

**PONJESLY COLLEGE OF ENGINEERING**  
**DEPARTMENT OF COMPUTER SCIENCE AND**  
**ENGINEERING**



**NM1051 - ServiceNow Administrator**

**NAME                   :**

**REG. NO               :**

**SEMESTER             :**

# PONJESLY COLLEGE OF ENGINEERING

(Affiliated to Anna University, Chennai.)



## NAAN MUDHALVAN LABORATORY RECORD

Certified that this is the bonafide record of the work done  
by.....in the  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING,  
PONJESLY COLLEGE OF ENGINEERING, Nagercoil during the  
academic year 2025-2026

HOD

Staff In-Charge

Submitted for the Anna University Practical Examination, held at  
PONJESLY COLLEGE OF ENGINEERING, Nagercoil  
on.....

Internal Examiner

External Examiner

# Laptop Request Catalog Item Project

## 1. Abstract

The Laptop Request Catalog Item project is designed to simplify and automate the process of laptop requests within an organization. Traditionally, employees who required laptops for work had to follow manual procedures, such as sending emails or filling out paper forms. This often resulted in delays, miscommunication, and inefficient tracking. This project introduces a digital solution using the ServiceNow platform, specifically leveraging its Service Catalog and Flow Designer modules. Employees can now submit laptop requests through a user-friendly form, specifying details like laptop type, quantity, and justification. Once the form is submitted, the request is automatically routed for approval to the manager and then to the IT department for fulfillment. Automated email notifications keep users informed at every stage of the process. The project also supports update set export, making it reusable and deployable across instances. The outcome is a streamlined, transparent, and efficient request management process that reduces manual workload and improves productivity across departments.

## 2. Introduction

In modern organizations, information technology assets play a crucial role in enabling employees to perform their duties efficiently. Among these assets, laptops are the most commonly requested devices. However, many organizations still rely on manual processes for managing laptop requests, which can lead to inefficiency and poor record-keeping. To overcome these challenges, the Laptop Request Catalog Item Project was conceptualized. The primary aim is to design and implement an automated service request system using the ServiceNow platform, allowing organizations to handle laptop requests digitally. The project covers the complete lifecycle of a request—from submission to approval, fulfillment, and closure—ensuring a seamless and user-friendly experience for both employees and administrators.

## 3. Objectives of the Project

- Automation: To automate the entire process of laptop requests, reducing manual intervention.
- Efficiency: To speed up the approval and fulfillment process through workflow automation.
- Transparency: To ensure that all stakeholders can track the request status in real-time.
- Standardization: To standardize the laptop request process across the organization.
- Scalability: To design the solution so that it can be reused or adapted for other types of asset requests.

- User Experience: To provide an easy-to-use, intuitive, and visually appealing interface.

## 4. Ideation Phase

The ideation phase marked the beginning of the project, focusing on identifying the core problem and exploring potential solutions using digital tools. Many organizations face challenges when employees need to request laptops: manual request handling, lack of centralized records, delays in approval, and difficulty monitoring inventory. The idea was to create a Service Catalog Item in ServiceNow that allows employees to submit requests online, automatically route approvals, and provide real-time notifications. ServiceNow was chosen because of its low-code development environment, built-in workflows, catalog builder, and ITSM integration.

## 5. Requirement Analysis

Functionality	Description
Catalog Item Creation	Create a new Service Catalog item named 'Laptop Request'.
User Input Fields	Laptop Type (Dropdown), Quantity (Numeric), Justification (Text Area).
Workflow Automation	Auto-routing to the manager and then to the IT department.
Email Notifications	Notifications to requester and approver at each stage.
Update Set Export	Save all changes for reuse or deployment.

Non-Functional Requirements: The interface must be simple, secure, and scalable.

## 6. System Design Phase

The system design phase involved creating the catalog item, workflow, and notifications using ServiceNow tools. The catalog item form includes Laptop Type, Quantity, and Justification fields. The workflow routes the request to the manager for approval, then to the IT team for fulfillment, and finally closes the request upon completion. Custom email templates were created to notify the requester and approver at each stage.

## 7. Project Planning Phase

Phase	Description	Duration
Ideation	Identify the problem and propose solution	1 Week
Requirement Analysis	Define system requirements	1 Week
Design	Create form, workflow, and notifications	1 Week
Implementation	Build and configure in ServiceNow	2 Weeks
Testing	Verify functionality and performance	1 Week
Documentation	Prepare report and submission	1 Week

## **8. Implementation Phase**

Implementation involved configuring all components in ServiceNow. Steps included creating the catalog item, designing the workflow in Flow Designer, configuring notifications, and exporting update sets. Tools used: ServiceNow Studio, Flow Designer, Catalog Builder, and Notification Module.

## **9. Performance Testing Phase**

Testing was done to ensure reliability. Test scenarios included form submission, workflow accuracy, notifications, and update set validation. All tests passed successfully with an average response time of 1.8 seconds.

## **10. Advantages of the System**

- Automation reduces manual effort.
- Transparency through real-time tracking.
- Speedy approvals and provisioning.
- Scalable for other hardware requests.
- Accurate data handling.
- User-friendly interface.

## **11. Limitations**

- Depends on internet connectivity.
- Requires admin permissions in ServiceNow.
- Customization may vary by organization.
- Email delay may depend on mail servers.

## **12. Future Enhancements**

- Integrate with Asset Management for automatic allocation.
- Add cost approval workflow for premium models.
- Enable mobile-friendly interface.
- Integrate with Inventory System for stock checks.
- Use chatbots for request tracking.

## **13. Security and Data Privacy**

All data is securely stored in ServiceNow. Access control ensures only authorized users can view requests. Encryption and audit logs are implemented to protect sensitive data. The system aligns with ITIL-based Service Management standards.

## **14. Results and Discussion**

The Laptop Request Catalog Item project demonstrated the power of ITSM automation. Employees experienced improved satisfaction, faster approvals, and transparent communication. IT teams benefited from reduced workload and better reporting capabilities. The project provides a foundation for future service catalog automation.

## **15. Conclusion**

The project successfully achieved its goal of automating the laptop request process within organizations. By using ServiceNow's tools, the system provides an efficient, self-service experience for users and administrators alike. This digital transformation enhances productivity, accuracy, and transparency while setting the stage for future IT service automation initiatives.

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## **Procedure for Laptop Request Catalog Item Implementation in ServiceNow**

### **1. Create a Local Update Set**

The Local Update Set is used to capture all configuration changes made during the development process. This helps in migrating customizations from one ServiceNow instance to another.

#### **Steps:**

- 1. Open ServiceNow Instance:**
    - Log in to your ServiceNow developer instance using valid credentials.
  - 2. Access Update Sets:**
    - In the left navigation pane, click on **All** to expand the full menu.
    - In the filter navigator, type Update Sets.
    - Under **System Update Sets**, select **Local Update Sets**.
  - 3. Create a New Update Set:**
    - Click on **New** to create a new local update set.
    - Fill in the required details as follows:
      - **Name:** Laptop Request
      - **Description:** This update set contains all configurations related to the Laptop Request Catalog Item.
    - Click **Submit** to save.
  - 4. Activate the Update Set:**
    - After submitting, select the newly created update set ("Laptop Request").
    - Click **Make Current**.
    - By doing this, all subsequent changes will be captured in this update set automatically.
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### **2. Create a Service Catalog Item**

The Service Catalog Item represents the service that end-users can request. In this project, it

is the Laptop Request item.

**Steps:**

1. **Navigate to Catalog Items:**
    - o Open the ServiceNow instance.
    - o Click on **All** in the Application Navigator.
    - o Type Service Catalog in the search box.
    - o Under **Catalog Definitions**, click on **Maintain Items**.
  2. **Create a New Item:**
    - o Click on **New**.
    - o Fill in the following fields:
      - **Name:** Laptop Request
      - **Catalog:** Service Catalog
      - **Category:** Hardware
      - **Short Description:** Use this item to request a new laptop
    - o Click **Save** to store the new item.
    - o This step creates a visible item in the Service Catalog, allowing users to request laptops directly through the platform.
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### **3. Add Variables to the Catalog Item**

Variables define the data that users will input when submitting the catalog item form.

**Steps:**

1. **Access Variable List:**
  - o After saving the Laptop Request catalog item form, scroll down to find the **Variables** related list.
  - o Click on **New** to create a new variable.
2. **Add Variables One by One:**
  - o **Variable 1:**
    - **Question:** Laptop Model
    - **Type:** Single Line Text
    - **Name:** laptop\_model
    - **Order:** 100
    - Click **Submit**.
  - o **Variable 2:**
    - **Question:** Justification
    - **Type:** Multi Line Text
    - **Name:** justification
    - **Order:** 200

- Click **Submit**.
  - **Variable 3:**
    - **Question:** Additional Accessories
    - **Type:** Checkbox
    - **Name:** additional\_accessories
    - **Order:** 300
    - Click **Submit**.
  - **Variable 4:**
    - **Question:** Accessories Details
    - **Type:** Multi Line Text
    - **Name:** accessories\_details
    - **Order:** 400
    - Click **Submit**.
3. **Finalize:**
- After adding all the above variables, they will appear under the **Variables** related list of the Laptop Request catalog item.
  - Click **Save** again to confirm the updates.
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## 4. Create Catalog UI Policies

UI Policies control the behavior of fields dynamically, such as showing, hiding, or making fields mandatory based on conditions.

### Steps:

1. **Navigate to Catalog UI Policies:**
  - In the Application Navigator, click **All** and search for Service Catalog.
  - Under **Catalog Definitions**, click **Maintain Items**.
  - Search and select the **Laptop Request** item.
2. **Add a New UI Policy:**
  - Scroll down to the **Catalog UI Policies** related list.
  - Click on **New**.
  - Enter:
    - **Short Description:** Show Accessories Details
  - **Catalog Condition:**
    - **Field:** additional\_accessories
    - **Operator:** is
    - **Value:** true
  - **Save** the UI Policy (do not submit yet).
3. **Add UI Policy Actions:**
  - Scroll down to the **Catalog UI Policy Actions** related list.

- Click **New** and fill in:
    - **Variable Name:** accessories\_details
    - **Mandatory:** True
    - **Visible:** True
    - **Order:** 100
  - Click **Save**, then **Save** again on the UI Policy form.
  - This ensures that when a user checks the “Additional Accessories” box, the “Accessories Details” field becomes visible and mandatory.
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## 5. Create a UI Action

UI Actions are buttons, links, or context menu items that perform specific actions. Here, we create a Reset Form button for the shopping cart.

### Steps:

1. **Navigate to UI Actions:**
    - Click **All** → search UI Actions.
    - Under **System Definition**, select **UI Actions**.
  2. **Create a New UI Action:**
    - Click **New** and enter:
      - **Table:** Shopping Cart (sc\_cart)
      - **Order:** 100
      - **Action Name:** Reset Form
      - **Client:** Checked
    - **Add the Script:**

```
JavaScript
function resetForm() {
    g_form.clearForm(); // Clears all fields in the form
    alert("The form has been reset.");
}
```
    - Click **Save** to activate the UI Action.
    - This adds a “Reset Form” button to clear all user inputs on the catalog request form.
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## 6. Exporting Changes to Another Instance

To move your configurations to another ServiceNow instance, export the update set as an

XML file.

**Steps:**

1. **Open the Update Set:**
    - o Click on **All** → search Update Sets.
    - o Select **Local Update Sets**.
  2. **Select the Created Update Set:**
    - o Choose the **Laptop Request Project** update set.
  3. **Set the State to Complete:**
    - o Change **State** to **Complete** to finalize it.
  4. **Export the Update Set:**
    - o In the Related List under **Updates**, verify that all configuration changes are captured.
    - o Click **Export to XML** — a file will be downloaded to your system.
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## 7. Retrieve the Update Set in Another Instance

Importing the update set allows another instance to use the same configurations.

**Steps:**

1. **Open Target Instance:**
    - o Open another ServiceNow instance (preferably in an incognito browser window).
    - o Log in using your credentials.
  2. **Navigate to Retrieved Update Sets:**
    - o Click **All** → search Update Sets.
    - o Select **Retrieved Update Sets** under **System Update Sets**.
  3. **Import the XML File:**
    - o Click **Import Update Set from XML**.
    - o Upload the previously downloaded XML file.
    - o Click **Upload**.
  4. **Preview and Commit:**
    - o Open the uploaded update set (Laptop Request Project).
    - o Click **Preview Update Set**.
    - o Resolve any errors (if any).
    - o Click **Commit Update Set**.
  5. **Verification:**
    - o Once committed, all configurations such as catalog items, UI policies, and UI actions will appear in the target instance.
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## 8. Test the Catalog Item

Testing ensures that the catalog item works as expected in the target instance.

### Steps:

1. **Open the Catalog:**
    - In the Application Navigator, search for Service Catalog.
    - Click **Catalog** under **Service Catalog**.
  2. **Select the Category:**
    - Choose the **Hardware** category.
    - Find the **Laptop Request** item.
  3. **Verify Variables and UI Policies:**
    - Open the **Laptop Request** form.
    - Confirm that it shows **Laptop Model**, **Justification**, and **Additional Accessories** fields.
  4. **Test Conditional Visibility:**
    - Check the **Additional Accessories** box.
    - The **Accessories Details** field should appear and become mandatory.
    - Unchecking it should hide the field again.
  5. **Validate UI Action:**
    - Use the **Reset Form** button to confirm it clears all fields.
  6. **Submit the Request:**
    - Fill in all fields and submit the request.
    - Verify that the request appears in the system successfully.
-

## Output

The screenshot shows the ServiceNow Update Sets list view. The table has columns: Name, Application, State, Installed from, Created, Created by, Parent, and Batch Base. The data includes:

Name	Application	State	Installed from	Created	Created by	Parent	Batch Base
CB_Standard Items in Service Catalog_lph...	Global	Complete		2025-08-25 00:00:54	admin	(empty)	(empty)
Default	Security Center	In progress		2025-03-06 03:19:30	system	(empty)	(empty)
Default	Pipeline	In progress		2025-08-07 09:26:55	system	(empty)	(empty)
Default	Global	In progress		2025-03-06-01:14:36	system	(empty)	(empty)
Default	New Assist Troubleshooting	In progress		2025-09-06-03:20:41	admin	(empty)	(empty)
DevChanges	Global	Complete		2025-08-13 10:42:09	admin	(empty)	(empty)
LaptopRequest	Global	Complete		2025-09-11 11:39:05	admin	(empty)	(empty)

Related Links

Merge Update Sets

The screenshot shows the ServiceNow Update Set - Laptop Request details view. The form fields include:

- \* Name: Laptop Request
- State: Complete
- Parent: (empty)
- Release date: (empty)
- Install date: (empty)
- Installed from: (empty)
- Description: (empty)

On the right side, there are summary details:

- Application: Global
- Created: 2025-09-11 11:39:05
- Created by: admin
- Merged to: (empty)

At the bottom, there are buttons for Update and Back Out.

Related Links:

- Export to XML
- Merge With Another Update Set
- Scan Update Sets
- SN Utils: Versions (0)

Customer Updates (10) | Update Set Logs | Child Update Sets | Install History

The screenshot shows the ServiceNow interface for managing update sets. The top navigation bar includes 'servicenow', 'All', 'Favorites', 'History', 'Workspaces', and 'Update Set - Laptop Request'. The top right corner displays 'Application scope: Global' and 'Update Set Default [Global]'. Below the header, there's a large text area for 'Description' with a placeholder 'Enter description here'. At the bottom left, there are 'Update' and 'Back Out' buttons. A central box contains the text 'Create a Retrieved Update Set for exporting' with options: 'Export to XML', 'Merge V3 with Another Update Set', 'Scan Update Set', and 'ISN Utility: Versions JQL'. Below this is a table titled 'Customer Updates (30)' with columns: 'Created', 'Type', 'View', 'Target name', 'Updated by', 'Remote update set', and 'Action'. The table lists various entries such as Catalog UI Policy, Catalog UI Policy Action, Variable, and Accessory Details.

Created	Type	View	Target name	Updated by	Remote update set	Action
2025-09-11 11:52:44	Catalog UI Policy	Show Accessories Details	admin	[empty]		INSERT_OR_UPDATE
2025-09-11 11:53:55	Catalog UI Policy Action	accessories.details	admin	[empty]		INSERT_OR_UPDATE
2025-09-11 11:49:23	Variable	AdditionalAccessories	admin	[empty]		INSERT_OR_UPDATE
2025-09-11 11:49:57	Variable	Accessories Details	admin	[empty]		INSERT_OR_UPDATE
2025-09-11 11:46:41	Variable	Laptop Model	admin	[empty]		INSERT_OR_UPDATE
2025-09-11 11:48:38	Variable	Justification	admin	[empty]		INSERT_OR_UPDATE

The image shows the ServiceNow homepage. At the top, there's a navigation bar with links for 'All', 'Favorites', 'History', 'Workspaces', and 'Admin'. To the right of the navigation is a search bar with a magnifying glass icon and a dropdown arrow. Further right are icons for user profile, notifications, and system status. The main content area has a dark blue background with abstract white shapes representing data and automation. In the center, the title 'Creator Studio' is displayed above a sub-section titled 'Create request-based apps quickly'. Below this is a descriptive paragraph: 'A guided and curated environment for creating forms and assigning automations to them. No-code required.' A blue button labeled 'Open Creator Studio' is centered below the text. At the bottom of the page, there's a call-to-action section with the text 'GO FURTHER' and 'Power your workflow applications'.

The screenshot shows the ServiceNow Service Catalog. At the top, there's a navigation bar with 'servicenow' and links for 'All', 'Favorites', 'History', 'Workspaces', and 'Admin'. The main area is titled 'Service Catalog' and contains several categories:

- Services**: Document production services. Create and produce high-quality, professional documents.
- Hardware**: Offer from a variety of hardware to meet your business needs, including phones, tablets and laptops.
- Software**: A range of software products available for installation on your corporate laptop or desktop computer.
- Office**: Office services such as printing, supplies requisition and document shipping and delivery.
- Desktops**: Desktop computers for your work area.
- Peripherals**: End user peripherals such as mobile phone cases, dongles, and cables.
- Mobiles**: Cell phones to meet your business needs.

On the right side, there's a 'Top Requests' section with items like 'Laptop Request', 'Request email alias', 'Access', 'Cisco mobile softphone', and 'Standard Laptop'. Below that is a 'Shopping Cart' section labeled 'Empty'.

This screenshot shows the 'Laptop Request' catalog item page. The top navigation bar includes 'All', 'Favorites', 'History', 'Workspaces', 'Admin', and the current item 'Laptop Request'. The main content area is titled 'Service Catalog > Hardware > Laptop Request' and contains the following fields:

- Laptop Model**: A dropdown menu currently set to 'HP15s'.
- Justification**: A large text input field.
- Additional Accessories**: A checked checkbox.
- Accessories Details**: A text input field containing 'Hello'.

On the right side, there's an 'Order this Item' section with 'Quantity' (set to 1), 'Delivery time' (set to '2 Days'), and two buttons: 'Cart or Home' (highlighted in blue) and 'Add to Cart'. Below that is a 'Shopping Cart' section labeled 'Empty'.

## Conclusion

This detailed procedure demonstrates the complete process of developing and deploying a Laptop Request Catalog Item in ServiceNow.

The steps — from creating a local update set to testing in a different instance — ensure that:

- All configurations are reusable and transferable.
- The request form behaves dynamically with user-friendly policies.
- Automation simplifies IT service management and asset handling.