



MAR EPHRAEM COLLEGE OF ENGINEERING AND TECHNOLOGY

**DEPARTMENT OF COMPUTER SCIENCE AND
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NM1051- Service Now Administrator

**A PROJECT WORK ON
Laptop Request and Catalog Item**

SUBMITTED BY

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A PROJECT REPORT

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LAPTOP REQUEST CATALOG ITEM

1.Problem Statement

Many organizations handle laptop requests manually—through emails or direct messages to IT. This process is **time-consuming, lacks transparency**, and often results in **delays or miscommunication**. There is a need for an **automated, standardized process** that allows employees to easily request laptops, track approval status, and receive updates in one place. From an IT administration perspective, this lack of a structured system makes it difficult to **monitor inventory**, manage stock levels, and maintain accurate asset records.

2.Abstract

In today's digital era, managing family expenses requires a systematic and transparent process. This project, titled "Calculating Family Expenses Using ServiceNow," focuses on leveraging

ServiceNow's platform to automate the process of tracking daily and family-based expenses. By using ServiceNow tables, forms, and relationships, the system enables users to enter daily expense details, associate them with specific family members, and automatically compute totals. This ensures accuracy, reduces manual work, and provides a centralized view of financial data.

3.Introduction

Families often struggle to maintain clear and accurate expense records. Manually maintaining these records through spreadsheets or notebooks is prone to errors, duplication, and inefficiency. ServiceNow provides an effective platform to automate such processes by using custom tables, business rules, and relationships. In this project, a Family Expenses application is developed within ServiceNow that automates expense entry, categorization, and calculation for each family member.

4.Objectives

- To automate the process of tracking and calculating family expenses.
- To provide an easy-to-use interface for recording daily expenses.
- To maintain relationships between family members and their daily expenses.
- To enhance visibility and reporting of financial data.
- To demonstrate how ServiceNow can be applied beyond ITSM for personal and household management.

5. Methodology

Step 1: Setting up ServiceNow Instance

- Sign up for a developer account at <https://developer.servicenow.com>.
- Navigate to **Personal Developer Instance** → **Request Instance** to create a new ServiceNow instance.
- Fill out the required information and submit the request.
- Once the instance is ready, log in using the provided credentials.
- The instance serves as the base platform for building and testing the Family Expense Management system.

Step 2: Creation of New Update Set

- Go to **All** → **Local Update Set** → **New**.
- Enter details:
 - **Name:** Family Expenses
- Click **Submit** and then **Make Current** to activate the update set for this project.

Step 3: Creation of Family Expenses Table

- Navigate to **All** → **Tables** → **New**.
- Enter details:
 - **Label:** Family Expenses
 - **Name:** Auto-Populated
 - **New Menu Name:** Family Expenditure
- Save the configuration by right-clicking the header and selecting **Save**.

Step 4: Creation of Columns (Fields)

- Add new fields by double-clicking **Insert a new row** near the Columns section.
 - **Column Label:** Number → **Type:** String
 - **Column Label:** Date → **Type:** Date
 - **Column Label:** Amount → **Type:** Integer
 - **Column Label:** Expense Details → **Type:** String → **Max length:** 800
- Right-click the header and click **Save** to store the column configurations.

Step 5: Making Number Field an Auto-Number

- Open the **Number** field and enable **Advanced View**.
- In **Default Value**, check **Use Dynamic Default** and set **Dynamic Default Value** to *Get Next Padded Number*.
- Navigate to **All** → **Number Maintenance** → **New**.

- Enter details:
 - **Table:** Family Expenses
 - **Prefix:** MFE
- Click **Submit** to enable automatic numbering for new records.

Step 6: Configure the Form

- Navigate to **All → Family Expenses → Open Family Expenses → New**.
- Right-click the header → **Configure → Form Design**. Customize the layout as required.
- Make **Number** a *Read-Only Field*.
- Make **Date** and **Amount** *Mandatory Fields*.
- Click **Save** to apply the form configuration.

Step 7: Creation of Daily Expenses Table

- Navigate to **All → Tables → New**.
- Enter details:
 - **Label:** Daily Expenses
 - **Name:** Auto-Populated
 - **Add Module to Menu:** Family Expenditure
- Right-click the header and click **Save**.

Step 8: Creation of Columns (Fields) for Daily Expenses Table

- Add new fields by inserting rows under the Columns section:
 - **Column Label:** Number → **Type:** String
 - **Column Label:** Date → **Type:** Date
 - **Column Label:** Expense → **Type:** Integer
 - **Column Label:** Family Member Name → **Type:** Reference
 - **Column Label:** Comments → **Type:** String → **Max length:** 800
- Right-click the header and click **Save**.

Step 9: Configure the Form

- Navigate to **All → Daily Expenses → Open Daily Expenses → New**.
- Right-click the header → **Configure → Form Design**.
- Customize as needed.
- Make **Number** field *Read-Only*.
- Make **Date** and **Family Member Name** *Mandatory Fields*.
- Save the changes.

Step 10: Creation of Relationship between Family Expenses and Daily Expenses Tables

- Go to **All → Relationships → New**.
- Enter details:
 - **Name:** Daily Expenses
 - **Applies to Table:** Family Expenses
 - **Daily Expenses:** Daily Expenses
- Click **Save** to establish the relationship.

Step 11: Configuring Related List on Family Expenses

- Navigate to **All → Family Expenses → Open Family Expenses → New**.
- Right-click the header → **Configure → Related Lists**.
- Add **Daily Expenses** to the selected area.
- Click **Save** to finalize the related list configuration.

Step 12: Creation of Business Rules

- Navigate to **All → System Definition → Business Rules → New**.
- Enter details:
 - **Name:** Family Expenses BR
 - **Table:** Daily Expenses
- Check **Advanced**, and under *When to run*, check **Insert** and **Update**.
- Add the script in the **Advanced** section.
- Save the business rule to automate updating expenses in the *Family Expenses* table whenever a new *Daily Expense* record is added.

Step 13: Configure the Relationship

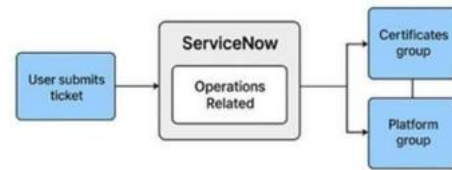
- Navigate to **All → Relationships → Open Daily Expenses Relationship**.
- Set **Applies to Table** as *Family Expenses*.
- In the **Query with** section, enter the script.
- Click **Update** to save the configuration.

6. Architecture Diagram

Streamlining Ticket Assignment for Efficient Support Operations

System Architecture

- The architecture consists of two main tables — **Family Expenses** and **Daily Expenses** — linked through a **reference relationship**.
- When a new daily expense is added, the system triggers a **Business Rule** that recalculates the total expenses for the related family member.



Flow Explanation

- User creates a **Daily Expense** record.
- The record is **linked to a Family Member**.
- The system **calculates and updates** the total automatically.

7. Workflow Explanation

Manual Process:

- Each family member records expenses manually.
- Summations are calculated periodically by hand.

Automated Process (ServiceNow Implementation):

- Daily expense entries are automatically linked to family members.
- Total expenses are calculated dynamically via business rules.
- Users can view detailed expense breakdowns per member in real-time.

8. Benefits of Automation

- **Accuracy:** Reduces human error in calculations.
- **Efficiency:** Eliminates manual summation tasks.
- **Transparency:** Provides clear visibility of expenses per family member.
- **Scalability:** Can be expanded for monthly or yearly tracking.
- **Integration:** Can integrate with dashboards for data visualization.

9. Results and Outcomes

After implementation, the **Family Expense Management System** achieved:

- Complete automation of expense calculation.
- Improved coordination among users (family members).
- Real-time updates to total expenses upon adding daily transactions.
- Simplified data entry and management within ServiceNow.
- Enhanced reporting and visibility across family members' expenses.

This clearly demonstrates the **efficiency and reliability** of ServiceNow's automation features in real-world management scenarios.

10.Future Scope

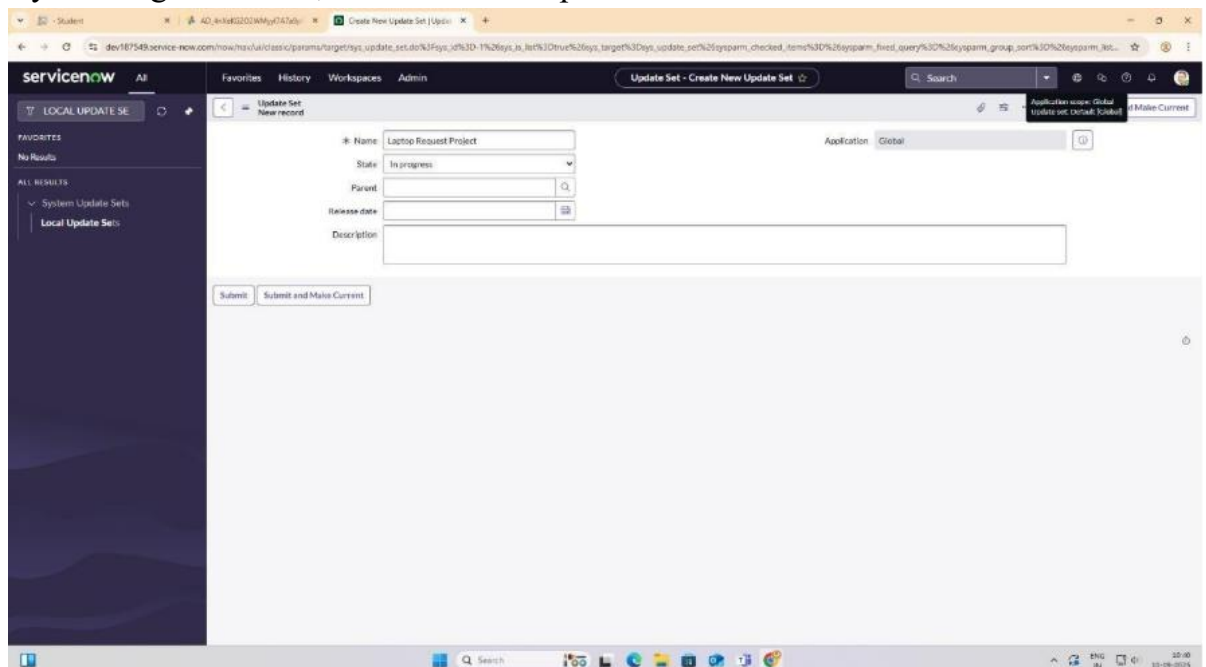
- Integration with **ServiceNow reports and dashboards** for analytics.
- Adding **budget limits and notifications** for overspending.
- Creating **charts and visual dashboards** for expense distribution.
- Extending the project for **income tracking and savings calculation**.
- Integration with **external payment or finance tracking APIs**.

11. TASK INITIATION

Milestone 1: Create Local Update Set

Activity 1: Create Update Set in ServiceNow

- Open the **ServiceNow instance**.
- Click on **All → Search for Update Sets**.
- Select **Local Update Sets** under *System Update Sets*.
- Click on **New**.
- Fill in the following details:
 - **Name:** Laptop Request
- Click **Submit** and then **Make it Current**.
- By clicking the button, it activates the update set.



Milestone 2: Create Service Catalog Item

Activity 1: Create New Service Catalog Item in ServiceNow

- Open **ServiceNow**.

- Click on **All** → **Service Catalog**.
- Select **Maintain Items** under *Catalog Definitions*.

| Name | Short description | Active | Roles | Catalogs | Category | Price | Type | Updated |
|------------------------------------------|---------------------------------------------|--------|-------|-----------------|--------------------------|------------|------|---------------------|
| 3M Privacy Filter - Lenovo X1 Carbon | Privacy Filter - X1 Carbon | true | | Service Catalog | Peripherals | \$43.19 | Item | 2022-11-20 20:46:33 |
| 3M Privacy Filter - MacBook Pro | Privacy Filter | true | | Service Catalog | Peripherals | \$42.23 | Item | 2022-11-20 20:46:33 |
| 3M Privacy Filter - MacBook Pro Retina | Privacy Filter | true | | Service Catalog | Peripherals | \$40.31 | Item | 2022-11-20 16:00:00 |
| Access | Microsoft Access | true | | Service Catalog | Software | \$139.99 | Item | 2022-11-20 20:46:33 |
| Acrobat | Adobe Acrobat | true | | Service Catalog | Software | \$139.99 | Item | 2022-12-05 20:46:33 |
| Add network switch to datacenter cabinet | This standard change template describes... | true | | Service Catalog | Network Standard Changes | \$0.00 | Item | 2025-09-09 20:18:45 |
| Add Remove users from group | Add Remove users from group | true | | Service Catalog | Services | \$0.00 | Item | 2022-12-05 10:17:33 |
| Adobe Acrobat Pro | Create, edit or convert PDF files | true | | Service Catalog | Software | \$0.00 | Item | 2022-12-05 20:46:33 |
| Adobe Creative Cloud | More connected ways of creating and shar... | true | | Service Catalog | Software | \$0.00 | Item | 2022-12-05 20:46:33 |
| Apple iPad 3 | Apple iPad 3 | false | | Service Catalog | Tablets | \$600.00 | Item | 2022-11-20 20:46:33 |
| Apple iPhone 13 | Request for Apple iPhone 13 | true | | Service Catalog | Mobiles | \$799.00 | Item | 2022-09-20 08:00:16 |
| Apple iPhone 13 pro | Request for Apple iPhone 13 pro | true | | Service Catalog | Mobiles | \$999.00 | Item | 2022-05-24 03:02:19 |
| Apple iPhone 4 Cable | For Apple iPhone 4/4S | false | | Service Catalog | Peripherals | \$19.00 | Item | 2022-11-20 20:46:33 |
| Apple iPhone 5 | Apple iPhone 5 | false | | Service Catalog | Mobiles | \$599.99 | Item | 2022-11-20 20:46:33 |
| Apple iPhone 5 Cable | Apple iPhone 5 Cable | false | | Service Catalog | Peripherals | \$19.00 | Item | 2022-11-20 20:46:33 |
| Apple iPhone 6s | Apple iPhone 6s | false | | Service Catalog | Hardware | \$799.99 | Item | 2022-11-20 20:46:33 |
| Apple iPhone 6s Plus | Apple iPhone 6s Plus | false | | Service Catalog | Mobiles | \$799.99 | Item | 2022-11-20 20:46:33 |
| Apple MacBook Pro 15" | Apple MacBook Pro | true | | Service Catalog | Hardware | \$1,099.99 | Item | 2022-11-20 20:46:33 |
| Apple Thunderbolt to Ethernet Adapter | For MacBook Air/Pro | true | | Service Catalog | Peripherals | \$30.89 | Item | 2022-11-20 20:46:33 |
| Apple USB Ethernet Adapter | Macbook Air Ethernet Adapter | false | | Service Catalog | Peripherals | \$28.13 | Item | 2022-11-20 20:46:33 |

- Click on **New** and fill in the following details to create a new catalog item:
 - **Name:** Laptop Request
 - **Catalog:** Service Catalog
 - **Category:** Hardware
 - **Short Description:** Use this item to request a new laptop
- Click on **Save**.

ServiceNow Catalog Item - New Record

Catalog items are goods or services available to order from the service catalog. Items can be anything from hardware, like tablets and phones, to software applications, to furniture and office supplies.

- Enter a Name and Short description to display for the item.
- Enter a Price, approvals, variables, and other information as needed.

Name: Laptop Request **Application:** Global

Catalog: Service Catalog **Active:** ☒

Category: Hardware **Fulfillment automation level:** Unspecified

State: None **Checked out:** None

Owner: System Administrator

Item Details | Process Engine | Picture | Pricing | Portal Settings

Short description: Use this item to request a new laptop

Description:

Activity 2: Add Variables to the Catalog Item

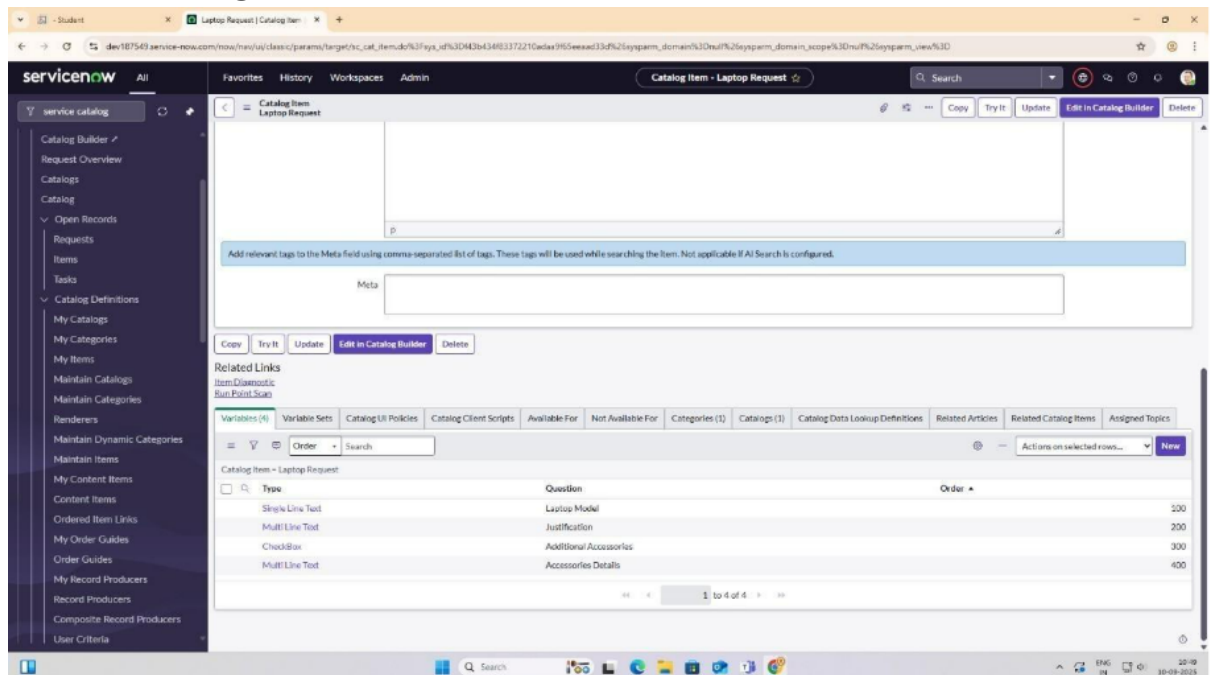
Step 1:

- After saving the catalog item form, scroll down and click on **Variables (Related List)**.
- Click on **New** and enter the details below:
 - **Variable 1: Laptop Model**
 - **Type:** Single Line Text
 - **Name:** laptop_model
 - **Order:** 100
 - Click on **Submit**.
- Again, click on **New** and add the remaining variables using the same process:

The screenshot shows the ServiceNow 'Variable - New Record' form. The form is for creating a new variable. The 'Application' is set to 'Global'. The 'Type' is 'Single Line Text'. The 'Catalog Item' is 'Laptop Request'. The 'Order' is '100'. The 'Active' checkbox is checked. The 'Mandatory', 'Read only', and 'Hidden' checkboxes are unchecked. Below the form fields, there is a section for 'Specify the Question that explains the options available to the end user when ordering the item'. This section includes fields for 'Question' (Laptop Model), 'Name' (laptop_model), 'Conversational label', 'Tooltip', and 'Example Text'. A 'Submit' button is at the bottom left of the form.

- **Variable 2: Justification**
 - **Type:** Multi Line Text
 - **Name:** justification
 - **Order:** 200
- **Variable 3: Additional Accessories**
 - **Type:** Checkbox
 - **Name:** additional_accessories
 - **Order:** 300
- **Variable 4: Accessories Details**
 - **Type:** Multi Line Text
 - **Name:** accessories_details
 - **Order:** 400
- **Step 2:**

- After adding the above variables, they are automatically linked to the newly created catalog item.
- Save the **Catalog Item Form**.

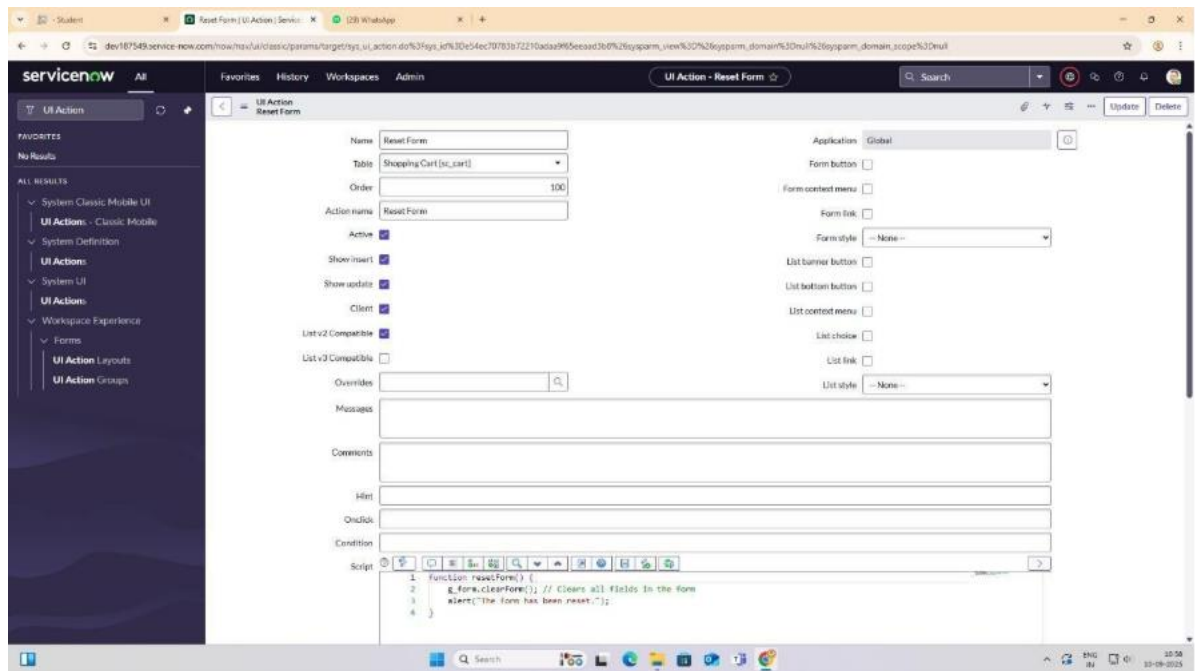


Milestone 3: Create Catalog UI Policies

Activity 1: Configure Catalog UI Policy for Dynamic Behavior

- Click on **All** → **Search for Service Catalog**.
- Select **Maintain Item** under *Catalog Definitions*.
- Search for the previously created **Laptop Request** item.
- Select **Laptop Request** and scroll down to click on **Catalog UI Policies**.
- In the *Catalog UI Policies* related list, click on **New**.
- Fill in the details:
 - **Short Description:** Show Accessories Details
 - **When to Apply:**
 - **Field:** additional_accessories
 - **Operator:** is
 - **Value:** true

- Click **Save** (do not click Submit).
- Scroll down and select **Catalog UI Actions**.
- Click on **New** and enter:
 - **Variable Name:** accessories_details
 - **Order:** 100
 - **Mandatory:** True
 - **Visible:** True
- Click **Save**, then again **Save the Catalog UI Policy Form**.



Milestone 4: Create UI Action

Activity 1: Create Reset Form UI Action

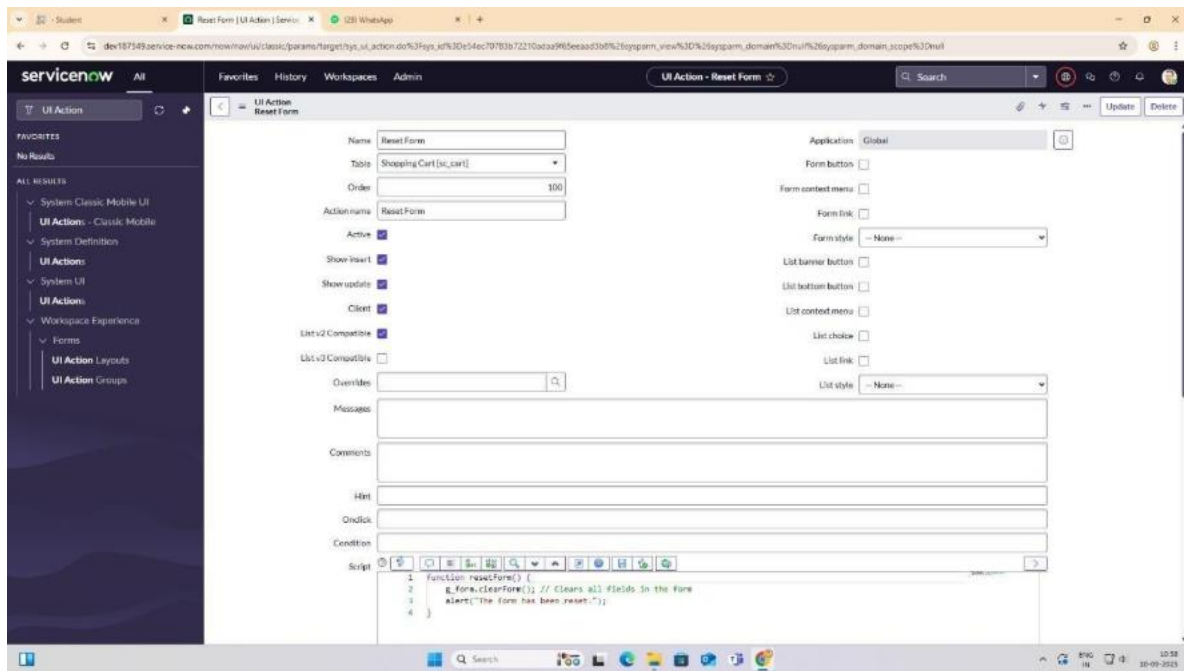
- Open ServiceNow.
- Click on All → Search for UI Action.
- Select UI Actions under *System Definition*.
- Click on New.
- Fill in the following details:
 - **Table:** shopping_cart (sc_cart)
 - **Order:** 100
 - **Action Name:** Reset Form
 - **Client:** Checked
 - **Script:**

```

function resetForm() {
  g_form.clearForm(); // Clears all fields in the form
  alert("The form has been reset.");
}

```

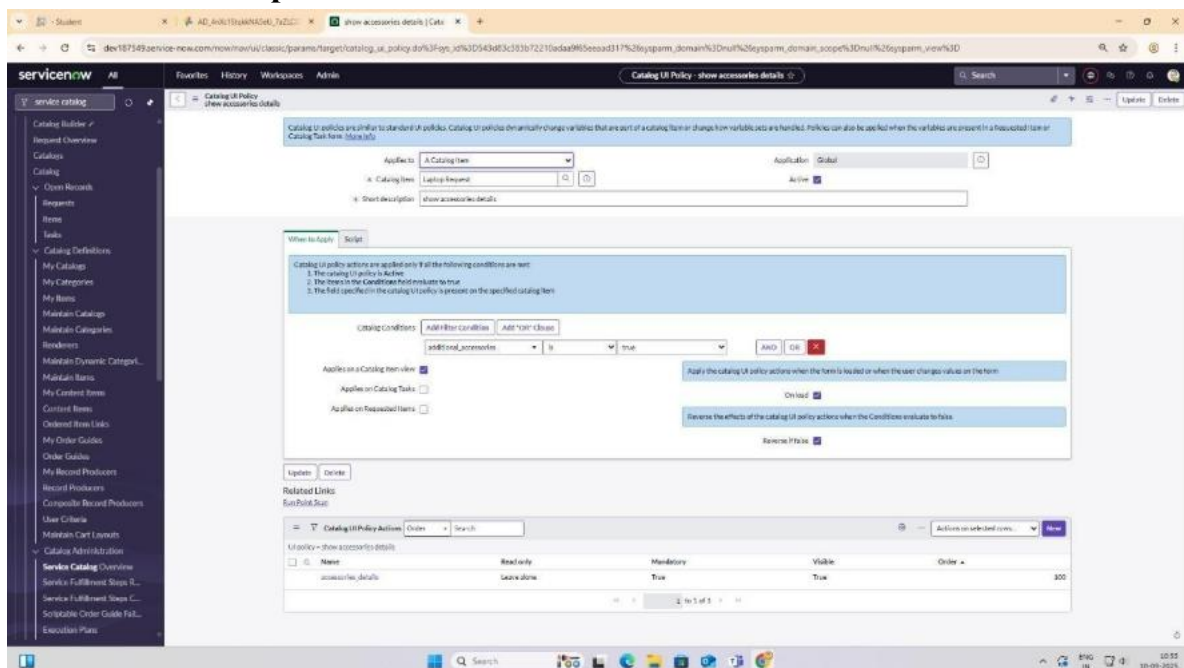
- Click **Submit** to save the UI Action.



Milestone 5: Exporting Changes to Another Instance

Activity 1: Export Update Set as XML

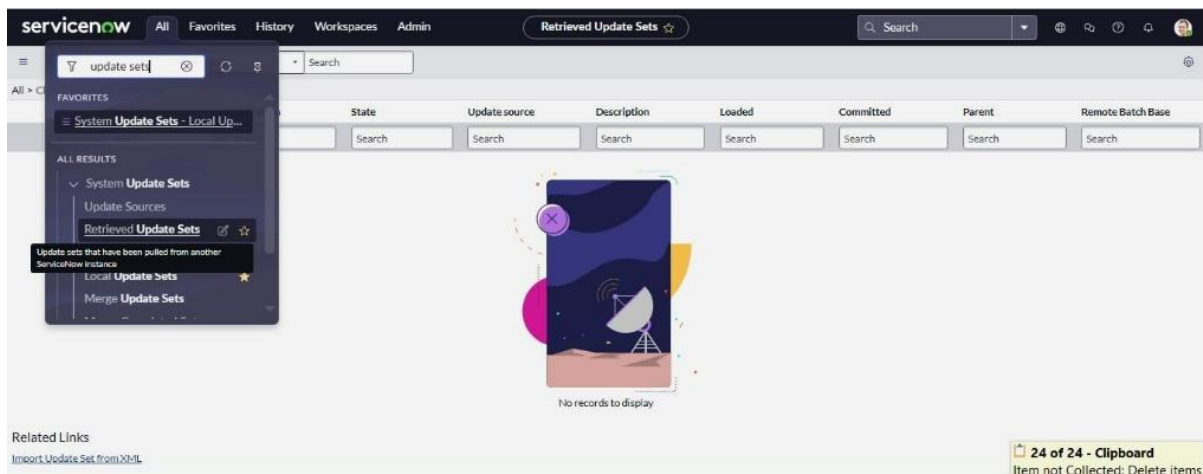
- Click on **All** → **Search** for Update Sets.
- Select **Local Update Sets**.
- Select the created update set — *Laptop Request Project*.
- Set the **State** to *Complete*.
- In the *Related List* → *Updates* tab, verify all updates performed under this update set.
- Click on **Export to XML** — it downloads one XML file.



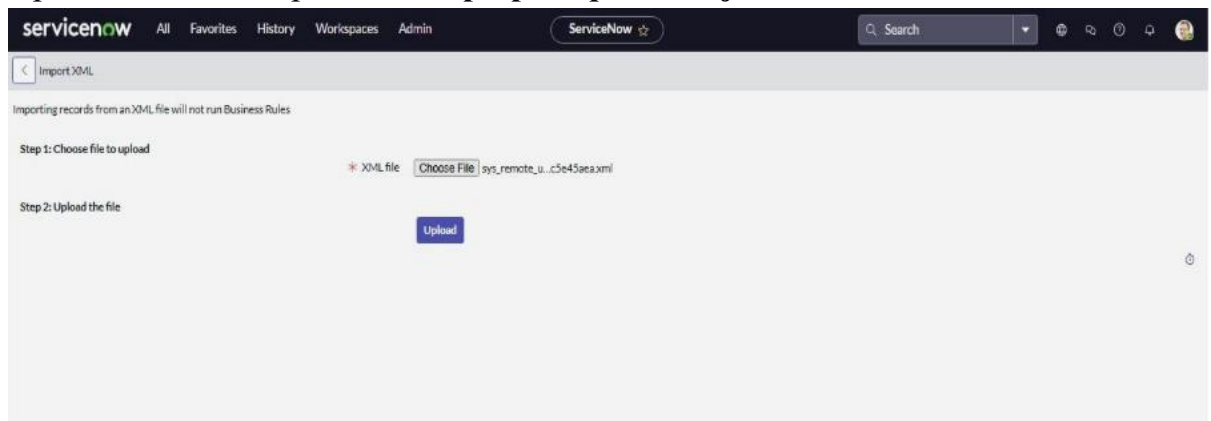
Milestone 6: Retrieving the Update Set

Activity 1: Import Update Set from XML into Another Instance

- Open another **ServiceNow** instance in an *Incognito Window*.
- Log in using valid credentials.
- Click on **All** → **Search for Update Sets**.
- Select **Retrieved Update Sets** under *System Update Sets*.
- Scroll down and click on **Import Update Set from XML**.
- Upload the downloaded XML file.



- Click on **Upload**, and it gets imported.
- Open the retrieved update set **Laptop Request Project**.



- Click on **Preview Update Set**, then click on **Commit Update Set**.
- Review the **Related List Updates**.
- After committing, all updates from the previous instance are now available in this instance.

The screenshot shows the 'Update Set' form in ServiceNow. The title bar indicates 'Retrieved Update Set - Laptop Request'. A yellow banner at the top states: 'After committing this update set, ensure you map any unmapped custom tables to a subscription so that you can track your entitlements accurately in Subscription Management.' The form fields include: Name (Laptop Request), Application (Global), Update source, Parent (searchable), State (Loaded), Loaded (2023-09-07 08:22:24), Description, and Application name (Global). On the right, there are fields for Committed, Inserted, and Deleted. At the bottom, there are buttons for 'Update', 'Delete', and 'Preview Update Set', and a 'Related Links' section.

Milestone 7: Test Catalog Item

Activity 1: Verify Functionality of the Laptop Request Catalog Item

- Search for **Service Catalog** in the *Application Navigator* in the target instance.
- Select **Catalog** under *Service Catalog*.
- Select the **Hardware Category** and search for *Laptop Request*.

The first screenshot shows the ServiceNow 'Service Catalog' page. A search bar at the top right contains 'Search catalog'. The main area displays various catalog items under categories like Hardware, Software, Desktops, and Mobiles. A sidebar on the left shows a navigation menu with 'Service Catalog' selected. The second screenshot shows the 'Hardware' category selected, displaying a list of items. The 'Laptop Request' item is highlighted, showing its details and pricing.

| Item | Price | Frequency |
|----------------------|---------------------------------------|-----------|
| Request for iPad pro | ₹70,508.3175 | Monthly |
| Laptop Model | Use this item to request a new laptop | |
| Laptop request | Use this item to request a new laptop | |
| Sales Laptop | ₹97,070.2744 | Annually |
| Acer Aspire NX | +₹8,824.5704 | Annually |
| Standard Laptop | ₹97,070.2744 | Annually |
| Lenovo - Carbon x1 | +₹8,824.5704 | Annually |
| Apple Watch | ₹30,883.114 | |

- Open the *Laptop Request* item — it shows **three variables** initially.

- As per the scenario, when you click on the **Additional Accessories** checkbox, the **Accessories Details** field becomes visible and mandatory.
- Review the results — the functionality works as expected and fulfills the requirements.

The screenshot displays the ServiceNow interface for a 'Laptop request' form. The top navigation bar includes 'All', 'Favorites', 'History', 'Workspaces', and 'Admin'. The breadcrumb trail shows 'Service Catalog > Hardware > Laptop request'. The form contains several fields: 'Laptop Model' (a text input), 'Justification' (a large text area), and 'Additional Accessories' (a checkbox that is checked). Below the checkbox is a field labeled 'Accessories Details' with a red asterisk indicating it is mandatory. On the right side, there is a 'Shopping Cart' section showing 'Order this Item' with a quantity of 1 and a delivery time of 2 days. Below this are buttons for 'Order Now' and 'Add to Cart'. The 'Shopping Cart' status is shown as 'Empty'.

Conclusion

The **Laptop Request Catalog Item** project successfully streamlines the process of requesting laptops within the organization by leveraging **ServiceNow's Service Catalog** capabilities. Through the implementation of a dynamic catalog item, the project ensures that users have an **intuitive and user-friendly interface**, reducing errors and improving efficiency.

This project demonstrates how **ServiceNow** can effectively replace **manual, error-prone processes** with **automated, efficient, and user-centric solutions**. It not only improves **service delivery** but also enhances **employee satisfaction** by providing a **modern and streamlined request experience**.

