Phase – 2: Backend Development & Configurations Data Architecture

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1. Phase & Task Reference

Phase 2 focuses on backend automation and configuration, enabling the system to process software installation requests automatically after submission.

Modules covered:

- Data Architecture & Table Relationships
- Business Rule Configuration
- Flow Designer Automation
- Approval Handling
- Catalog Task Creation
- Exception Handling (License Issues)

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2. Objective

The objective of Phase 2 is to implement backend logic that:

- Automates request approvals and fulfillment
- Handles license unavailability scenarios
- Ensures correct data flow between ServiceNow tables
- Reduces manual intervention through Flow Designer and Business Rules

This phase transforms business requirements into **working automation logic**.

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3. Business Requirement

The organization requires a backend system that can:

- Automatically process software installation requests
- Route approvals to the correct approvers
- Create fulfillment tasks for IT teams
- Detect license issues and raise incidents when software cannot be fulfilled
- Maintain data consistency across request-related tables

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4. Configuration Details

4.1 Data Architecture

The request lifecycle is managed using standard ServiceNow tables:
Data Flow Description:

1. User (Employee / Requestor)
   Submits a Software Installation Request via Service Catalog.
2. Service Catalog Item (sc_cat_item)
   Captures request details from the catalog form.
3. Request (sc_request)
   A parent request record is created to track the overall request.
4. Requested Item (sc_req_item)
   Each catalog item creates a Requested Item (RITM) containing item-specific details.
5. Approval (sysapproval_approver)
   Manager or Network Admin approves or rejects the request.
6. Catalog Task (sc_task)
   Upon approval, fulfillment tasks are created and assigned to the Network / Software Support team.

4.2 Business Rule

Purpose:
To automatically create an **Incident** when a requested software cannot be fulfilled due to license unavailability.
Configuration Summary:

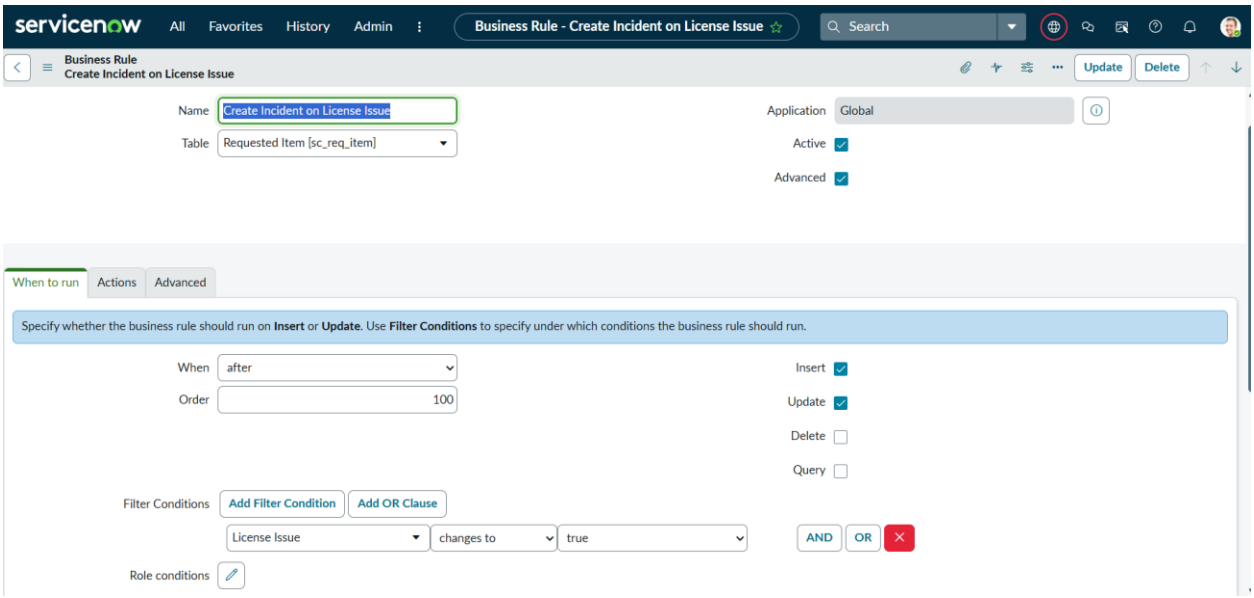
- **Table:** Requested Item (sc_req_item)
- **Trigger:** On Update
- **Condition:**
  - State changes to *On Hold*
    OR

- Custom field License Issue = true

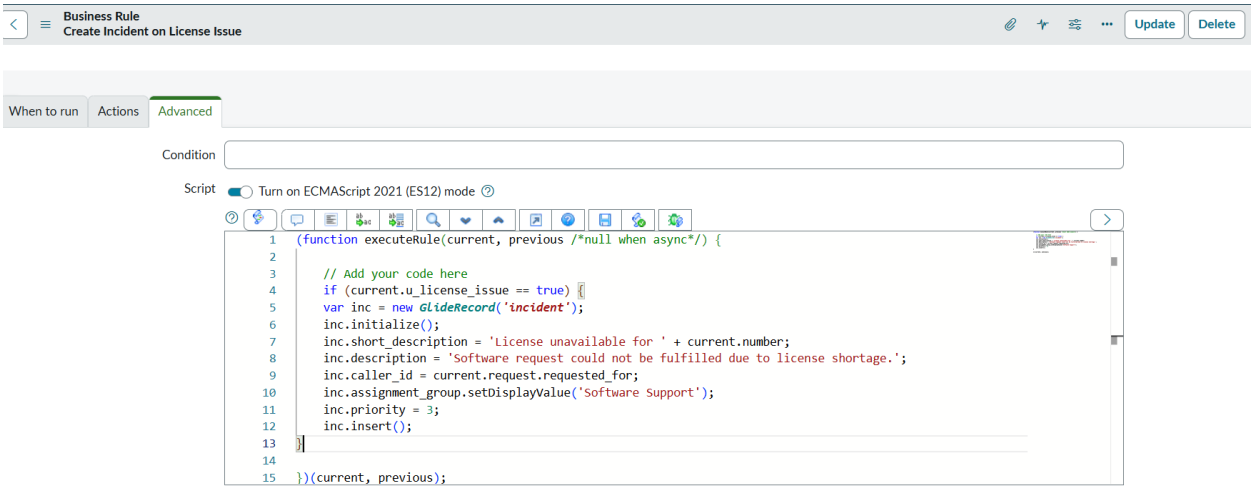
Business Rule Script Logic:

- Checks whether the license issue flag is set
- Creates an Incident record automatically
- Assigns the incident to Software Support
- Sets priority and provides a clear description

📸 ***Screenshot:*** *Creation of Business rule*



📸 ***Screenshot:*** *Business rule script*



Outcome:

- Ensures license issues are tracked as incidents
- Enables faster resolution and auditability
- Prevents silent request failures

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5. Configuration Steps(High Level)

Activity 1: Flow Design Creation (Flow Designer)
Objective: Create a Flow that automates approvals and task creation.
Steps:

1. Open ServiceNow
2. Navigate to **All → Flow Designer**
3. Click **New**
4. Select **Flow**
5. Enter Flow Name (e.g., *Software Installation Request Flow*)
6. Choose Trigger: **Service Catalog → Catalog Item Requested**
7. Submit and open the Flow for configuration

Activity 2: Flow Automation Logic
Objective: Define approval and fulfillment logic.
High-Level Flow Design:

1. **Trigger:** Catalog Item Requested
2. **If Condition:** Validate the catalog item (Software Installation Request)
3. **Ask for Approval:**
    - Approval routed to Manager / Network Admin
4. **If Approved:**
    - Create Catalog Task (sc_task)
    - Assign to Network / Software Support Team
5. **If Rejected:**
    - Update Requested Item state to *Closed Incomplete*
    - Add rejection notes
6. **End Flow**

Key Actions Used:

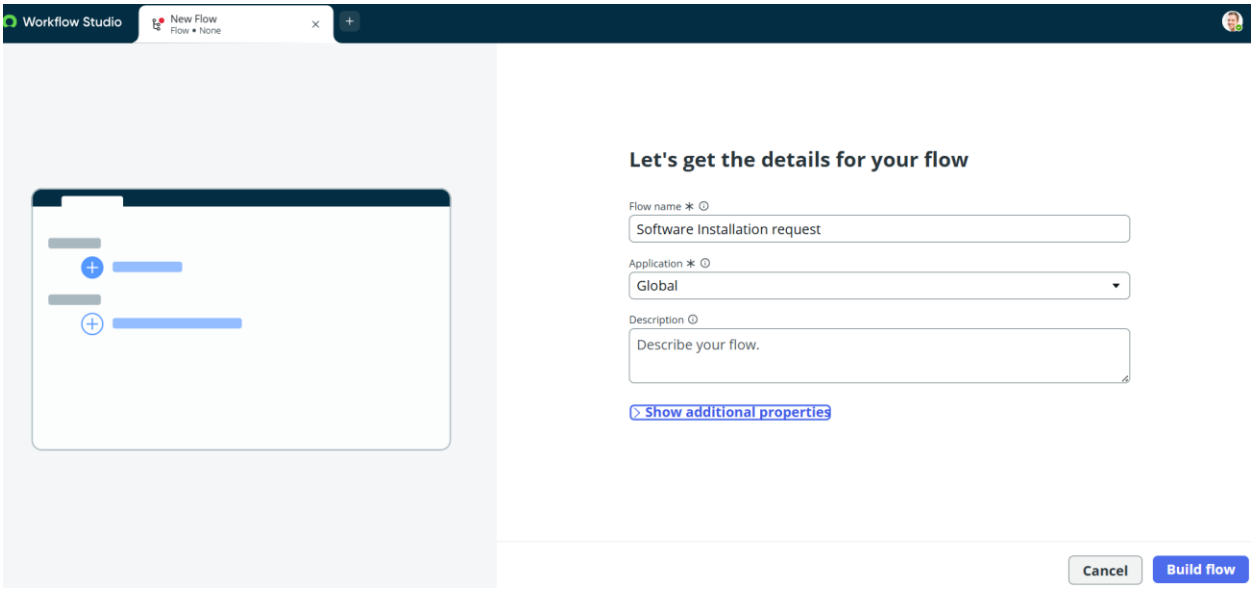
- If Condition
- Ask For Approval
- Create Record (Catalog Task)
- Update Record

- End

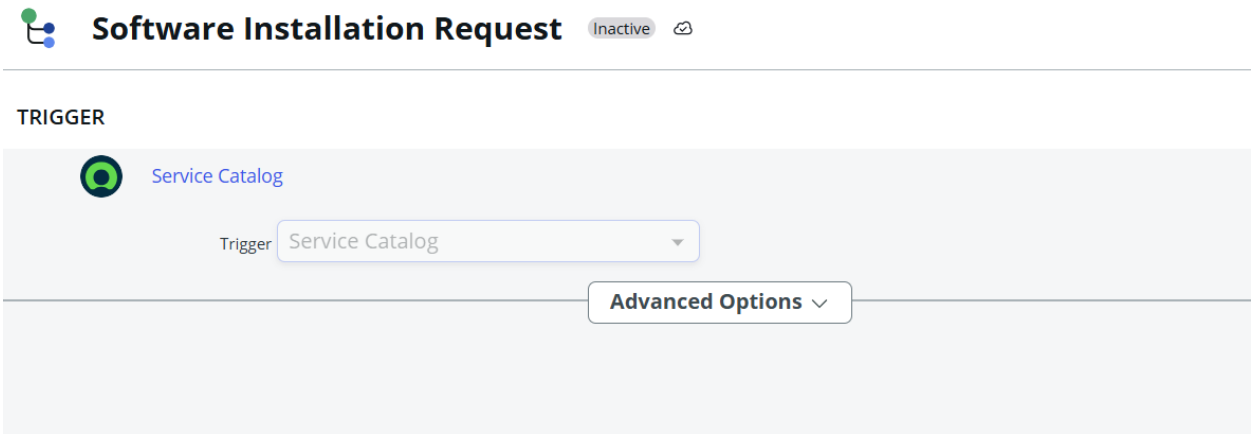
Final Step:

Activate the Flow after successful testing.

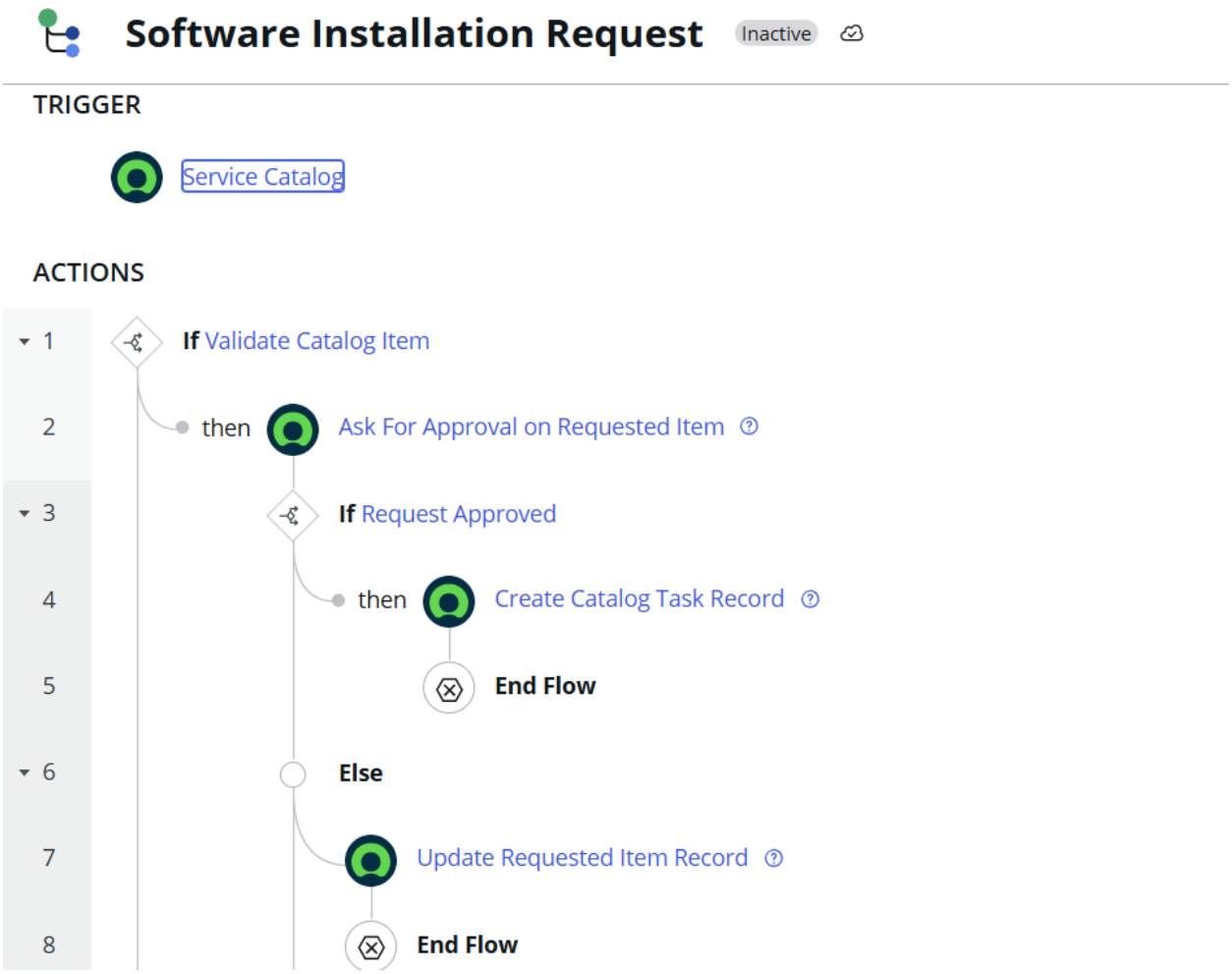
📸 ***Screenshot:*** *Flow Creation*



📸 ***Screenshot:*** *Trigger Condifuration*



Screenshot: *Completed Flow*



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6. Outcome

After completing Phase 2:

- Backend automation is fully implemented
- Requests flow seamlessly from submission to fulfillment
- Approvals are enforced through Flow Designer
- License issues automatically generate incidents
- Manual coordination is minimized
- Data integrity across REQ, RITM, and SCTASK is ensured