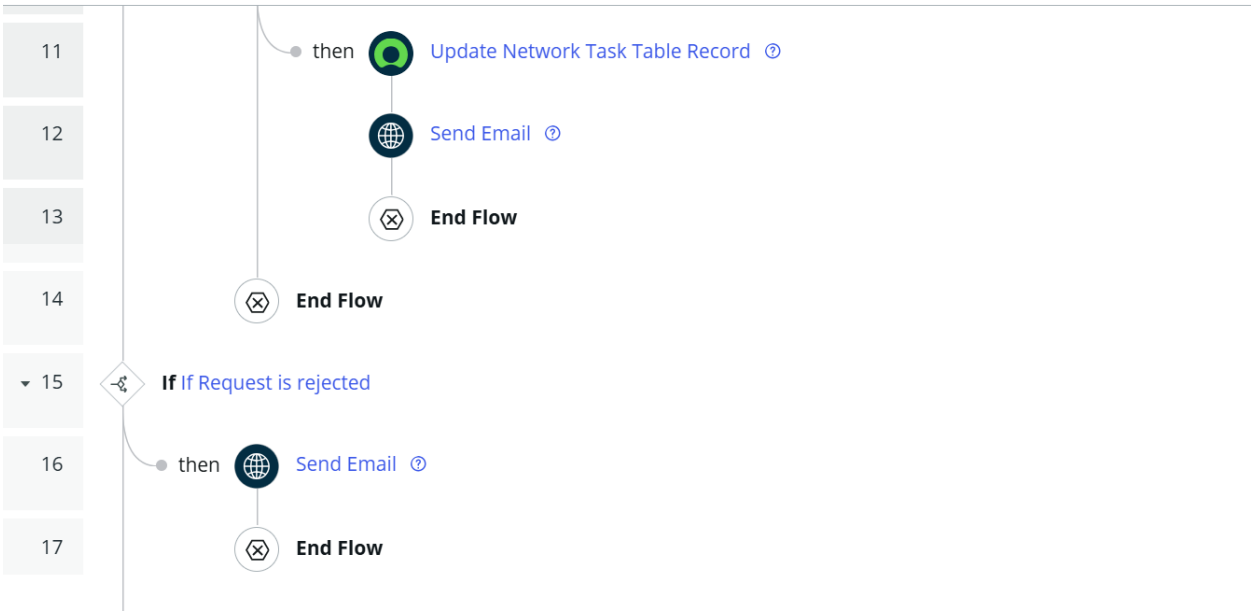
6. Update Record

- 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


dev319186.service-now.com/now/workflow-studio/bui...
School
New Chrome available
Workflow Studio
Network Request
Flow • Global
Network Request
Flow execution • None
Network Request
Flow execution • None
Network Request
Active
View:
6
Update Network Database Table Record
Action Properties
Action
Update Record
Action Inputs
* Record
2 - ... Network Database Ta...
* Table
Enter a Fields
* Fields
Assigned to
Abel Tuter
Work Status
Work in progress
Add field value
Delete
Cancel
Done

Flow Chart


dev319186.service-now.com/now/workflow-studio/bui...
School
New Chrome available
Workflow Studio
Network Request
Flow • Global
Network Request
Flow execution • None
Network Request
Flow execution • None
Network Request
Active
View:
TRIGGER
Service Catalog
ACTIONS
Select multiple
1
Get Catalog Variables from Network Request
2
Create Network Database Table Record
3
Send Email
4
Ask For Approval
5
If If request is approved
5
If If Request is Approved
6
then
Update User DataBase Table Record
7
Create Network Task Table Record
8
Send Email
9
Ask For Approval
10
If If Status changes
11
then
Update Network Task Table Record



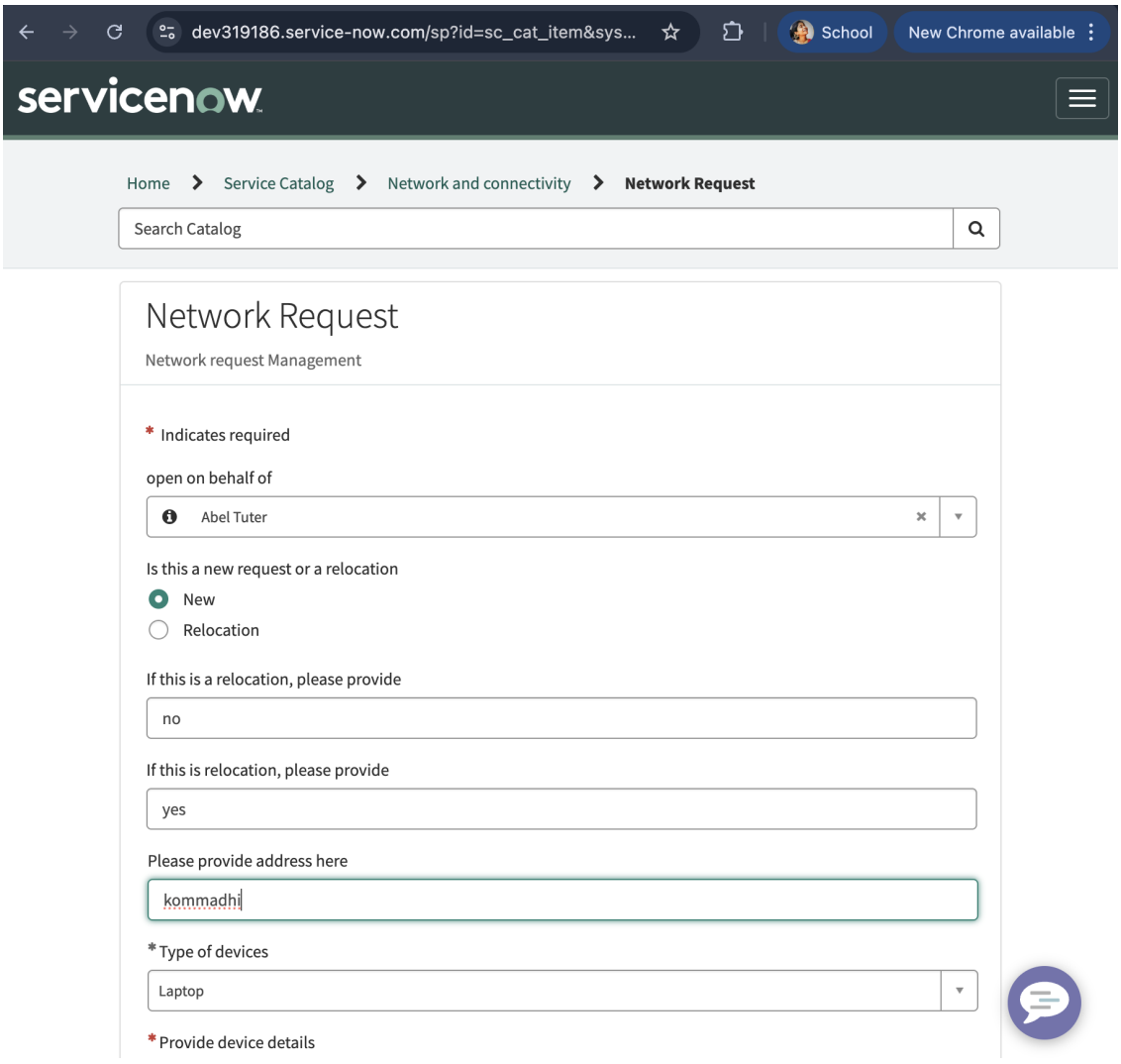
Final Testing in End User portal & Instance

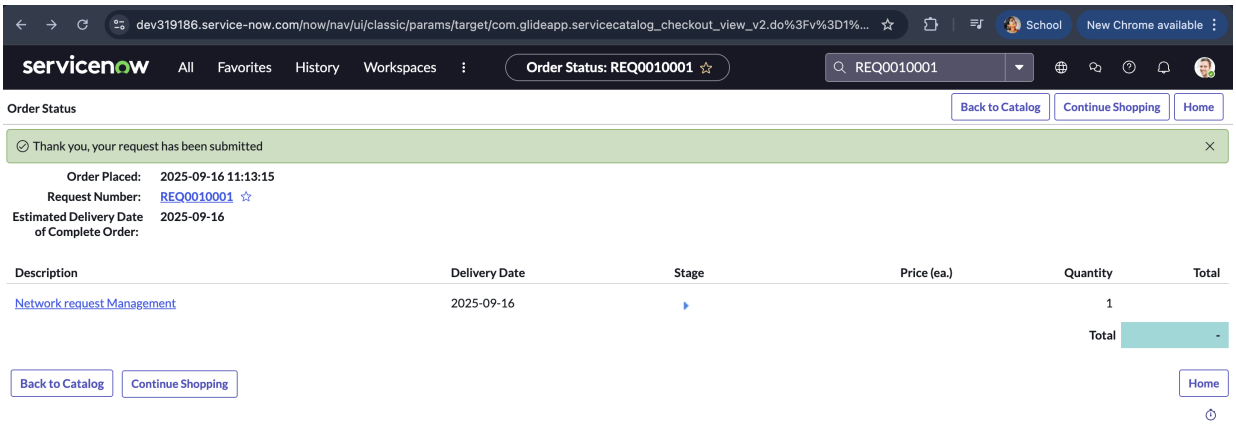
Final Testing in End User portal & Instance

Testing in Service Portal(End User)

Procedure:

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.

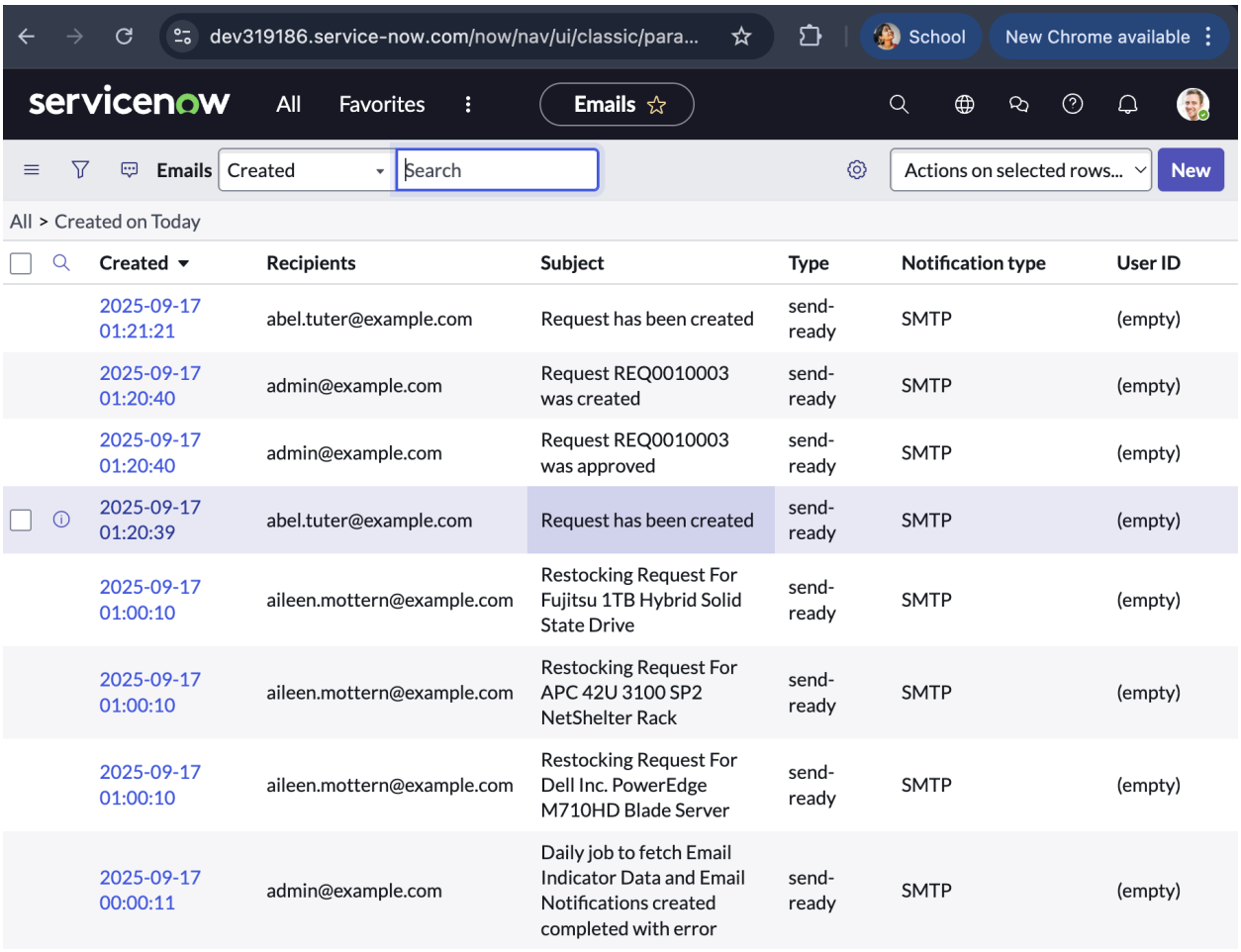

dev319186.service-now.com/sp?id=sc_cat_item&sys...
School
New Chrome available
servicenow
Home
Service Catalog
Network and connectivity
Network Request
Search Catalog
Network Request
Network request Management
* Indicates required
open on behalf of
Abel Tuter
Is this a new request or a relocation
New
Relocation
If this is a relocation, please provide
no
If this is relocation, please provide
yes
Please provide address here
kommadhi
* Type of devices
Laptop
* Provide device details

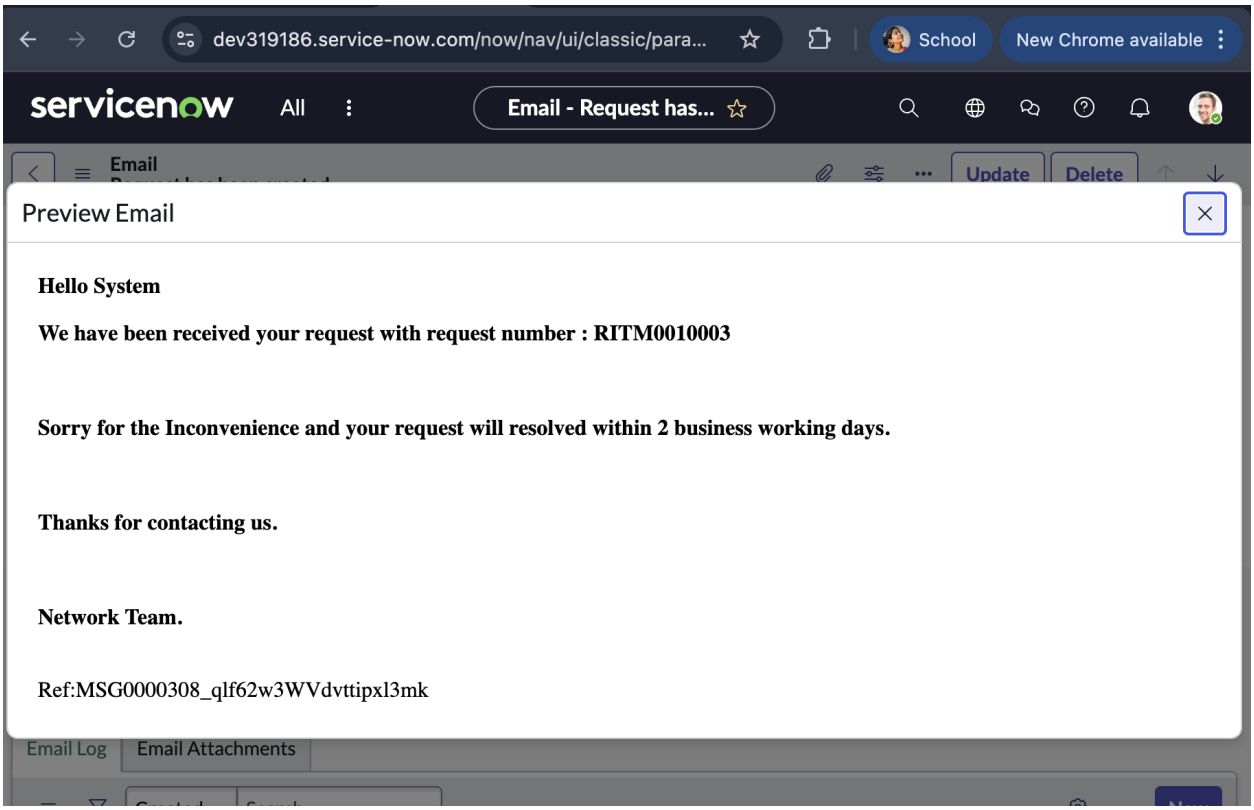


Testing Emails

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.


dev319186.service-now.com/now/nav/ui/classic/para...
School
New Chrome available
servicenow
All
Favorites
Emails
Emails
Created
Search
Actions on selected rows...
New
All > Created on Today
Created
Recipients
Subject
Type
Notification type
User ID
2025-09-17 01:21:21
abel.tuter@example.com
Request has been created
send-ready
SMTP
(empty)
2025-09-17 01:20:40
admin@example.com
Request REQ0010003 was created
send-ready
SMTP
(empty)
2025-09-17 01:20:40
admin@example.com
Request REQ0010003 was approved
send-ready
SMTP
(empty)
2025-09-17 01:20:39
abel.tuter@example.com
Request has been created
send-ready
SMTP
(empty)
2025-09-17 01:00:10
aileen.mottern@example.com
Restocking Request For Fujitsu 1TB Hybrid Solid State Drive
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 01:00:10
aileen.mottern@example.com
Restocking Request For Dell Inc. PowerEdge M710HD Blade Server
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)



Conclusion:

The Network Request Management system in ServiceNow automates request intake, routing, and fulfillment. Through dynamic forms, role-based approvals, and email notifications, it ensures transparency and efficiency. Optional automation integration further reduces manual workload and risk, enabling faster and more reliable network operations.