ANJALAI AMMAL MAHALINGAM ENGINEERING COLLEGE

DEPARTMENT OF INFORMATION TECHNOLOGY

NM-SERVICE NOW ADMINISTRATOR

LAPTOP REQUEST CATALOG ITEM

Team Members:

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LAPTOP CATALOG REQUEST ITEM

Abstract

The existing laptop request process in the organization is manual and inefficient, leading to delays, incomplete data, and poor user experience. To resolve these issues, a **Laptop Request Catalog Item** is proposed within the organization's Service Catalog. This solution will allow employees to easily submit laptop requests through an automated and dynamic form interface. The system will include data validation, form reset functionality, approval workflows, and change tracking for better governance. By automating the process, the organization can enhance operational efficiency, accuracy, and transparency while reducing manual intervention.

Furthermore, the proposed system introduces a **standardized and transparent workflow** that allows users to track their request status in real time—from submission to fulfillment. Automated notifications will keep employees informed about approvals and delivery updates, while IT administrators can efficiently manage assets and maintain accurate records. This initiative not only streamlines the overall laptop request lifecycle but also strengthens compliance, reduces administrative overhead, and significantly improves user satisfaction across the organization.

1.Introduction:

In modern organizations, efficient IT service management plays a crucial role in ensuring smooth operations and employee productivity. One common requirement among employees is requesting laptops for official use. However, traditional manual request methods often result in inefficiencies and lack of visibility. To streamline this process, the development of a **Laptop Request Catalog Item** within the **ServiceNow platform** (or similar ITSM tool) provides an automated and standardized solution. This catalog item will feature dynamic form fields that adapt based on user inputs—such as department, laptop type, or urgency—ensuring accurate data collection. Additionally, features like form reset, pre-populated user information, and workflow automation will simplify the submission process. By integrating approvals, notifications, and change tracking, the solution enhances both user experience and administrative control, reducing turnaround time and improving operational governance.

Overall, the **Laptop Request Catalog Item** not only simplifies the laptop procurement process but also enhances service quality, operational efficiency, and employee satisfaction. It represents a step forward in building a more automated, transparent, and responsive IT service management environment within the organization.

2. Problem Statement:

Employees in the organization need a quick and efficient way to request laptops for work. The current process is manual and prone to delays, with no dynamic form behavior to guide users or ensure accurate data collection. To address this, a Service Catalog item needs to be created, allowing users to easily request a laptop, with dynamic fields, clear instructions, and additional functionality like resetting the form if needed. The solution should also ensure all changes are tracked for governance and deployment.

3. Methodology/System Design:

3.1 Design Approach:

The design approach focuses on building a **self-service, user-friendly catalog item** that simplifies and standardizes the laptop request process. The form will include **dynamic behavior**, where fields appear or hide based on user input—for example, selecting a laptop type may trigger different justification fields.

Key design principles include:

- **Ease of use:** Clear field labels and logical form structure.
- **Dynamic form logic:** Conditional display of fields using client scripts.
- **Automation:** Workflows for approvals and fulfillment.
- **Data validation:** Preventing submission of incomplete or incorrect information.
- **Governance:** Change tracking and logging for audit readiness.

In addition to these principles, the design ensures **seamless integration** with existing IT Service Management (ITSM) processes and organizational policies. The catalog item will follow a **modular design**, allowing easy customization and future scalability—such as adding more hardware request types or approval levels. Security and data privacy are prioritized, ensuring that only authorized users can view or modify sensitive information. The overall approach is centered on **enhancing user experience, reducing administrative workload, and maintaining operational consistency** across departments.

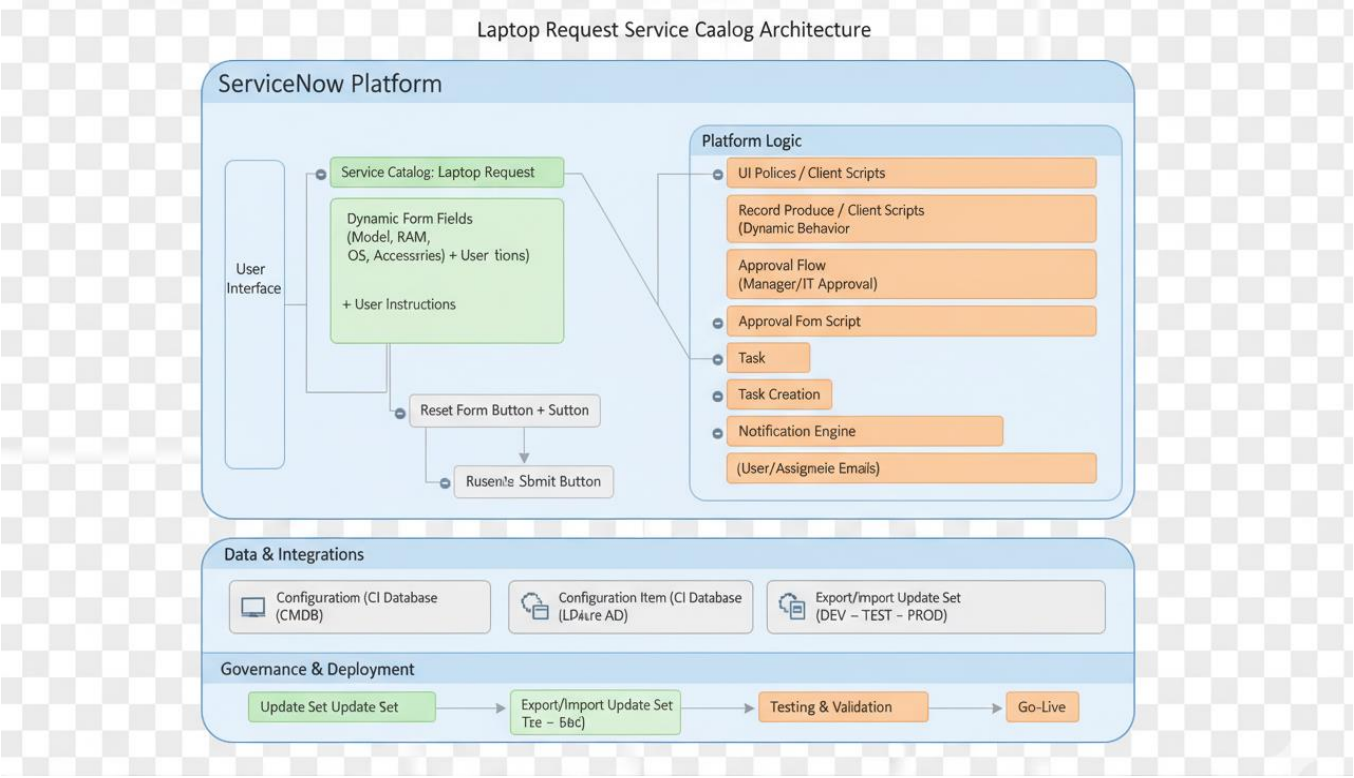
The design approach emphasizes **collaboration between IT and end users** during the development phase to ensure the catalog item meets practical needs and aligns with real-world workflows. **User feedback loops** will be incorporated during testing to refine form usability and workflow efficiency. The system will adopt **best practices in UI/UX design**, such as minimalistic layouts, clear instructions, and validation prompts to minimize user errors.

4. System Architecture:

The system follows a **three-layer architecture** to ensure modularity, scalability, and efficient management of the laptop request process. Each layer plays a distinct role in handling user interactions, business logic, and data management while maintaining system performance and security.

4.1 Presentation Layer:

- This is the **front-end interface** that employees use to submit laptop requests through the organization's **Service Portal**.
- It includes user-friendly components such as text boxes, dropdowns, radio buttons, and functional buttons like **Submit**, **Reset**, and **Track Request Status**.
- Dynamic field visibility is achieved through **client-side scripts** that respond to user input in real time.
- The layer ensures accessibility across devices (desktop, laptop, and mobile) for a consistent and responsive user experience.



System Architecture - Laptop Catalog Request Item

4.2 Application Layer:

- This layer manages all **business logic, workflows, and automation processes**.
- It controls the approval routing, validation checks, and automatic notifications.
- **Flow Designer** or **Workflow Editor** is used to define the process flow—from request submission to approval and fulfillment.
- **UI Policies** and **Catalog Client Scripts** ensure smooth data handling and conditional field behavior.
- This layer also interfaces with external systems like **email servers** and **asset management modules** to send notifications and record asset details automatically.

4.3 Data Layer:

- The data layer is responsible for storing all **form submissions, user details, approval logs, and asset issuance records**.
- It integrates with the **Configuration Management Database (CMDB)** to maintain up-to-date asset information and ensure traceability.
- Access control mechanisms and encryption ensure that sensitive information remains secure.
- Audit logs are maintained to record every change for governance and compliance purposes.

This three-tier architecture enables **efficient separation of concerns**, allowing each component to operate independently yet cohesively. It ensures **data consistency, scalability, and maintainability**, while supporting future system enhancements such as integration with HR systems, inventory management, or automated asset return tracking. The architecture also promotes **high availability and reliability**, ensuring uninterrupted access for employees and IT staff.

5. UI and UX Design:

The **User Interface (UI)** is designed to be clean, structured, and visually consistent with the Service Portal.

Key UI features include:

- Interactive and responsive form layout.
- Dynamic visibility of fields based on user input.
- Buttons for **Submit**, **Reset**, and **Track Status.**

- Clear instructions and validation error messages.

The **User Experience (UX)** focuses on simplicity, clarity, and ease of navigation. Users can complete requests quickly with minimal input and receive instant visual feedback at every stage. The use of **color indicators, progress bars, and confirmation pop-ups** makes the process intuitive and satisfying. Overall, the design ensures that employees feel confident and comfortable while submitting or tracking their laptop requests.

Furthermore, the UI and UX design incorporate **accessibility standards (WCAG compliance)** to ensure inclusivity for all users, including those with visual or motor impairments. Features such as keyboard navigation, high-contrast text options, and screen-reader compatibility are integrated to make the catalog item universally usable.

The responsive design ensures smooth operation across **desktops, tablets, and mobile devices**, allowing employees to submit or track their requests anytime, anywhere. Overall, the enhanced UI and UX not only improve usability and accessibility but also reinforce the organization's commitment to efficiency, innovation, and user-centric digital transformation.

Additionally, the UI and UX are optimized to maintain **consistency, accessibility, and responsiveness** across all devices. Proper alignment, readable fonts, and adequate spacing enhance visual comfort, while tooltips and contextual help improve user guidance. The design prioritizes both **aesthetics and functionality**, ensuring a smooth and pleasant interaction that reflects the organization's modern digital standards.

6. Platform Setup:

The project is implemented on the **ServiceNow platform** (or any ITSM system supporting catalog items).

Setup includes:

- Creating a **Service Catalog Category** named *"IT Hardware Requests."*
- Adding the **Laptop Request Catalog Item** under that category.
- Configuring **form variables** such as employee details, laptop model, purpose, and justification
- Applying **client scripts** and **UI policies** for dynamic form behavior.
- Setting up **approval workflows** and **email notifications** for each request stage.
- Enabling **change tracking** for audit and deployment management.
- Assigning user roles such as **Requester**, **Approver**, and **Fulfillment Technician** with appropriate access permissions.

In addition, the platform setup ensures proper **integration with the Configuration Management Database (CMDB)** for asset tracking and lifecycle management. Role-based access controls (RBAC) are configured to maintain data privacy and prevent unauthorized actions. The system environment—development, testing, and production—is clearly defined to support smooth deployment and version control. This structured setup ensures reliability, scalability, and security, providing a solid foundation for the seamless operation of the Laptop Request Catalog Item.

7. Development and Customization:

Development involves multiple stages to ensure full functionality, usability, and reliability:

7.1 Form Creation:
Build catalog variables (fields) like employee name, department, laptop type, justification, and delivery location. Each field is configured with clear labels, mandatory rules, and validation criteria.

7.2 Client-Side Scripting:
Add JavaScript for dynamic form logic, such as showing or hiding fields based on selections and enabling form reset functionality. This ensures the form adapts intelligently to user input, improving accuracy and reducing confusion.

7.3 Workflow Automation:
Design approval and fulfillment flows using **Flow Designer** or **Workflow Editor**. Requests are routed automatically to the appropriate manager or IT technician for action.

7.4 Notification Configuration:
Set up automated notifications for each stage—submission, approval, rejection, and completion—to keep employees informed and maintain transparency.

7.5 Testing and Validation:
Perform both **functional testing** and **user acceptance testing (UAT)** to verify that all scripts, workflows, and notifications work as intended before deployment.

7.6 Deployment and Tracking:
Move the catalog item from development to production using version control. Enable change tracking and auditing to ensure compliance with governance policies.

Additionally, the development process emphasizes **modular customization and scalability**. Each script, workflow, and UI policy is developed as a reusable component to support future enhancements, such as adding new device categories or integrating with HR and inventory systems. Proper documentation and versioning are maintained to support easy troubleshooting and system upgrades. This structured development approach ensures that the Laptop Request Catalog Item remains reliable, efficient, and adaptable to organizational growth.

8. Workflow Implementation:

The **workflow implementation** defines the process from laptop request submission to fulfillment. It ensures that all requests follow an automated, structured path for transparency and efficiency.

Workflow Stages:

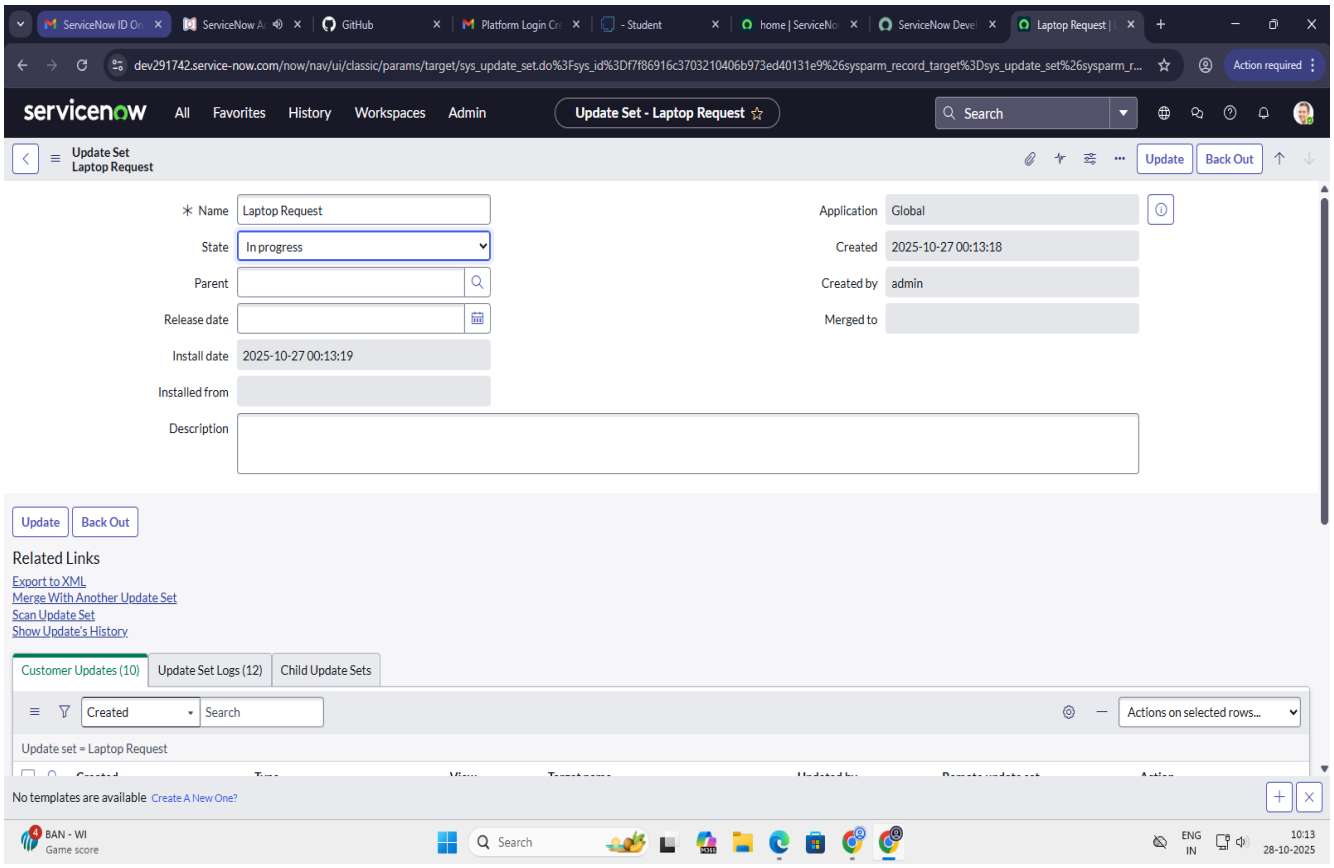
- **Submission:** Employee submits the laptop request form.
- **Manager Approval:** The request is automatically routed to the respective manager for review.
- **IT Review:** Once approved, the IT team verifies inventory and assigns a suitable laptop.
- **Fulfillment:** The IT technician prepares and delivers the laptop to the requester.
- **Notification:** Automated emails or portal notifications update the requester at each stage.
- **Closure:** After delivery confirmation, the request is marked as completed and recorded in the CMDB.

The workflow is implemented using **Flow Designer** with automated triggers, condition checks, and task creation. It supports **SLA tracking**, ensuring timely fulfillment and better performance monitoring. This structured automation enhances operational efficiency, reduces manual errors, and ensures end-to-end visibility of every laptop request.

9 Update set:

9.1 Create Local Update set:

- Open service now.
- Click on All >> search for update sets
- Select local update sets under system update sets
- Click on new
- Fill the following details to create a update set as: “Laptop Request”
- Click on submit and make current
- By clicking on the button it activates the update set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Related Links
Export to XML
Merge With Another Update Set
Scan Update Set
Show Update's History
Customer Updates (10)
Update Set Logs (12)
Child Update Sets
Created
Search
Actions on selected rows...
Update set = Laptop Request
No templates are available
Create A New One?
BAN - WI
Game score
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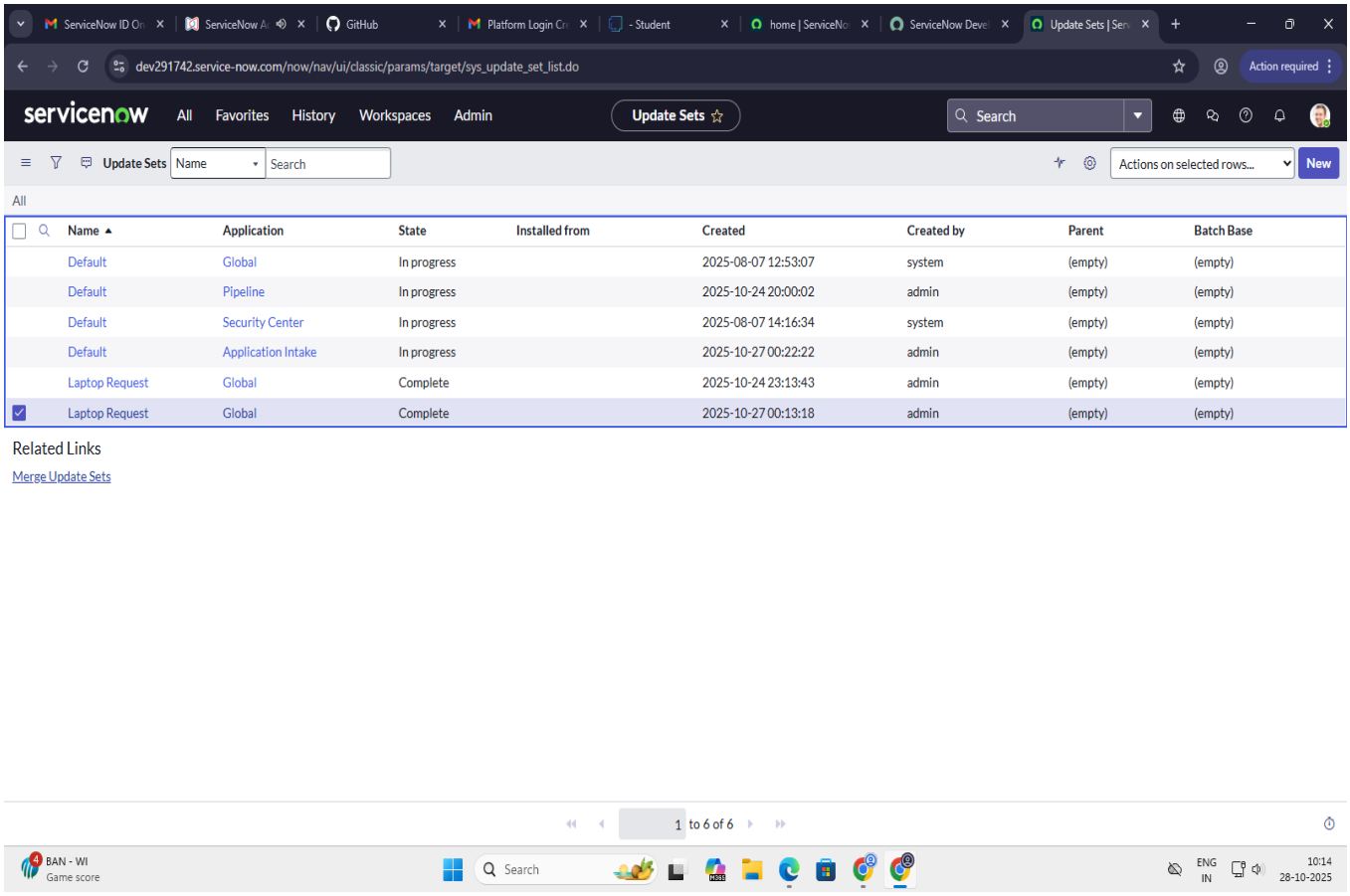
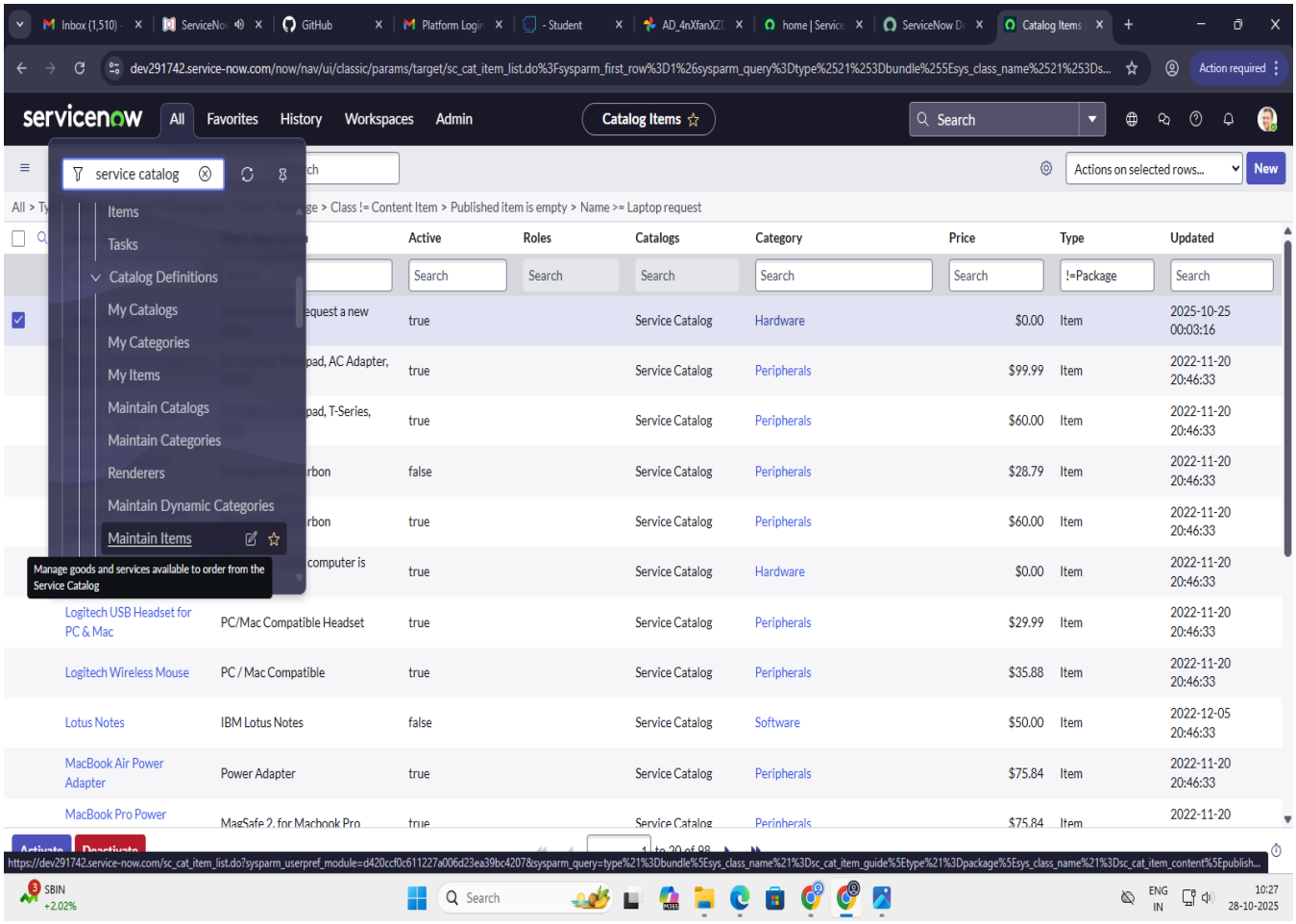


10. Service Catalog Item:

10.1 Create Service Catalog Item:

- Open service now.
- Click on All >> service catalog
- Select maintain items under catalog definitions
- Click on New.
- Fill 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’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Catalog Definitions
My Catalogs
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My Items
Maintain Catalogs
Maintain Categories
Renderers
Maintain Dynamic Categories
Maintain Items
Manage goods and services available to order from the Service Catalog
Actions on selected rows...
New
Active
Roles
Catalogs
Category
Price
Type
Updated
Logitech USB Headset for PC & Mac
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Logitech Wireless Mouse
PC / Mac Compatible
Lotus Notes
IBM Lotus Notes
MacBook Air Power Adapter
Power Adapter
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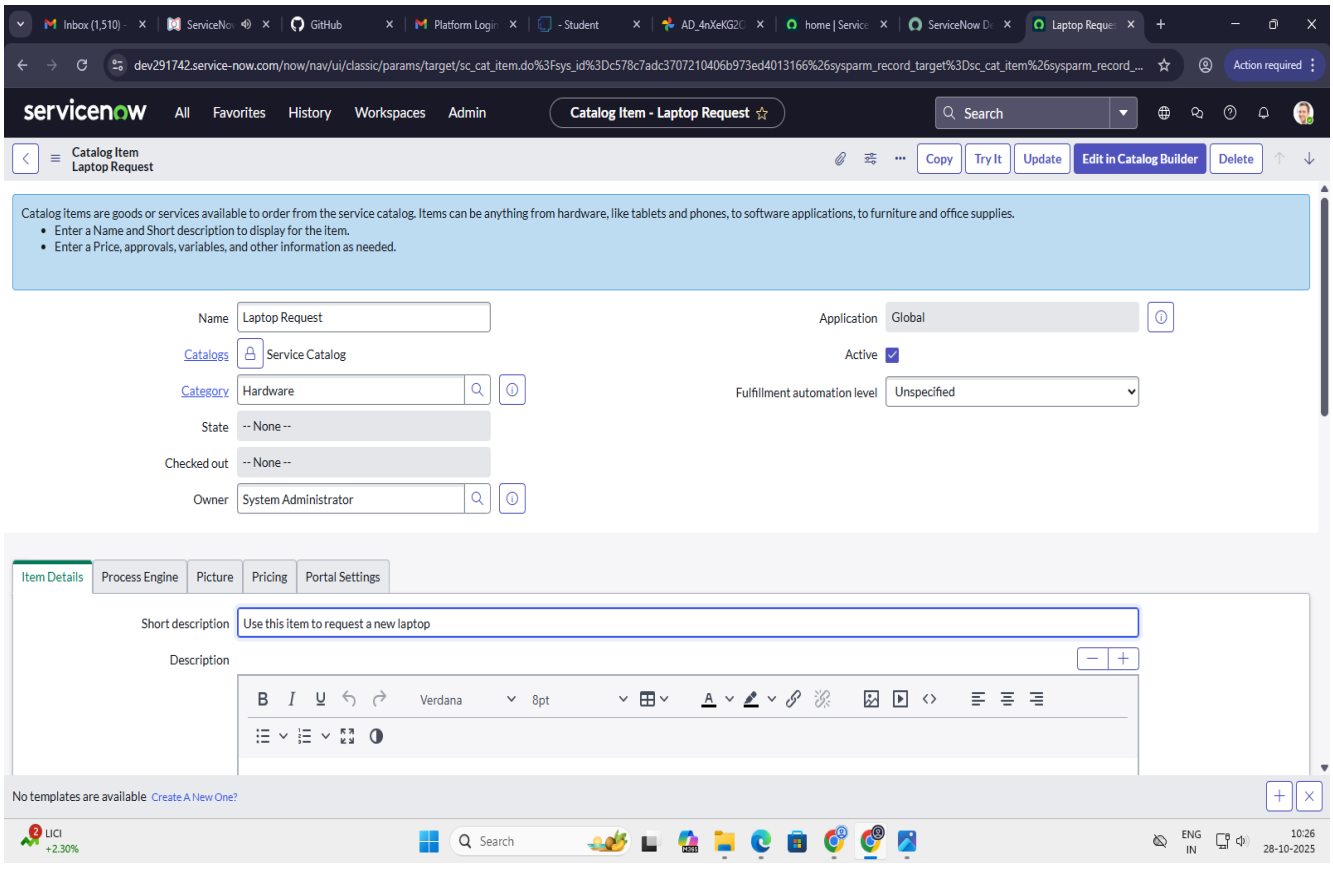
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Catalog Item - Laptop Request
Search
Catalog Item
Laptop Request
Copy
Try It
Update
Edit in Catalog Builder
Delete
Catalog items are goods or services available to order from the service catalog. Items can be anything from hardware, like tablets and 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
Catalogs
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
Verdana
8pt
No templates are available
Create A New One?

11. Add variables:

Step1:

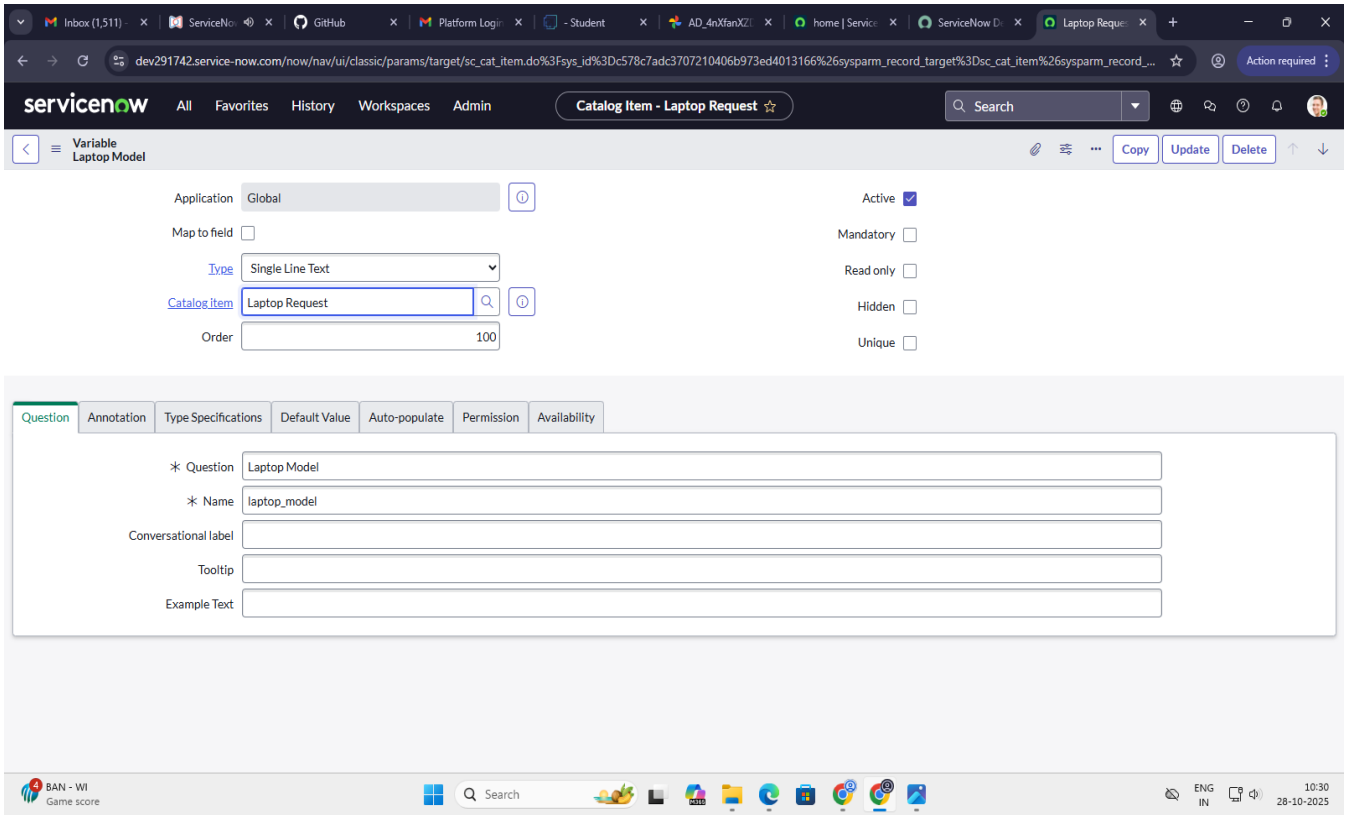
- After saving the catalog item form scroll down and click on variable(related list)
- Click on new and enter the details as below

1. Variable 1:Laptop Model

   Type: Single line text

   Name: laptop_model

   Order:100



- Click on submit
- Again click on new and add Remaining variables in the above process

2. Variable 2:Justification

Type: Multi line text
Name: justification
Order:200

3.Variable 3:Additional Accessories

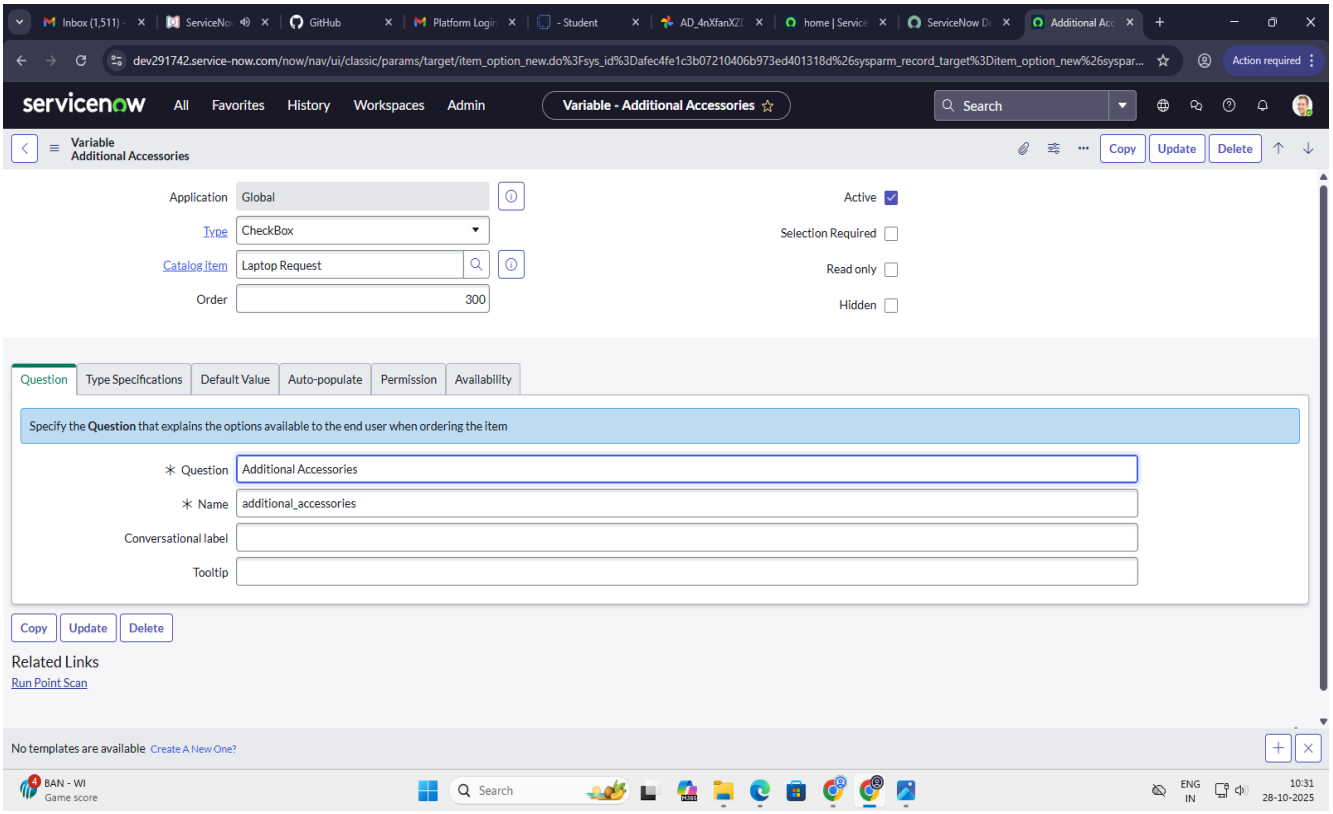
Type: Checkbox
Name: additional_accessories
Order:300

4.Variable 4: Accessories Details

Type: Multi line text

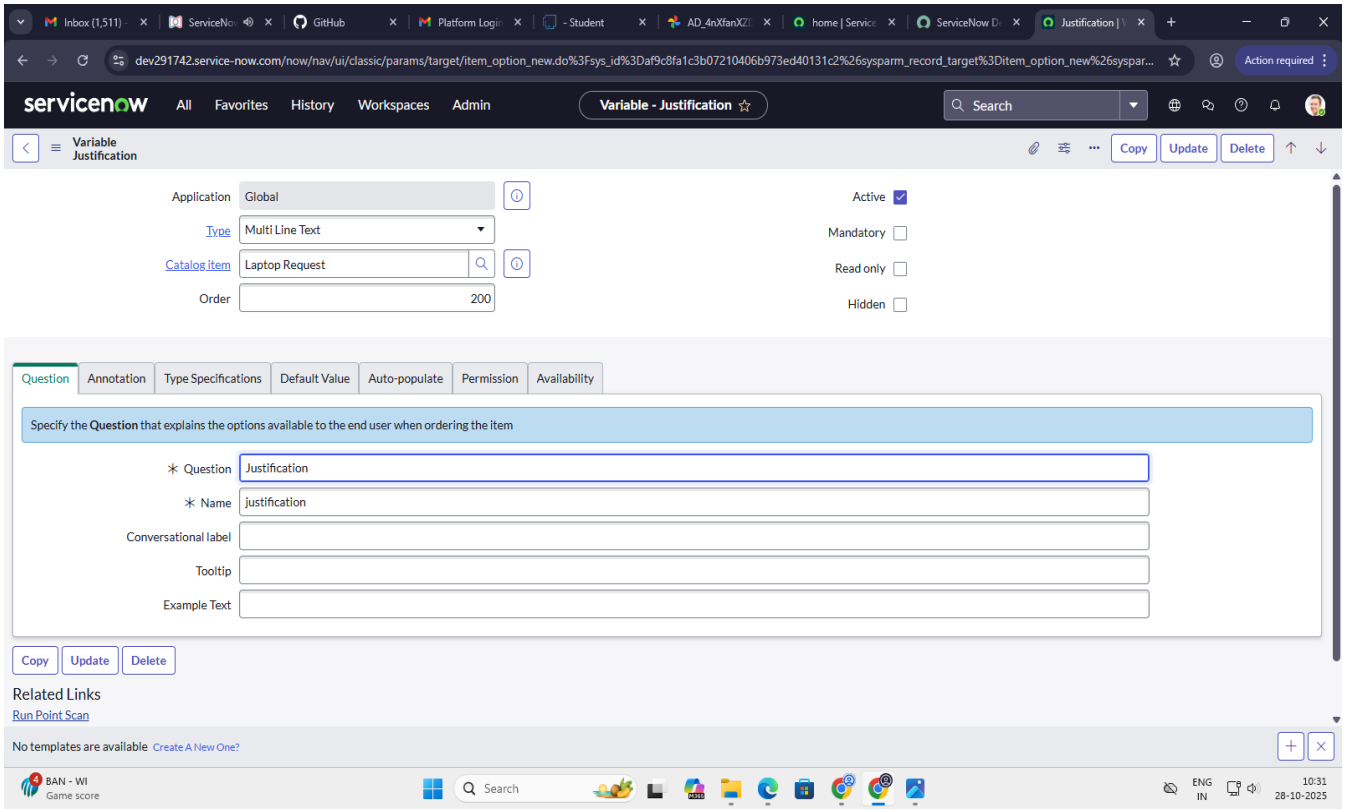
Name:accessories_details

Order:400



Step2:

- After adding above variable which are added to newly created catalog item
- Then save the catalog item form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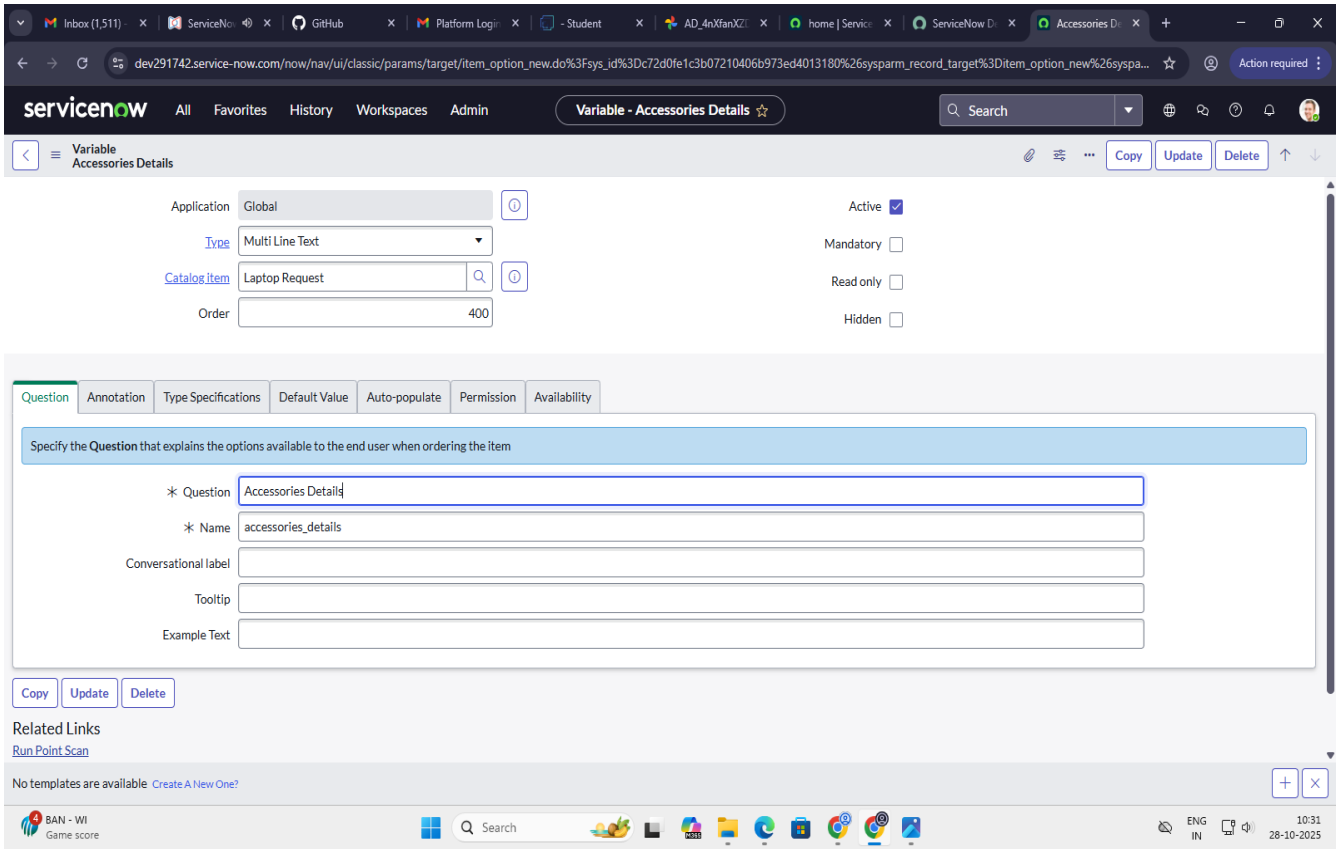
Catalog item
Laptop Request
Order
200
Active
Mandatory
Read only
Hidden
Question
Annotation
Type Specifications
Default Value
Auto-populate
Permission
Availability
Specify the Question that explains the options available to the end user when ordering the item
Question
Justification
Name
justification
Conversational label
Tooltip
Example Text
Copy
Update
Delete
Related Links
Run Point Scan
No templates are available
Create A New One?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Catalog item
Laptop Request
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Read only
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Type Specifications
Default Value
Auto-populate
Permission
Availability
Specify the Question that explains the options available to the end user when ordering the item
Question
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Example Text
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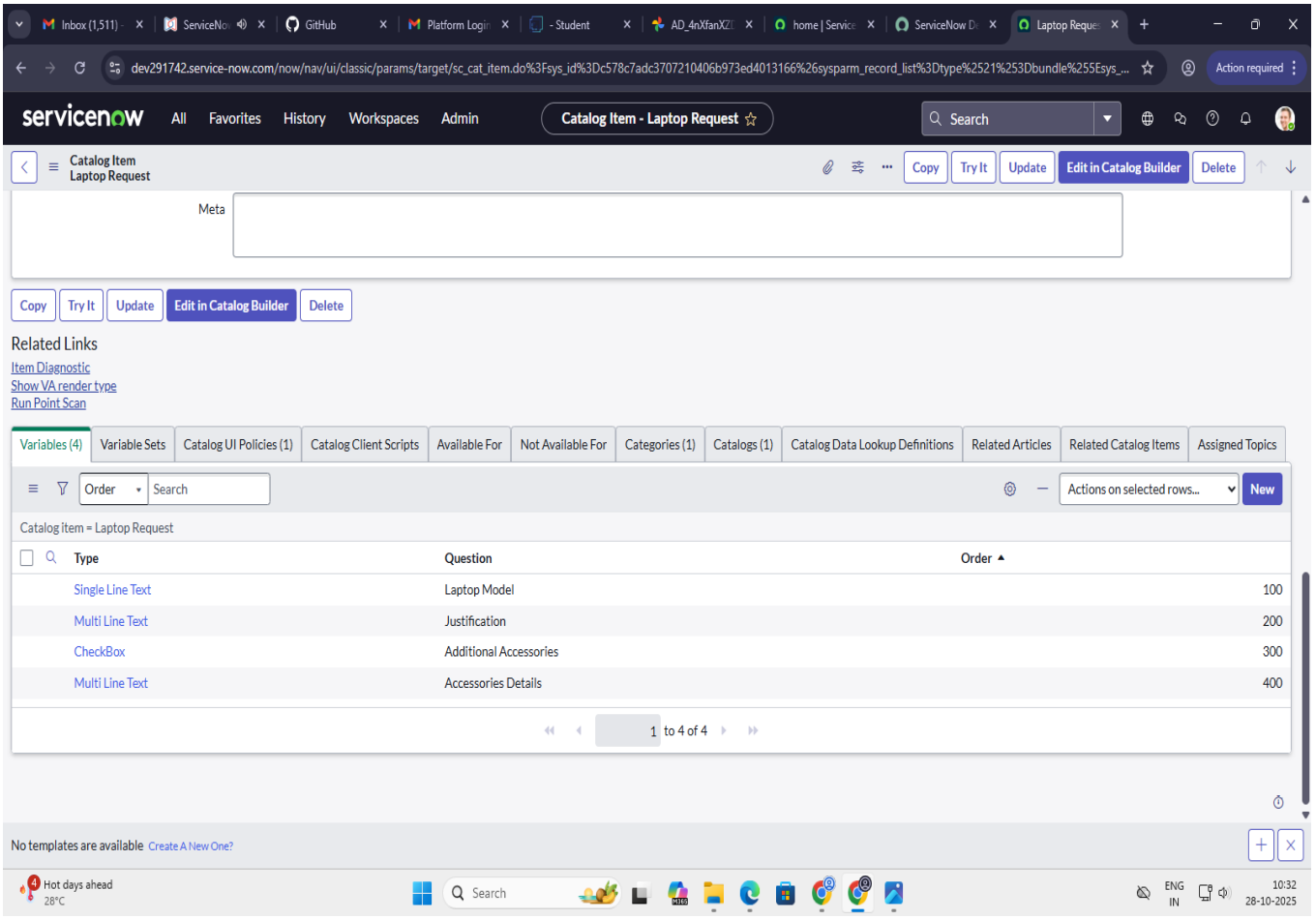
Delete
Related Links
Run Point Scan
No templates are available
Create A New One?

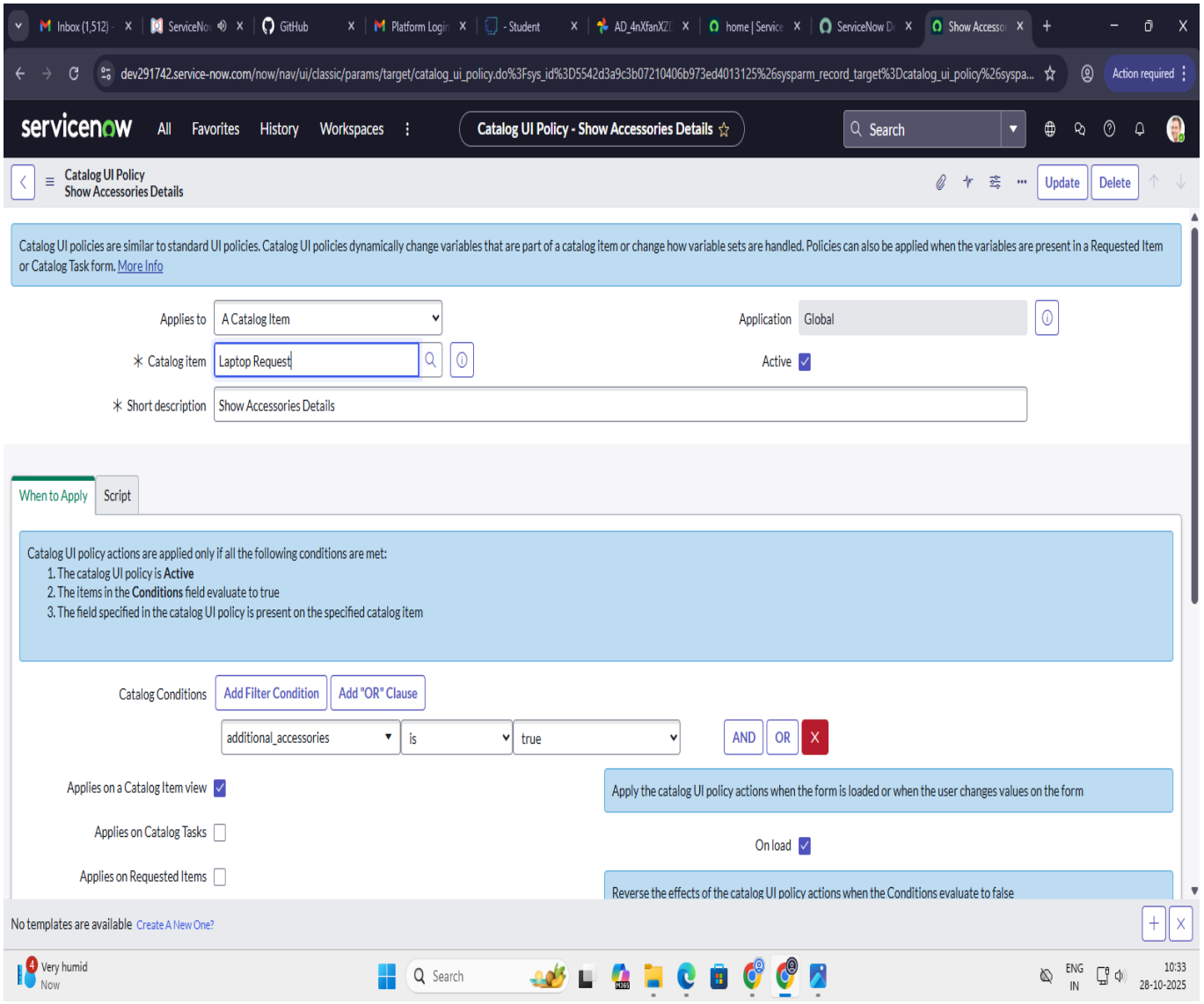


12. UI Policy:

12.1 Create Catalog Ui policies:

- Click on all>> search for service catalog
- Select maintain item under catalog definition
- Search for ‘laptop request’ which is created before
- Select ‘laptop request’ and scroll down click on “Catalog Ui policies”
- In the catalog ui policies related list tab click on new
- Give short description as: show accessories details
- Set the Catalog Condition in the related list tab ‘when to apply’

  [field: additional_ accessories, operator: is, value: true]



8. Click on **save**.(do not click on submit)

9 .Scroll down and select 'catalog ui action'

10. Then click on new button

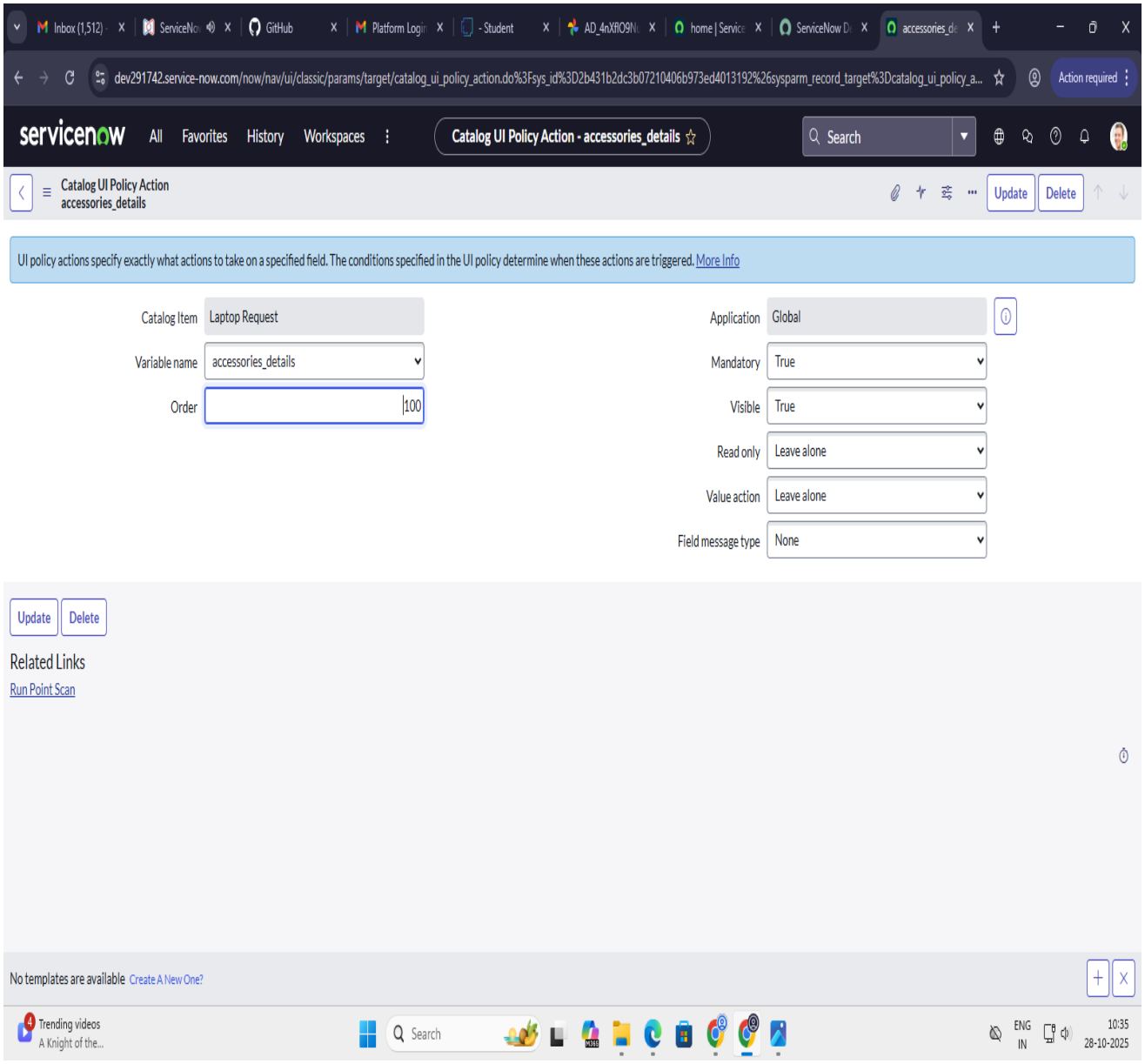
11. Select variable name as: accessories_details

Order:100

Mandatory: True

Visible : True

12. Click on save and again click save button of the catalog ui policy form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Catalog UI Policy Action - accessories_details
Search
Catalog UI Policy Action
accessories_details
Update
Delete
UI policy actions specify exactly what actions to take on a specified field. The conditions specified in the UI policy determine when these actions are triggered. More Info
Catalog Item
Laptop Request
Variable name
accessories_details
Order
100
Application
Global
Mandatory
True
Visible
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Leave alone
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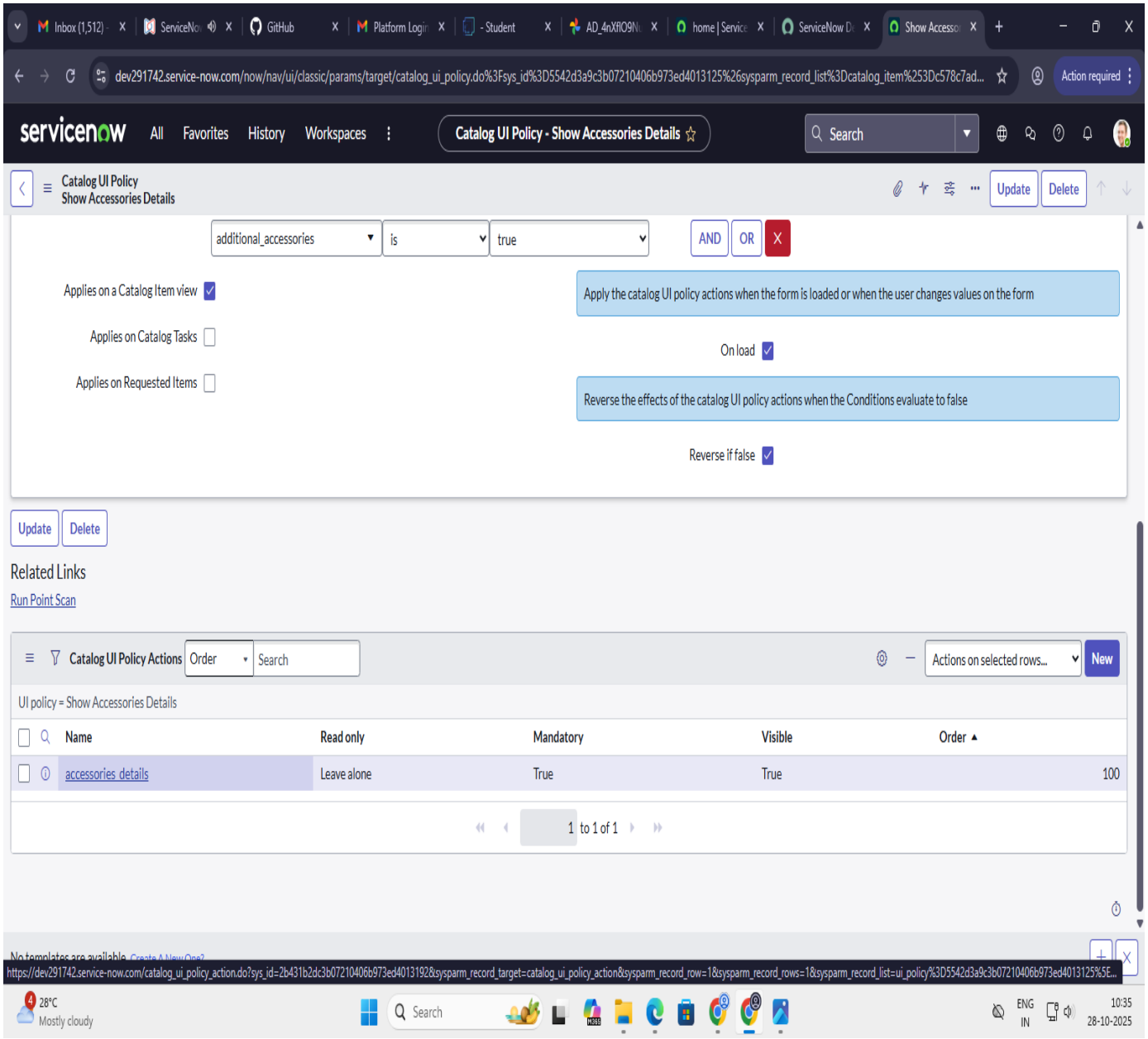
Run Point Scan
No templates are available
Create A New One?



13. UI Action:

13.1 Create ui action:

- Open service now.
- Click on All >> search for ui action
- Select ui actions under system definition
- Click on new
- Fill the following details to create ui action

  Table: shopping cart(sc_cart)
  Order:100

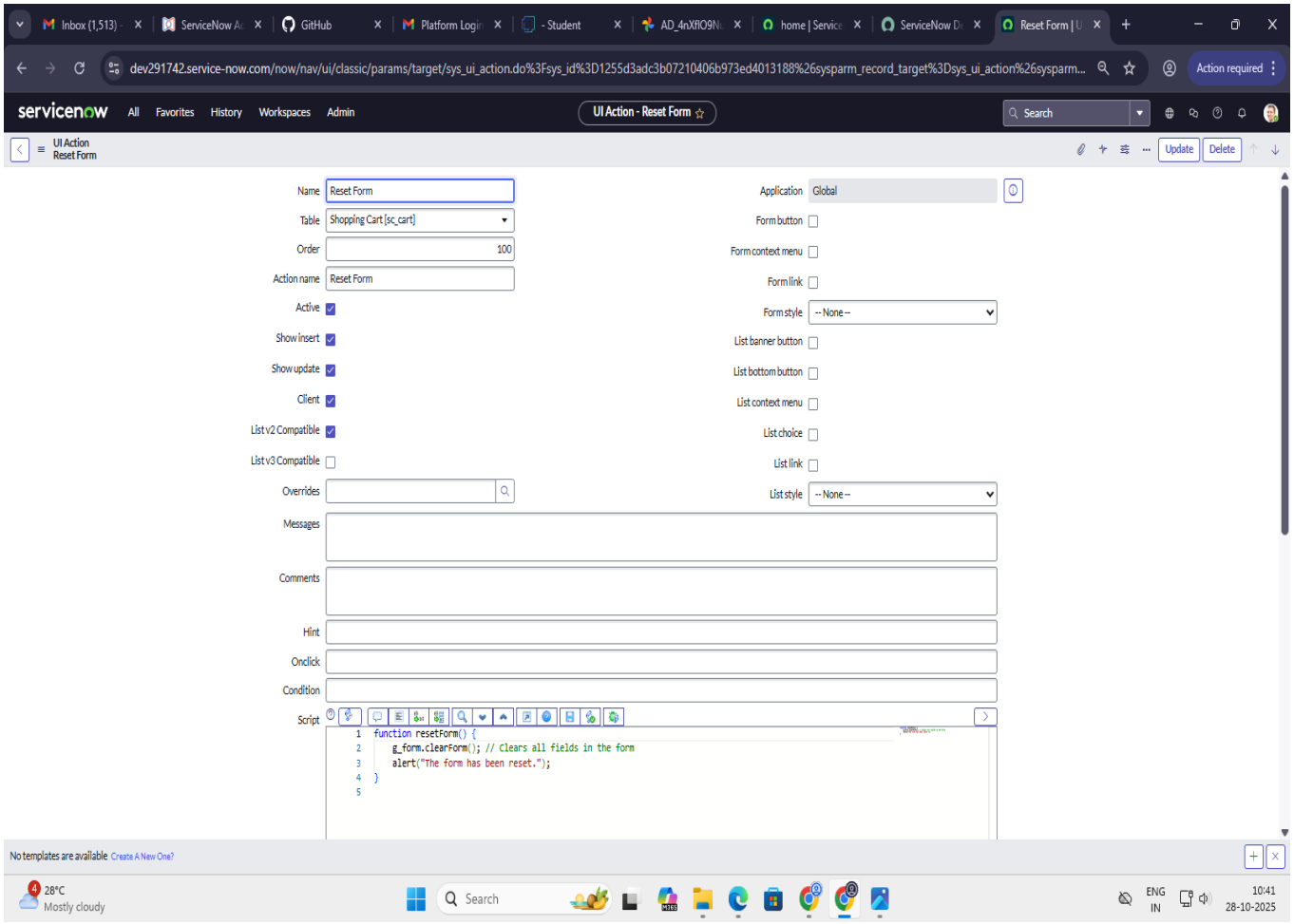
Action name: Reset form

Client : checked

Script:

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

Click on save



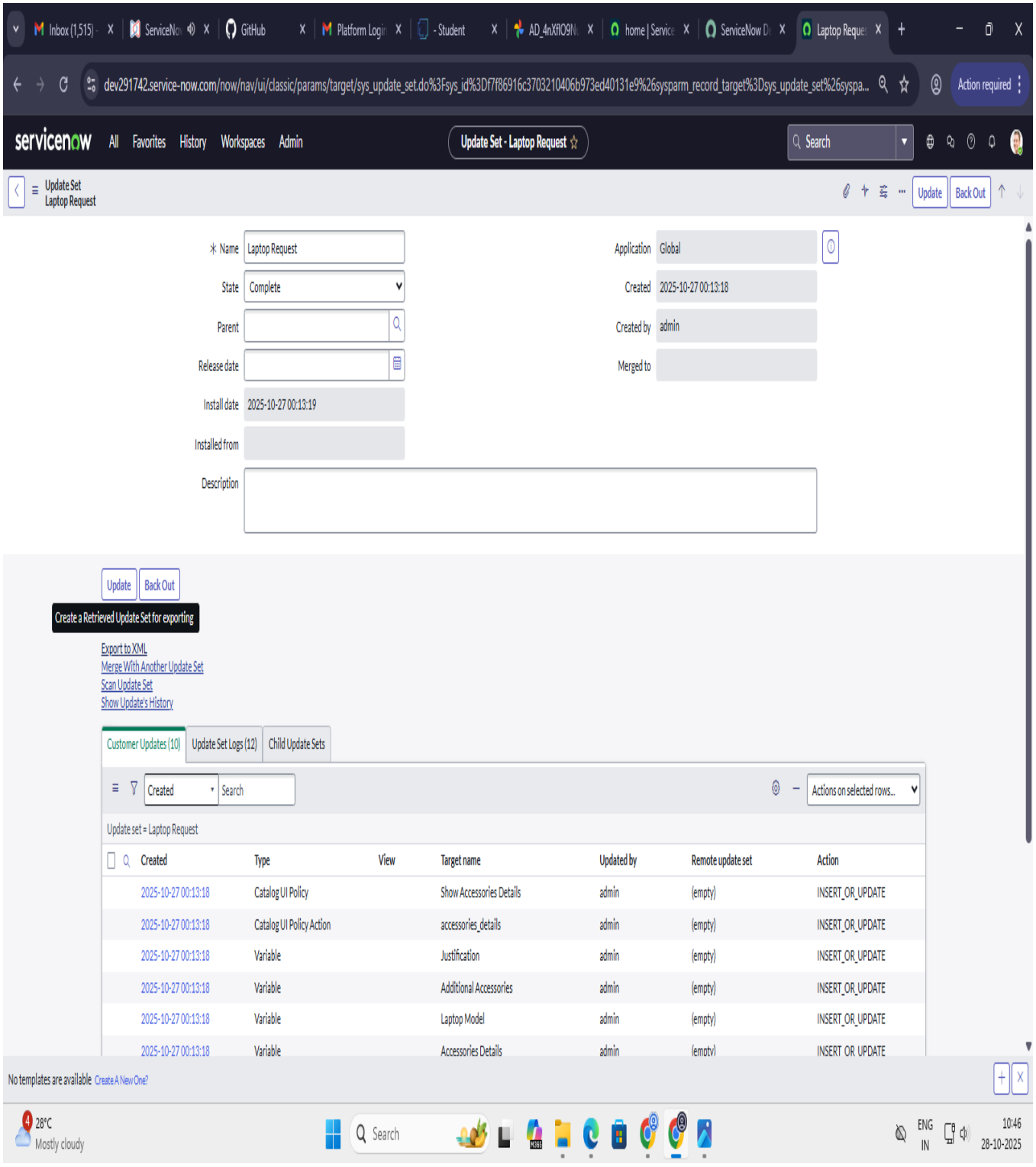
14. Export Update set:

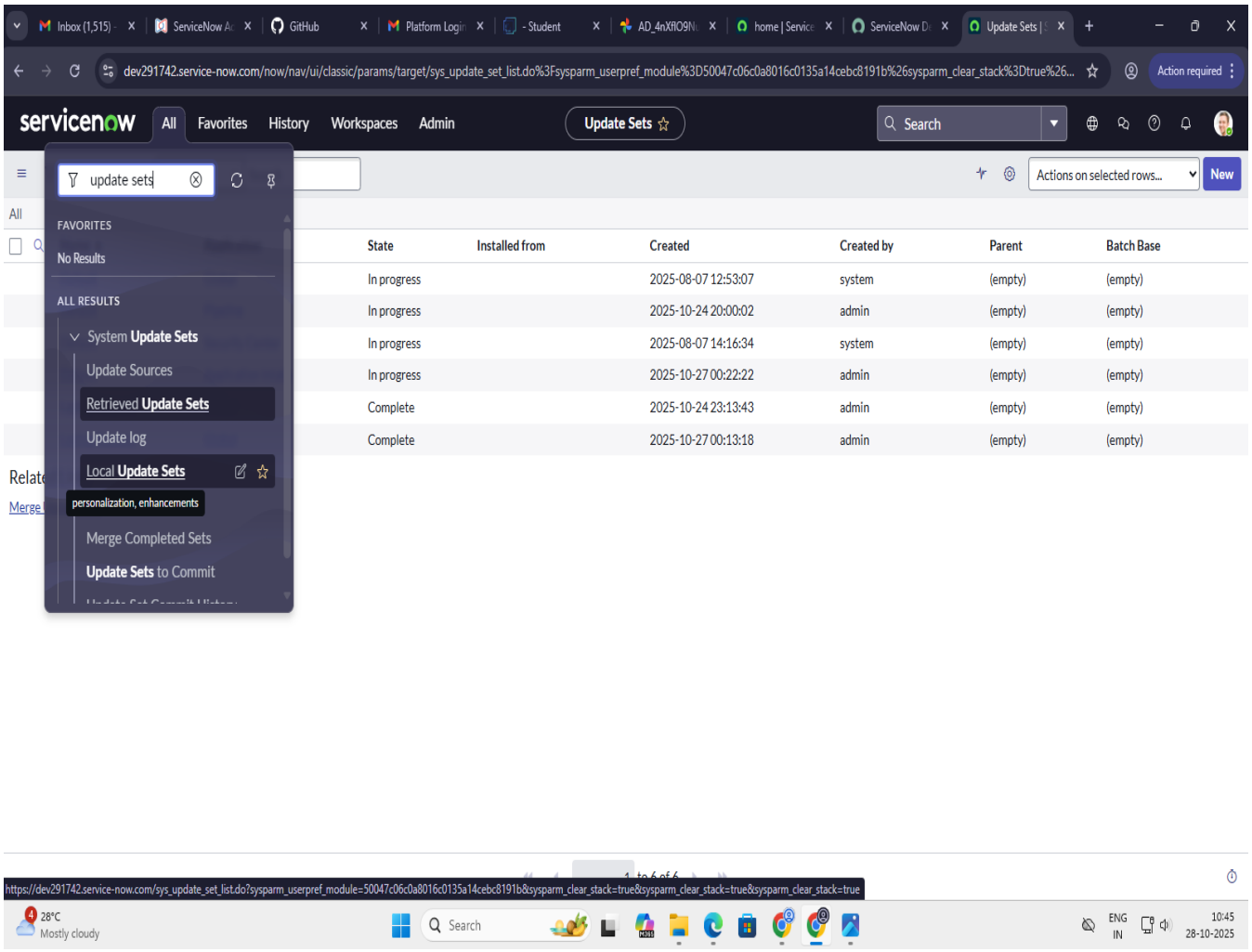
14.1 Exporting changes to another instances:

1. Click on All >> search for update sets
2. Select local update set
3. Select created update set i.e. ‘Laptop Request Project’
4. Set the state to ‘Complete’

5. In the related list Update tab, updates are visible which we perform under this update set.

6. Click on export to XML ,it download one file.

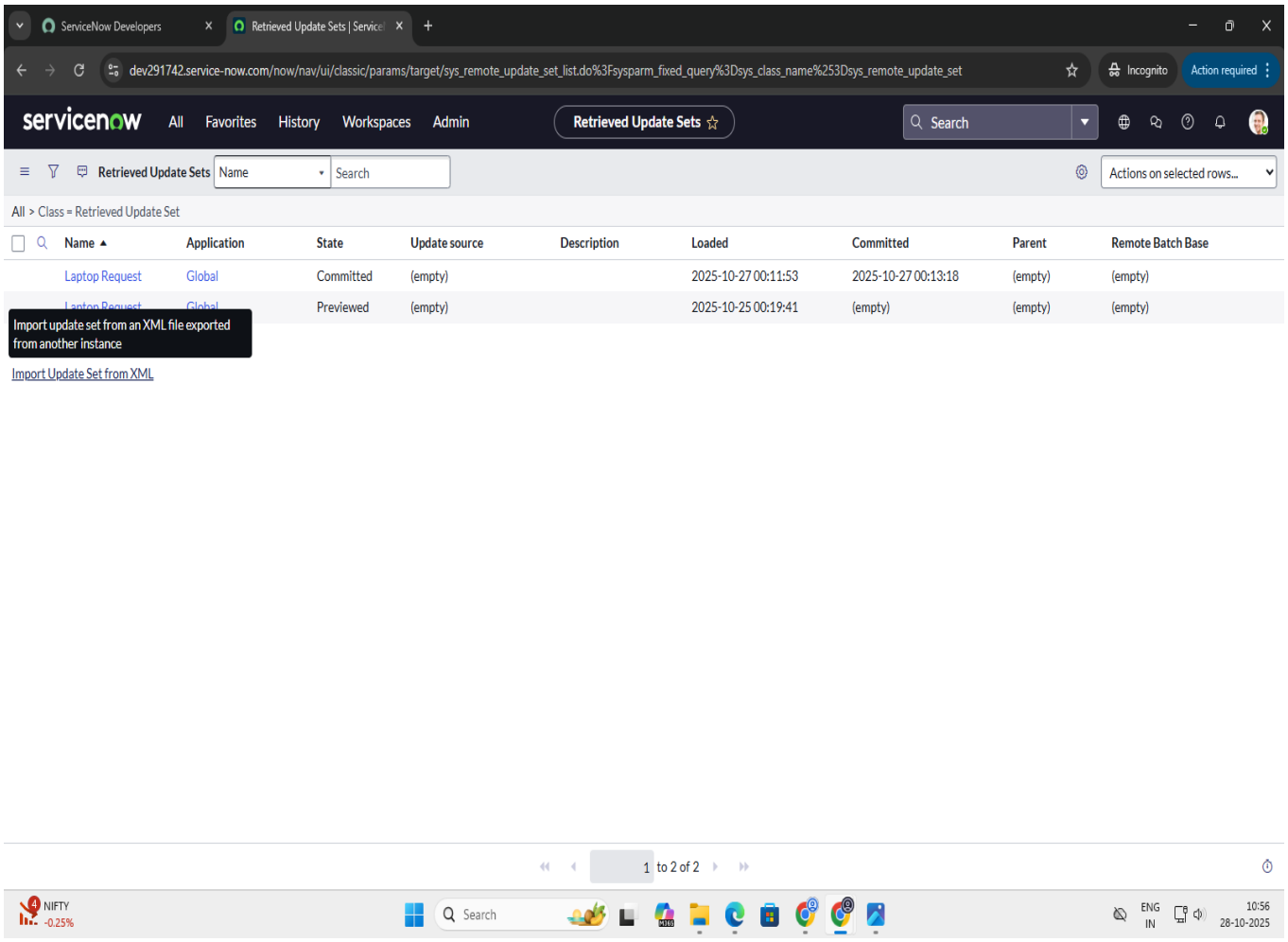




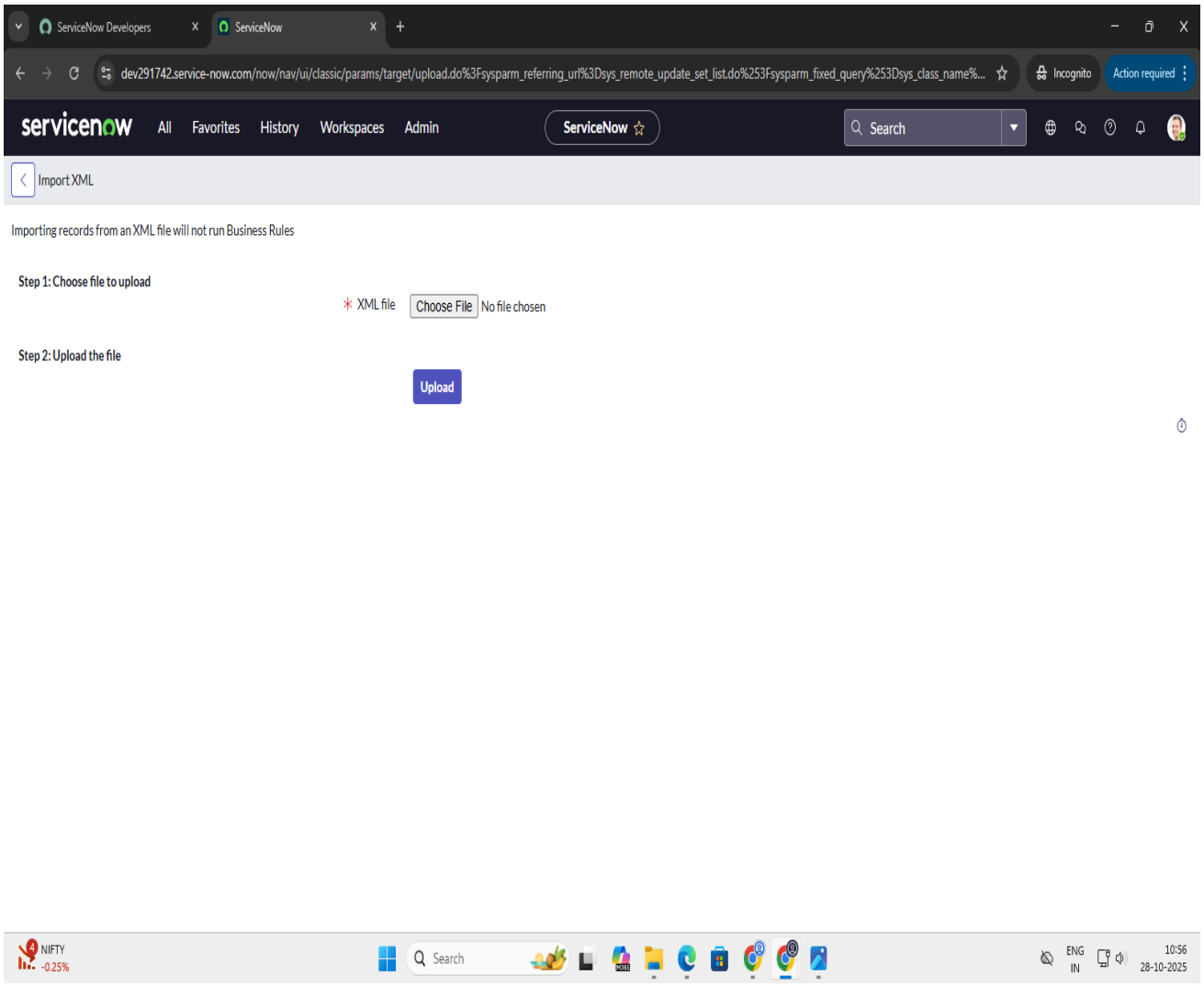
15. Login to another Instance:

15.1 Retrieving the update set:

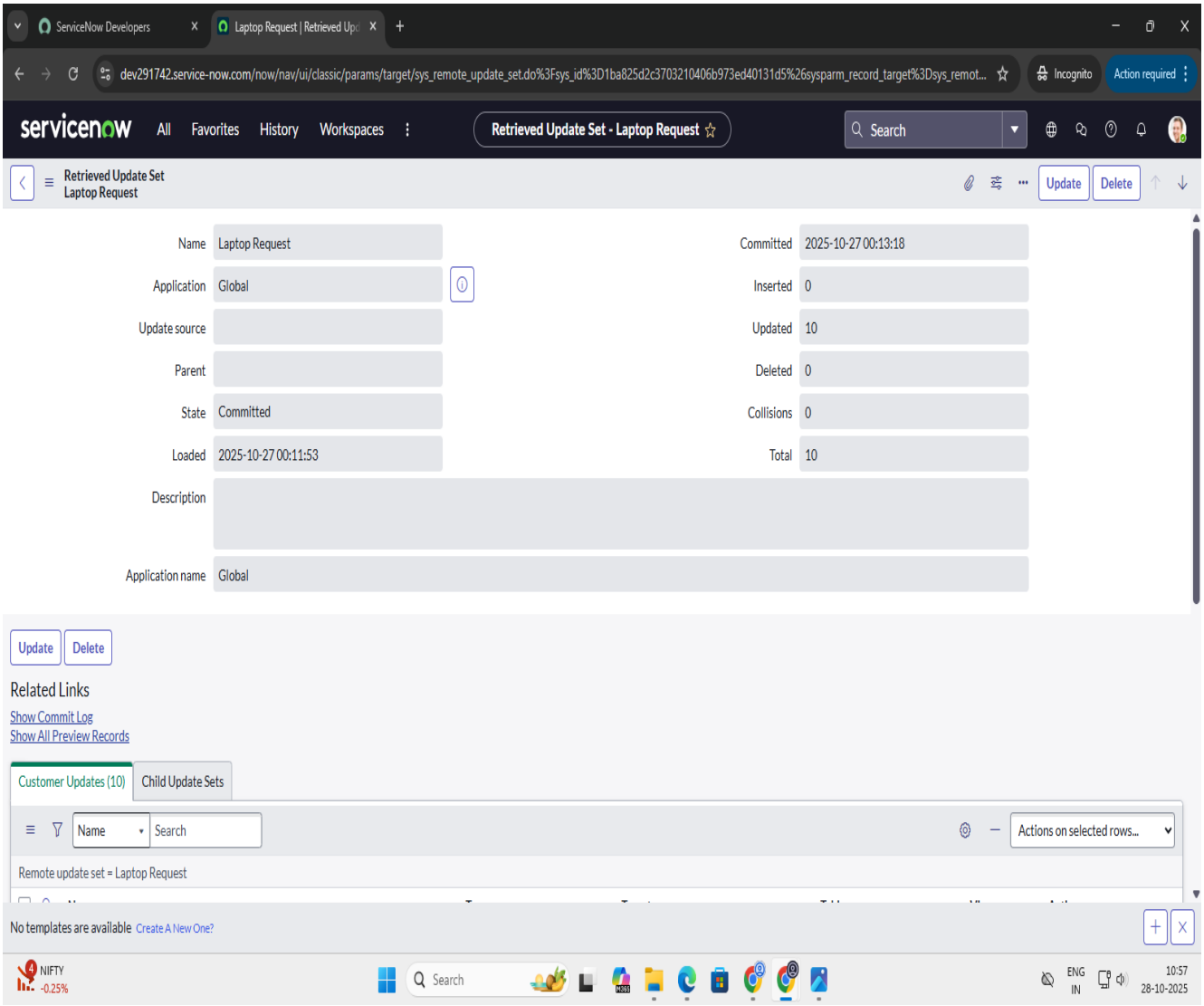
- Open another instance in incognito window
- Login with credentials
- Click on all>> search for update sets
- Select “Retrieved update set” under system update set
- It open retrieved update set list and scroll down
- Click on Import update set from XML



- Upload the downloaded file in XML file
- Click on Upload and it gets uploaded



- Open retrieved update set ‘laptop request project’
- Click on preview update set
- And click on commit update set
- And also see the related tab updates
- After commiting update set in this instance we get all updates which are done in the previous instance.



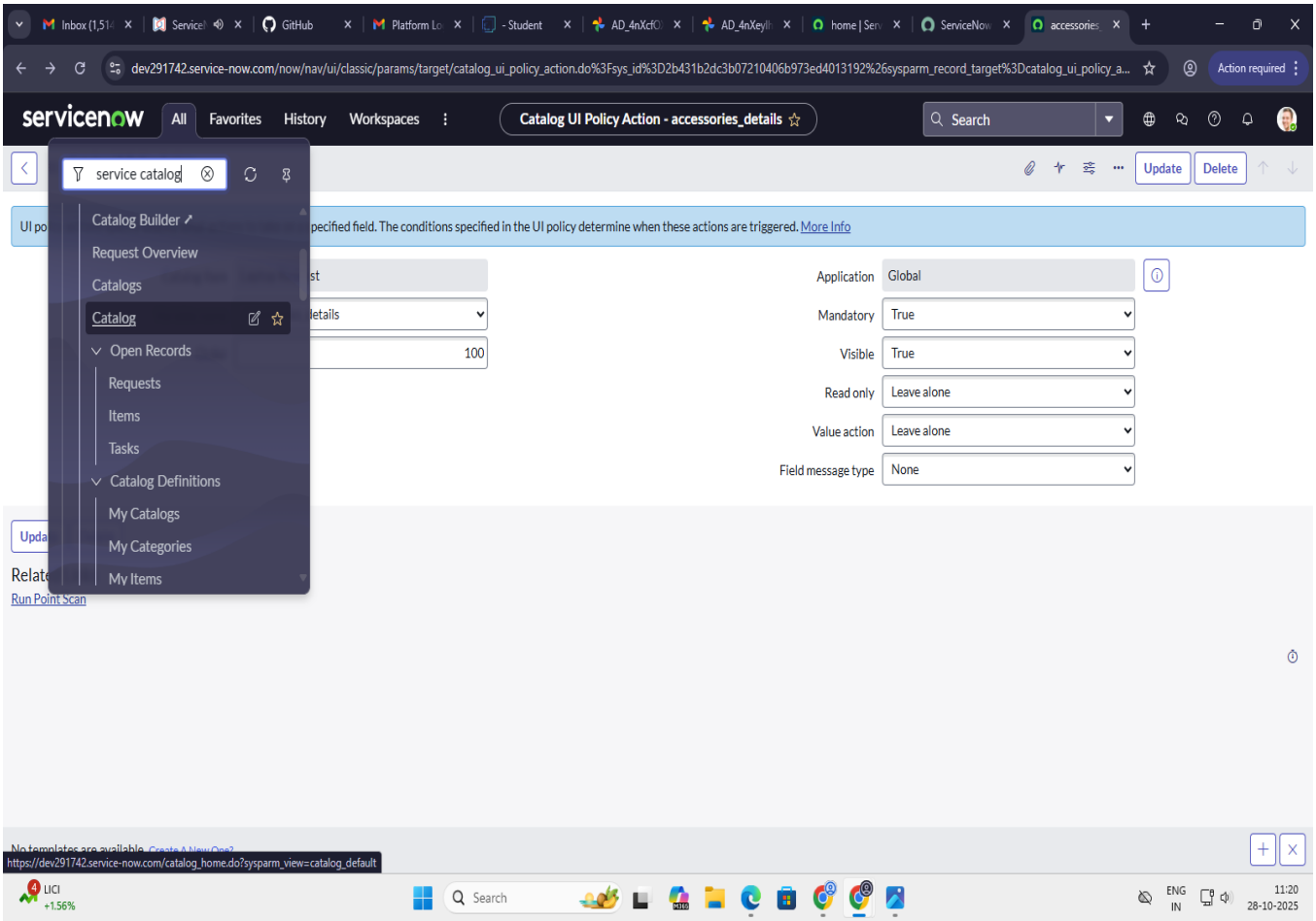
16. Testing:

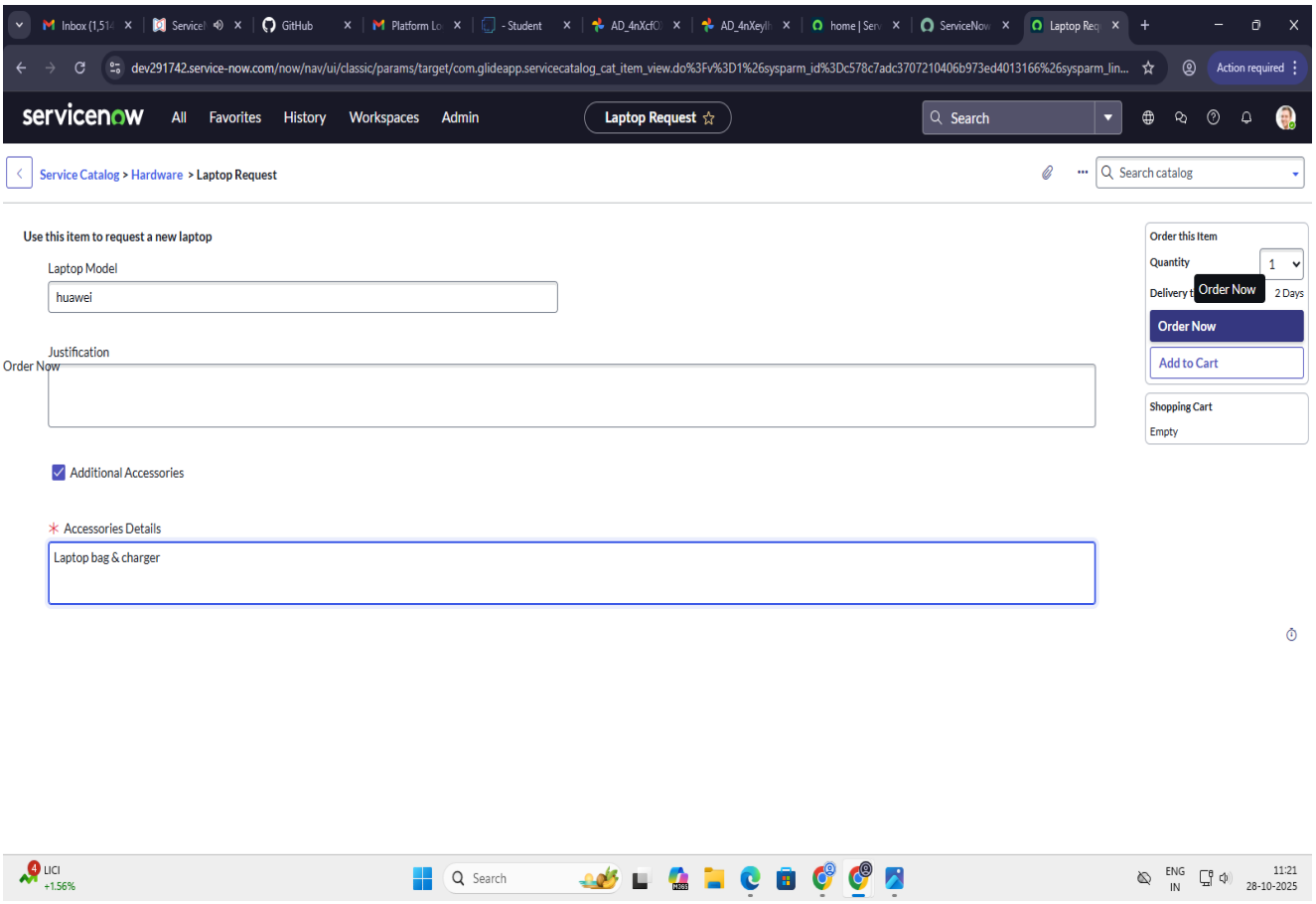
16.1 Test Catalog Item:

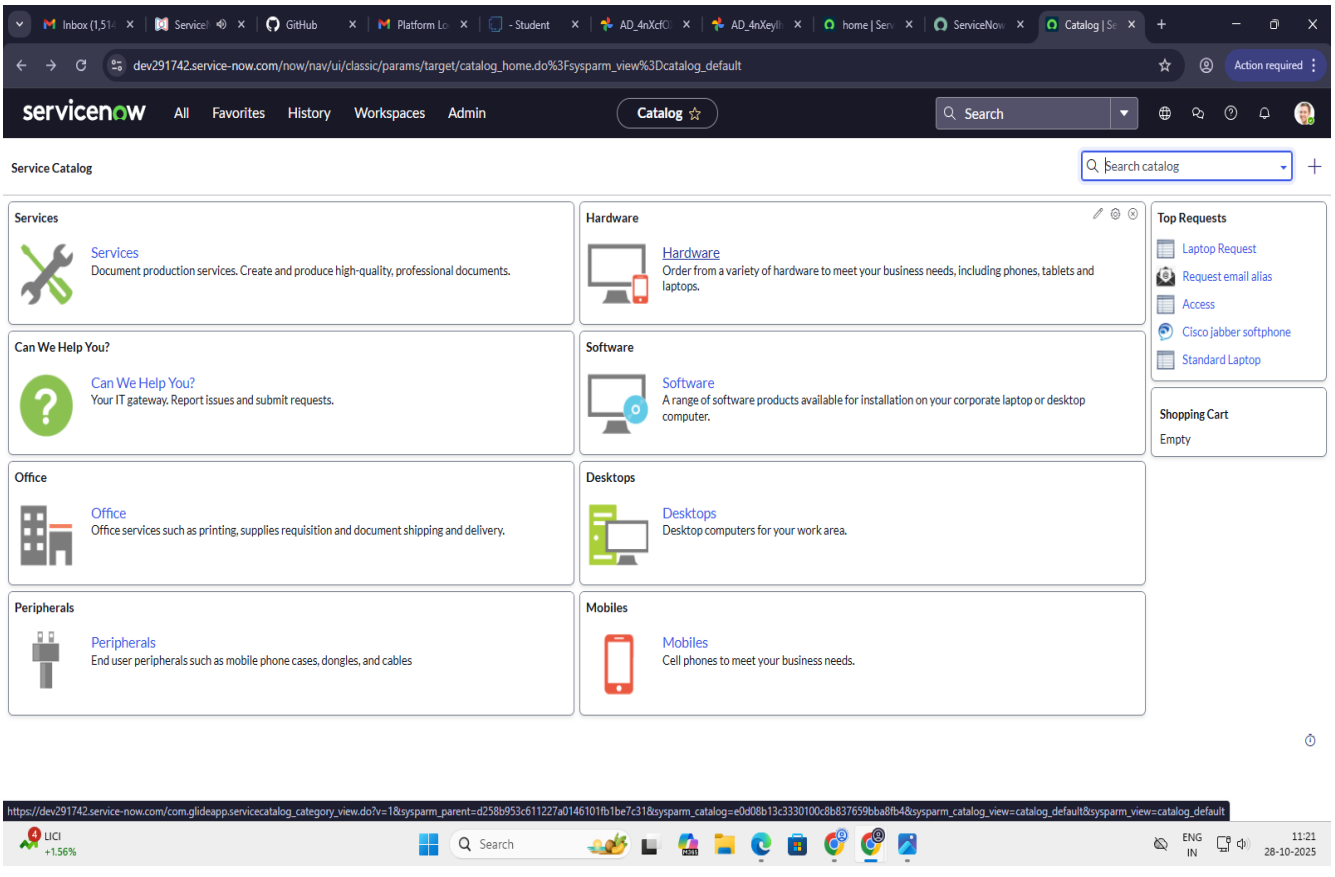
The testing phase ensures that the **Laptop Request Catalog Item** functions correctly according to the designed requirements and dynamic behavior. The following steps were carried out to validate the functionality:

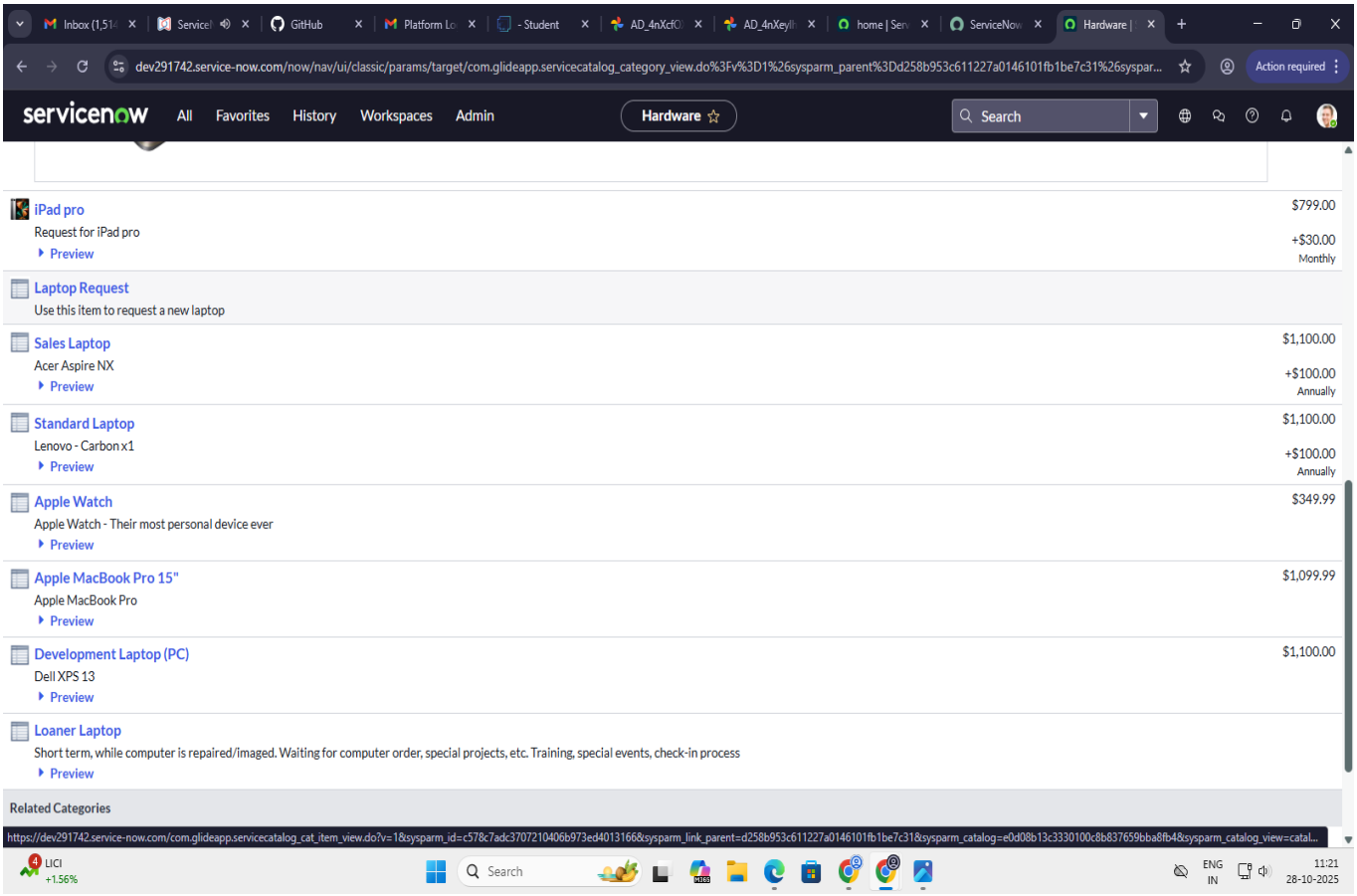
- **Navigate to Service Catalog:**
  In the target instance, search for **"Service Catalog"** in the Application Navigator.
- **Select Catalog Module:**
  Under the *Service Catalog* section, select the **Catalog** option
- **Open Hardware Category:**
  From the list of available categories, select **Hardware** and search for the item titled **"Laptop Request."**

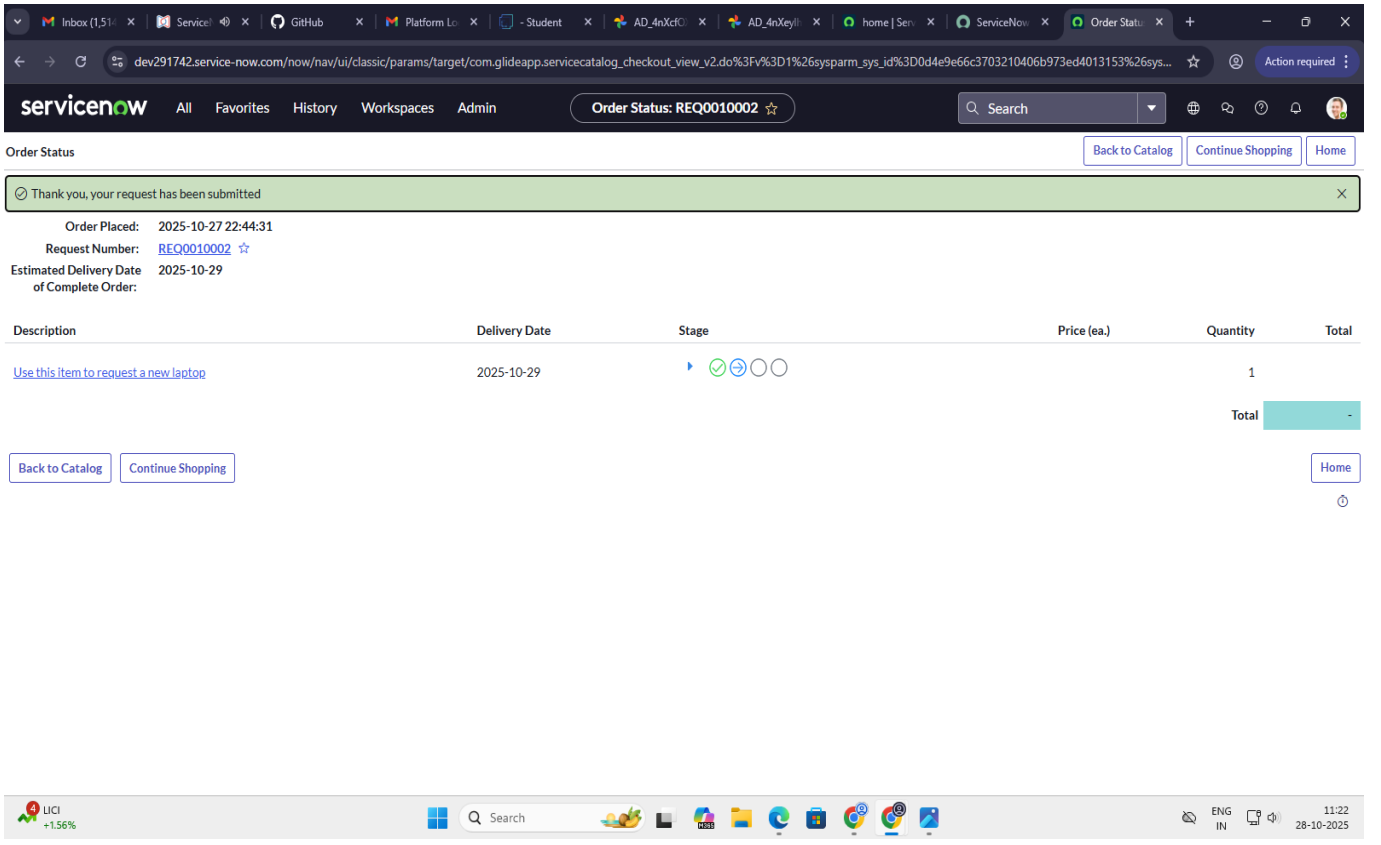
- **Access Laptop Request Item:**
  Click on the **Laptop Request** item to open the catalog form for testing.
- **Verify Default Fields:**
  Initially, the form displays only three primary variables such as *Employee Name*, *Laptop Type*, and *Justification.*
- **Test Dynamic Behavior:**
  As per the scenario, when the **"Additional Accessories"** checkbox is selected, the *Accessories Details* fields should automatically appear on the form.
- **Mandatory Field Validation:**
  Confirm that once the accessories fields are visible, they become **mandatory** for the user to fill before submitting the form.
- **Expected Result:**
  The system correctly displays the additional accessories section when the checkbox is selected and enforces mandatory validation for those fields.
- **Outcome:**
  The test results confirm that the catalog item behaves as expected, fulfilling all the functional and dynamic requirements of the laptop request process.




servicenow
All
Favorites
History
Workspaces
Admin
Laptop Request
Search
Service Catalog > Hardware > Laptop Request
Search catalog
Use this item to request a new laptop
Laptop Model
huawei
Justification
Order Now
Additional Accessories
Accessories Details
Laptop bag & charger
Order this Item
Quantity
Order Now
2 Days
Order Now
Add to Cart
Shopping Cart
Empty


servicenow
All
Favorites
History
Workspaces
Admin
Catalog
Search
Service Catalog
Search catalog
Services
Services
Document production services. Create and produce high-quality, professional documents.
Hardware
Hardware
Order from a variety of hardware to meet your business needs, including phones, tablets and laptops.
Top Requests
Laptop Request
Request email alias
Access
Cisco jabber softphone
Standard Laptop
Can We Help You?
Can We Help You?
Your IT gateway. Report issues and submit requests.
Software
Software
A range of software products available for installation on your corporate laptop or desktop computer.
Shopping Cart
Empty
Office
Office
Office services such as printing, supplies requisition and document shipping and delivery.
Desktops
Desktops
Desktop computers for your work area.
Peripherals
Peripherals
End user peripherals such as mobile phone cases, dongles, and cables
Mobiles
Mobiles
Cell phones to meet your business needs.


servicenow
All
Favorites
History
Workspaces
Admin
Hardware
Search
iPad pro
Request for iPad pro
Preview
$799.00
+$30.00
Monthly
Laptop Request
Use this item to request a new laptop
Sales Laptop
Acer Aspire NX
Preview
$1,100.00
+$100.00
Annually
Standard Laptop
Lenovo - Carbon x1
Preview
$1,100.00
+$100.00
Annually
Apple Watch
Apple Watch - Their most personal device ever
Preview
$349.99
Apple MacBook Pro 15"
Apple MacBook Pro
Preview
$1,099.99
Development Laptop (PC)
Dell XPS 13
Preview
$1,100.00
Loaner Laptop
Short term, while computer is repaired/imaged. Waiting for computer order, special projects, etc. Training, special events, check-in process
Preview
Related Categories


servicenow
All
Favorites
History
Workspaces
Admin
Order Status: REQ0010002
Search
Order Status
Back to Catalog
Continue Shopping
Home
Thank you, your request has been submitted
Order Placed: 2025-10-27 22:44:31
Request Number: REQ0010002
Estimated Delivery Date of Complete Order: 2025-10-29
Description
Delivery Date
Stage
Price (ea.)
Quantity
Total
Use this item to request a new laptop
2025-10-29
1
Total
-
Back to Catalog
Continue Shopping
Home

Advantages:

- **Faster and Efficient Process:**
  Automates the laptop request process, reducing manual effort and approval delays.
- **Dynamic Form Behavior:**
  Form fields adjust automatically based on user inputs (e.g., department or laptop type), ensuring accurate and relevant data collection.
- **Improved Data Accuracy:**
  Built-in validations prevent incomplete or incorrect information from being submitted.
- **Enhanced User Experience:**
  The catalog item provides clear instructions, dropdowns, and guided options, making it easy for employees to fill out.
- **Tracking and Transparency:**
  All requests are recorded and can be tracked throughout the approval and fulfillment stages, ensuring accountability.
- **Form Reset Functionality:**
  Allows users to clear and restart the form easily if they make a mistake, improving usability.
- **Governance and Compliance:**
  Every change and request is logged for auditing and deployment tracking, supporting proper governance.
- **Reduced Administrative Workload:**
  Minimizes manual data entry and follow-ups for IT or HR teams, freeing them for other tasks.
- **Integration with Workflows:**
  Can be connected with approval workflows, notifications, and inventory systems for end-to-end automation.

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 be used to 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.