INTRODUCTION

Project: "Asset Management Portal"

The **Asset Management Portal** is a centralized, web-based system designed to help organizations efficiently manage their physical and digital assets throughout their lifecycle from acquisition to retirement. Built on the **ServiceNow platform**, this portal automates key processes such as asset tracking, assignment, maintenance scheduling, and reporting.

In traditional setups, asset management often relies on manual methods like spreadsheets, which are prone to errors, delays, and lack of visibility. The Asset Management Portal replaces these outdated practices with a structured and scalable solution that improves transparency, accountability, and operational efficiency.

In today's fast-paced organizational environments, managing physical and digital assets efficiently is critical to operational success. The **Asset Management Portal** is a comprehensive, web-based solution designed to streamline the entire lifecycle of asset from acquisition and allocation to maintenance and retirement.

Built on the **ServiceNow platform**, this portal leverages automation, structured data storage, and user-friendly interfaces to eliminate manual tracking methods like spreadsheets and paper logs. It empowers employees, managers, and IT administrators to interact with assets in real time, ensuring transparency, accountability, and optimized resource utilization.

IDEATION PHASE

Problem Statement:

Many organizations struggle with fragmented and manual asset management systems. Assets such as laptops, servers, printers, and software licenses are often tracked using spreadsheets or paper-based logs, leading to inefficiencies such as:

- Asset misplacement or loss
- Inaccurate inventory
- Missed maintenance schedules
- Compliance and audit challenges
- Delayed response to employee asset needs

Without a centralized system, administrators find it difficult to ensure timely maintenance, proper allocation, and transparent usage tracking.

User Stories:

- As an Employee, I want to request assets through a simple interface so I can get the tools I need without delays.
- As a Manager, I want to approve or reject asset requests quickly so I can ensure proper resource allocation.
- As an IT Admin, I want to track asset status and location so I can manage inventory efficiently.
- As a Maintenance Technician, I want to receive alerts for scheduled servicing so I can prevent asset breakdowns.
- As a Compliance Officer, I want access to audit-ready reports so I can ensure regulatory standards are met.

Project Objective:

This project aims to develop and deploy an **automated Asset Management Portal using ServiceNow** to digitize asset workflows. The primary objectives include:

- Creating a user-friendly interface for employees to request assets
- Automating the approval and assignment processes
- Enabling preventive maintenance alerts and warranty tracking
- Providing accurate, real-time inventory updates
- Ensuring data-driven reporting for audits and optimization

By streamlining asset operations and offering visibility across the asset lifecycle, the portal enhances productivity, accountability, and asset longevity.

Challenges :

- Manual Tracking: Eliminates reliance on spreadsheets and paper logs.
- Delayed Approvals: Speeds up request and approval workflows.
- Asset Misplacement: Improves visibility and accountability of asset location.
- Maintenance Oversights: Automates alerts for servicing and warranty tracking.
- Audit Complexity: Simplifies compliance with real-time reporting and logs.

Benefits of the Project

- Efficiency Boost: Automates repetitive tasks, saving time and effort.
- Improved Accuracy: Reduces human error in asset tracking and reporting.
- Enhanced Transparency: Tracks asset lifecycle from request to retirement.
- Scalability: Easily adapts to growing asset inventories and organizational needs.

- User Empowerment: Provides self-service capabilities for employees and managers.

SOLUTION REQUIREMENT

TEAM ID	LTVIP2025TMID30733
PROJECT NAME	Asset Management Portal

Functional Requirements:

Following are the functional requirements.

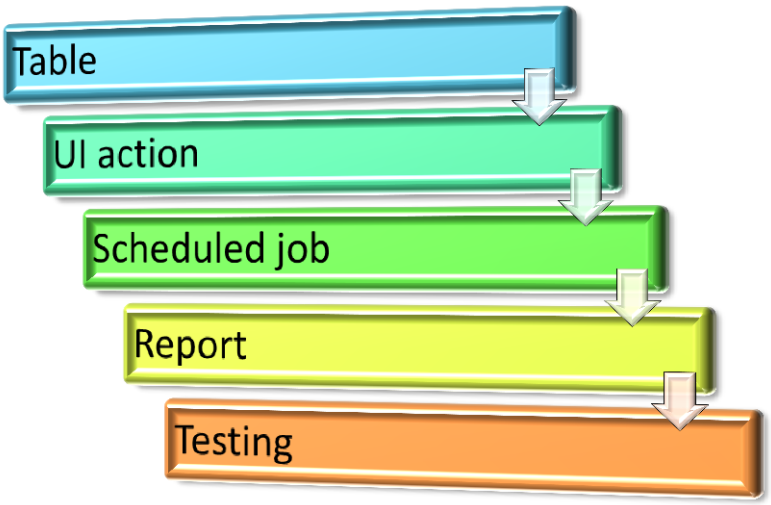
FR NO	Functional Requirement	Sub Requirement
FR-1	TABLES	Create table (asset inventory), create fields in the table
FR-2	UI ACTION	Create 3 UI actions they are (mark as lost, mark as repaired, mark as damaged)
FR-3	SCHEDULED JOB	Create Scheduled job (warranty expire alerts) and give the script
FR-4	REPORT	Create reports in service now give the name, type (pia chart), and configure
FR-5	TESTING	Testing UI action and Scheduled job

Non-Functional Requirements: Following are the functional requirements.

FR NO.	Non-Functional Requirement	Description
NFR-1	Usability	The Asset Management Portal provides a user-friendly and intuitive interface that allows employees and administrators to easily manage, track, and request assets with minimal training or technical knowledge.
NFR-2	Security	The Asset Management Portal ensures data protection through user authentication, role-based access controls, and secure encryption to prevent unauthorized access and safeguard asset information.
NFR-3	Reliability	The Asset Management Portal consistently performs its functions without failure, ensuring accurate asset

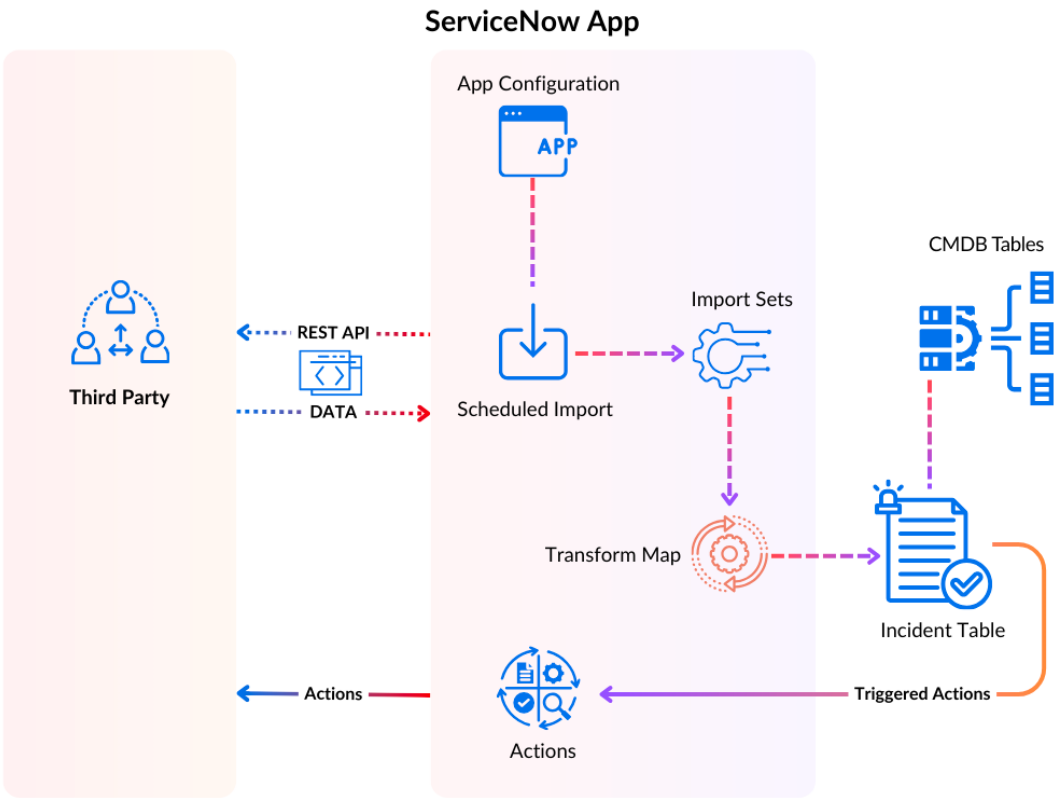
		tracking, timely updates, and dependable system availability for all users.
NFR-4	Performance	The Asset Management Portal delivers fast response times, efficient processing of asset data, and smooth handling of multiple user requests without system lag or delays.
NFR-5	Availability	The Asset Management Portal is accessible at all times, ensuring users can manage and track assets anytime without downtime or service interruptions.
NFR-6	Scalability	The Asset Management Portal can efficiently handle growing numbers of users, assets, and data, making it adaptable to the expanding needs of any organization.

DATA FLOW DIAGRAM:



Technology Stack:

Architecture of ServiceNow



ServiceNow Architecture Overview

1. Third-Party Systems

- External tools or platforms that send data into ServiceNow
- Data is transferred using **REST APIs** or other integration methods

2. Scheduled Import

- Automatically pulls data from third-party sources at set intervals
- Ensures consistent and timely updates to ServiceNow

3. Import Sets

- Temporary staging tables that hold incoming data
- Prepares data for transformation before it enters core tables

4. Transform Map

- Converts and maps data from import sets to target tables
- Ensures correct formatting and field alignment

5. Incident Table

- Stores processed data as structured records (e.g., incidents, assets)
- Acts as the operational database for workflows and reporting

6. Triggered Actions

- Business rules or scripts that respond to changes in the Incident Table
- Can initiate notifications, updates, or external actions

7. CMDB Tables

- Configuration Management Database holds detailed asset and service data
- Supports relationships between configuration items (CIs)

PROJECT DESIGN

Proposed solution:

Project team shall fill the following information in the proposed solution template

S. No	Parameter	Description
1	Problemstatement (problem to be solved)	Organizations often face challenges in tracking, managing, and maintaining their physical and digital assets, leading to asset loss, inefficiency, and inaccurate records. The lack of a centralized system results in poor visibility, delayed maintenance, and difficulty in asset allocation.
2	Idea / Solution description	The Asset Management Portal is a robust and centralized web application designed to optimize the management of both physical and digital assets within an organization. It enables automated asset tracking, real-time inventory updates, user-friendly self-service features, and smart alerts for maintenance and warranty. By reducing human error and manual workload, the portal enhances operational efficiency, promotes responsible asset usage, and ensures timely decision-making through insightful reporting dashboards.
3	Novelty/Uniqueness	The Asset Management Portal stands out with its automation of the entire asset lifecycle, including real-time tracking, self-service asset requests, and intelligent maintenance alerts.
4	Social Impact/Customer	The Asset Management Portal improves organizational

	satisfaction	transparency and accountability, reducing asset misuse and promoting responsible resource utilization
5	Business model (Revenue Model)	The Asset Management Portal follows a Software-as-a-Service (SaaS) business model
6	Scalability of the Solution	The Asset Management Portal is highly scalable, capable of handling increasing numbers of users, assets, and organizational data without compromising performance.

Asset management portal

What it does?

- **Tracks Assets**: Monitors location, status, and ownership of items like laptops, tools, or software licenses.
- **Manages Requests**: Employees can request assets; managers can approve or reject them through workflows.
- **Schedules Maintenance**: Sends alerts for servicing, warranty expiry, or calibration.
- **Generates Reports**: Provides visual insights into asset usage, availability, and performance.
- **Ensures Compliance**: Maintains logs and audit trails for regulatory and internal reviews.

Types:

- **Tables**
  - To store asset-related data in structured rows and fields.
- **Fields**
  - Data points like asset type, status, purchase date, etc. used for tracking each record.
- **UI Actions**
  - Custom buttons like “Mark as Lost”, “Mark as Damaged”, “Mark as Repaired” for quick updates.
- **Scheduled Jobs**
  - Automated scripts that run at set intervals, like warranty expiry alerts.
- **Reports**
  - Visual data presentations such as pie charts comparing assigned vs available assets.
- **Testing Activities**

- Verification steps for UI actions and scheduled jobs to ensure proper functionality.

Asset Management Portal

MILESTONE 1: TABLE

Activity 1: create table

PURPOSE:

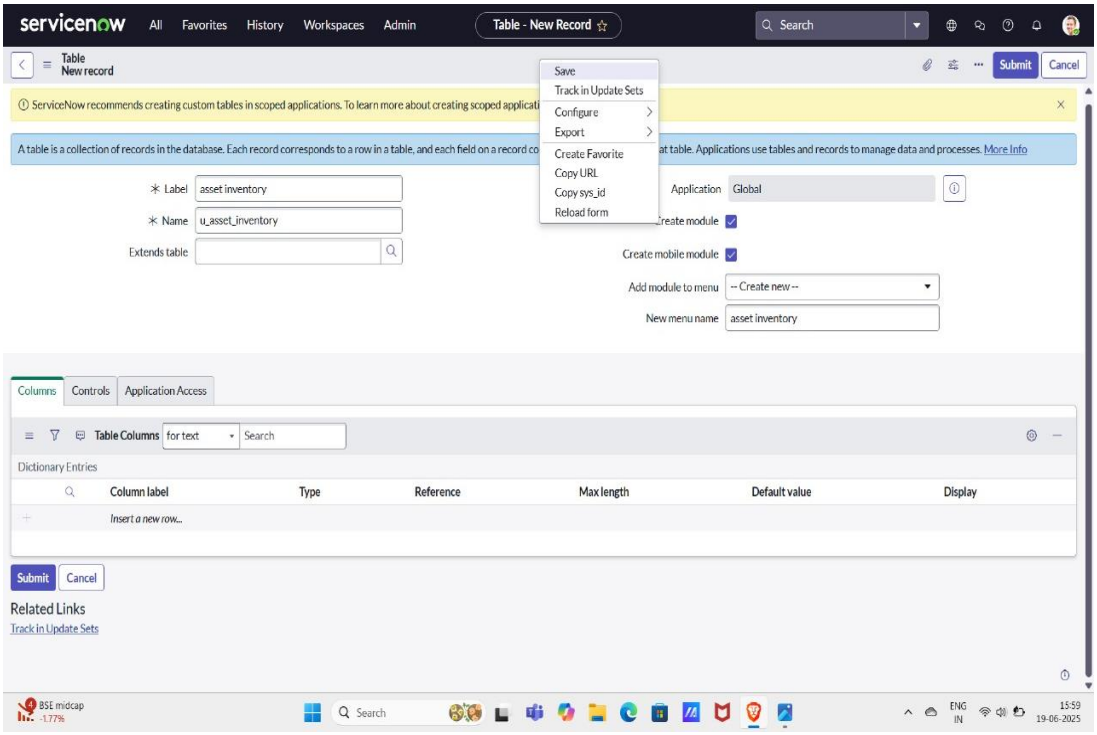
The purpose of creating a table in the Asset Management Portal is to store and organize asset-related data in a structured format. This table serves as the backbone of the portal's database, where each asset record (like ID, name, type, owner, status, location, etc.) is stored in rows and columns for easy access, tracking, and reporting.

USE:

Central Data Storage: The table stores all asset information in a centralized and searchable format.

STEPS:

1. Open service now.
2. Click on All >> search for tables
3. Open System definition >> tables
4. Click on new
5. Fill in the details as
    a. Name: asset inventory
6. Save the table



MILESTONE 1: TABLE

Activity 2: create fields

PURPOSE:

To define specific data points (like asset name, type, status) that will be stored in each record of the table.

USE:

Fields allow the portal to capture detailed asset information (e.g., serial number, owner, location) and enable accurate tracking, searching, filtering, and reporting of assets. They ensure that each asset entry is complete and consistent.

STEPS:

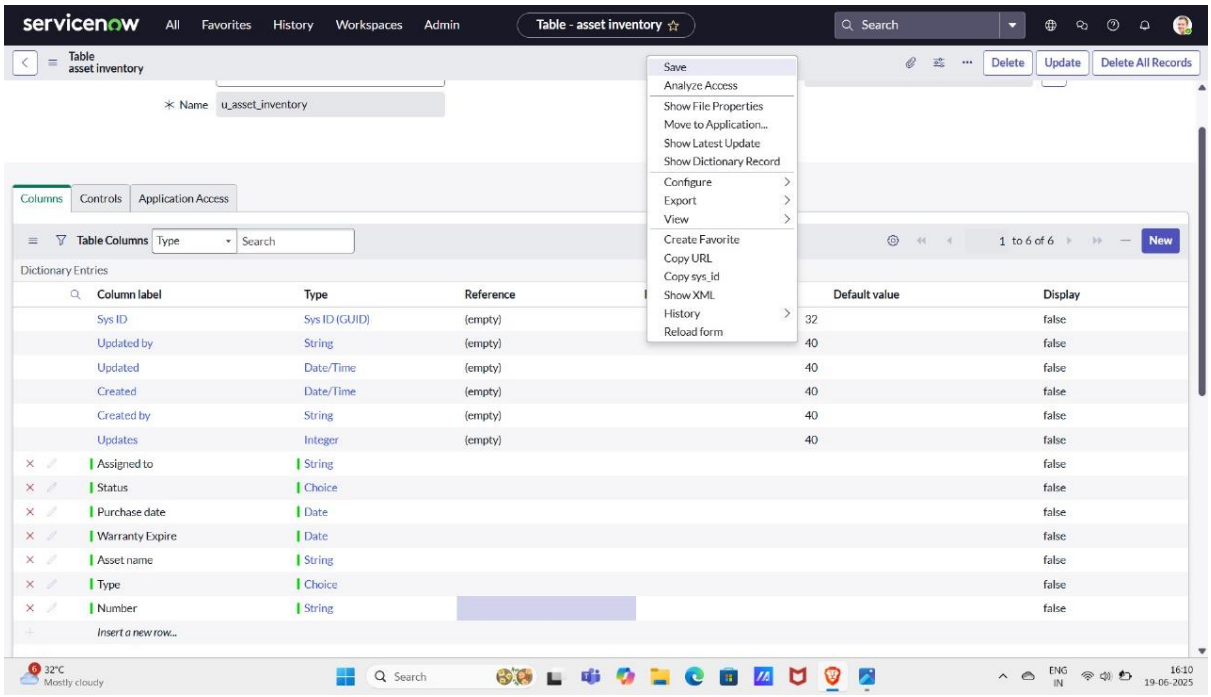
1)After saving the table scroll down

2)Create fields

- Assigned to: string
- Status: choice

- Purchase date: date
- Warranty Expire: date
- Asset name: string
- Type: choice
- Number: String

3) Click on save



MILESTONE 2: UI ACTION

Activity 1: create UI action 1

PURPOSE:

To add a custom button or link on a form or list that performs a specific action when clicked.

USE:

UI Actions improve user interaction by allowing quick actions like "Assign Asset," "Return Asset," or "Request Approval" directly from the portal interface. This enhances usability and speeds up common tasks.

STEPS:

1. Navigate to System Definition >> UI action
2. Click on New
3. Fill in the details;

Name: Mark As Lost

Table: Asset Inventory

Action name: mark_as_lost

Condition: current.u_status != 'Lost'

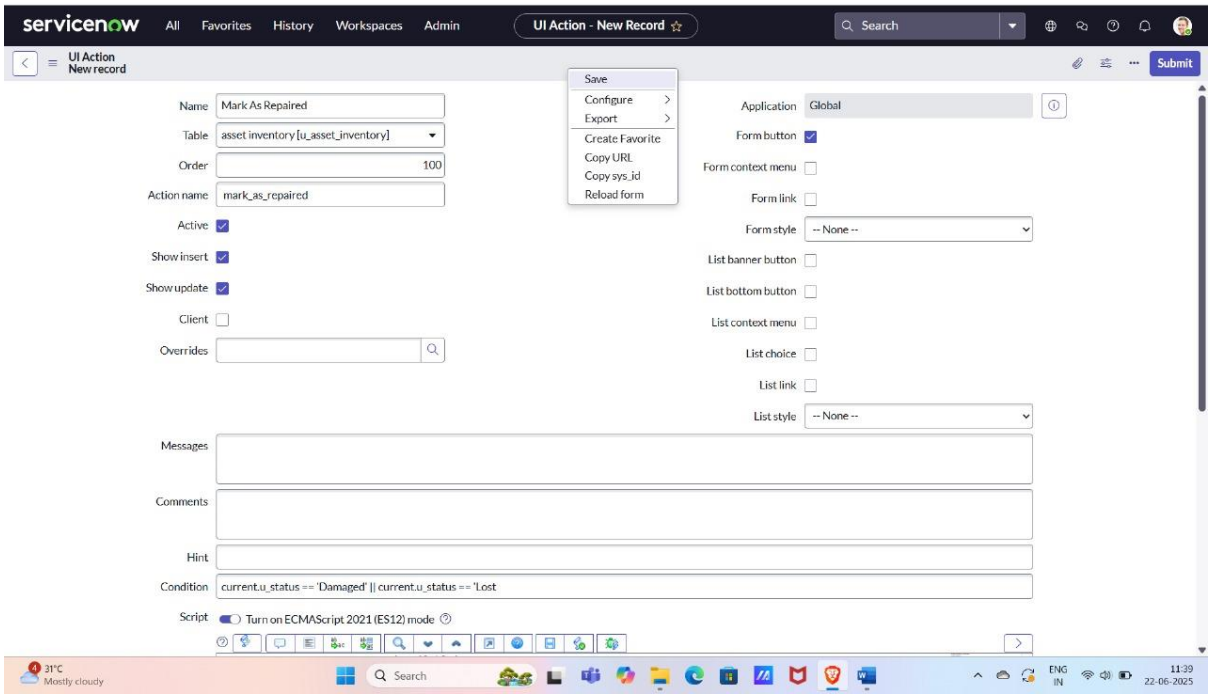
Script:

current.u_status = 'Lost';

current.update();

action.setRedirectURL(current);

4. Check the form button box
5. Click on save



MILESTONE 2: UI ACTION

Activity 2: create UI action 2

STEPS:

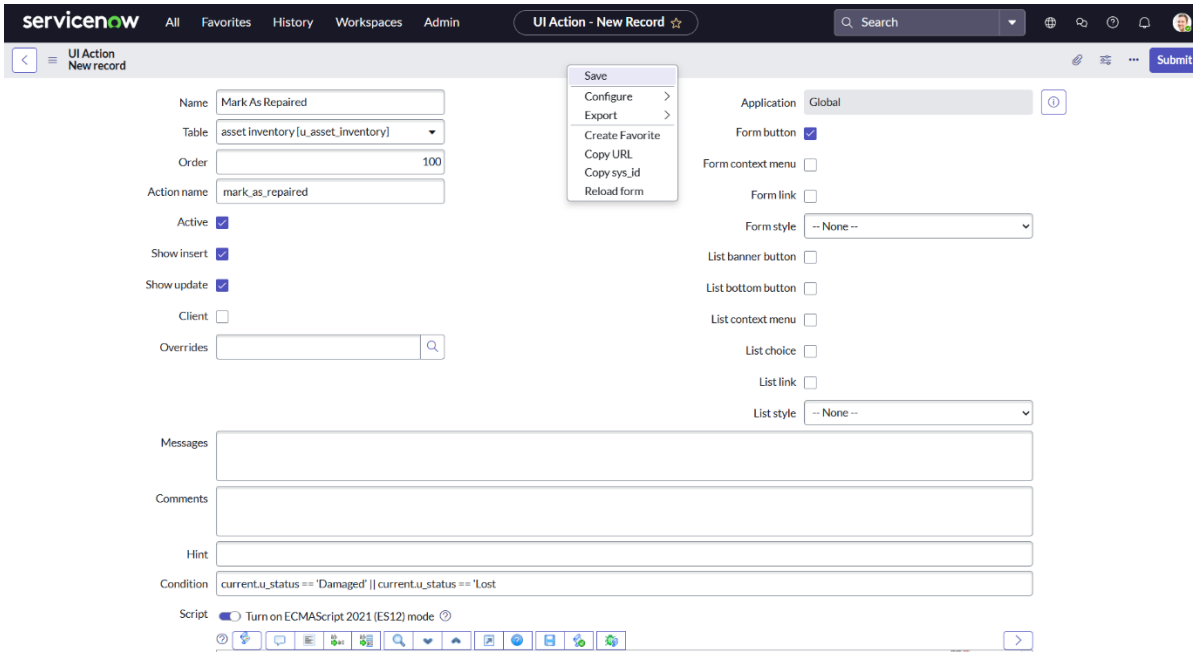
1. Navigate to System Definition >> UI action
2. Click on New
3. Fill in the details;
    1. Name: Mark As Repaired
    2. Table: Asset Inventory
    3. Action name: mark_as_repaired
    4. Condition: current.u_status == 'Damaged' || current.u_status == 'Lost’
    5. Script:

```
current.u_status = 'Available';

current.update();

action.setRedirectURL(current);
```

4. Check the form button box
5. Click on save



MILESTONE 2: UI ACTION

Activity 3: create UI action 3

STEPS:

1. Navigate to System Definition >> UI action
2. Click on New
3. Fill in the details;

Name: Mark As Dameged

Table: Asset Inventory

Action name: mark_as_damaged

Condition: current.u_status != 'Damaged'

Script:

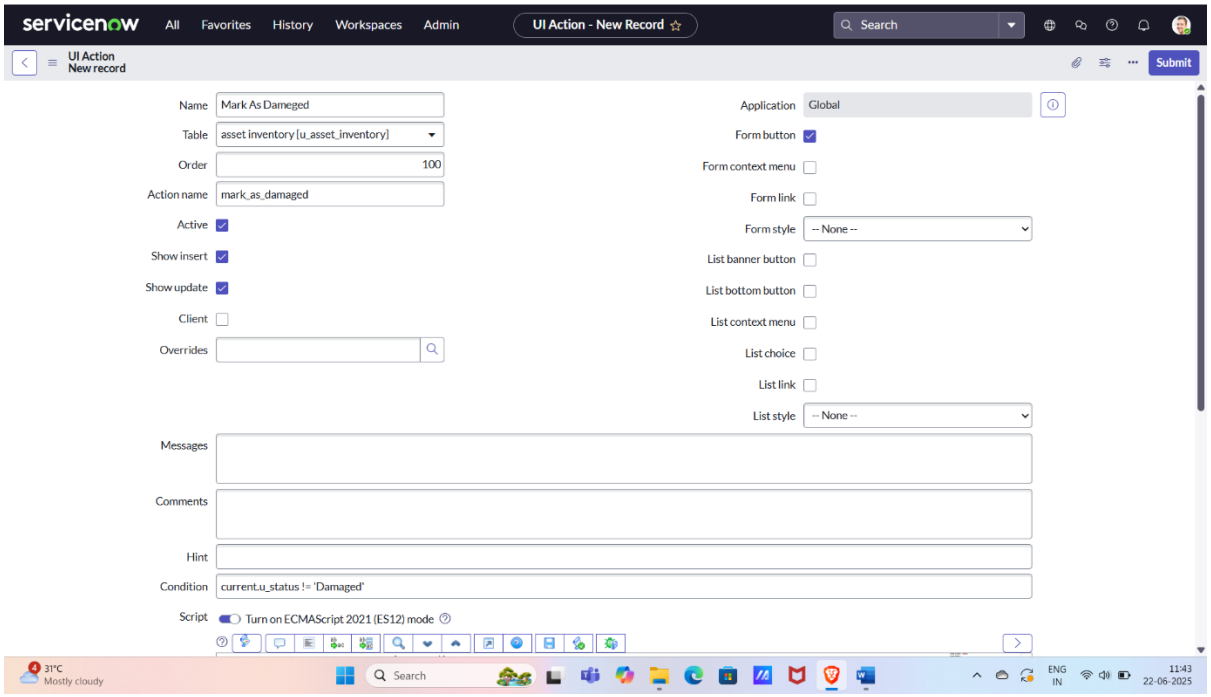
current.u_status = 'Damaged';

current.update();

action.setRedirectURL(current);

4. Check the form button box

5. Click on save



MILESTONE 3: SCHEDULED JOB

Activity 1: create scheduled job

PURPOSE:

To automate tasks that need to run at specific times or intervals without manual intervention.

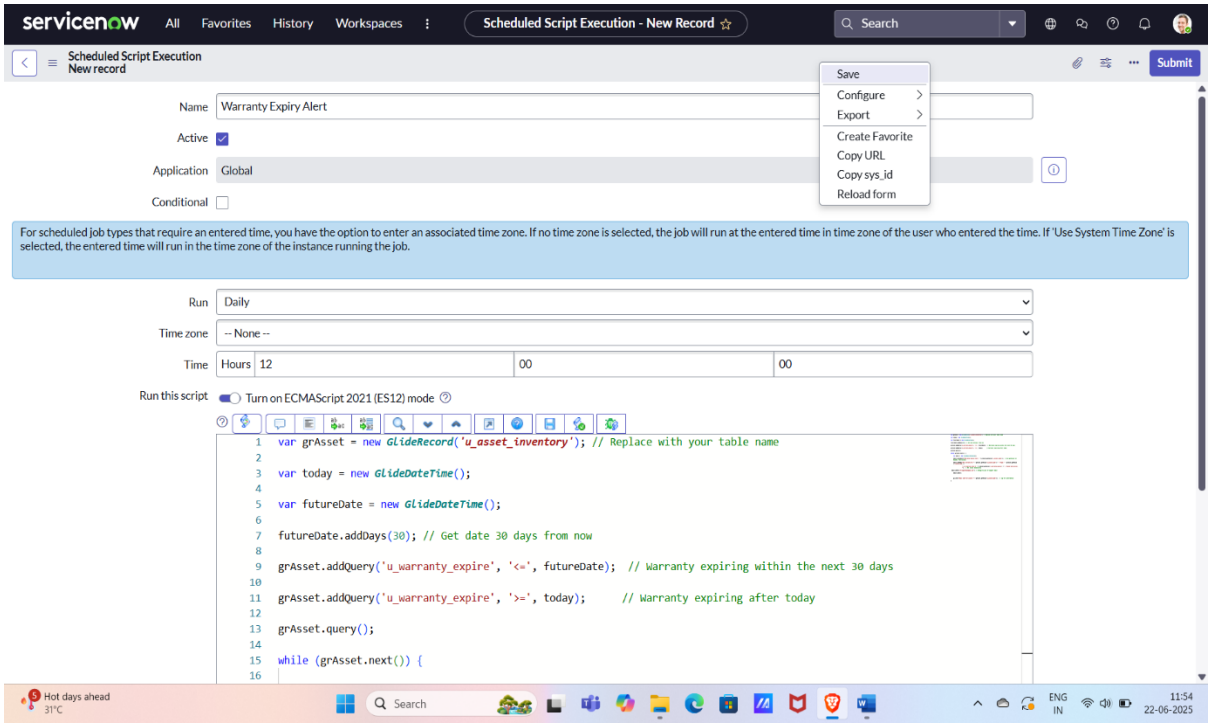
USE:

Scheduled jobs are used to automatically check asset status, send maintenance alerts, or generate daily/weekly reports, ensuring timely actions and reducing manual workload.

STEPS:

1. Navigate to System Definition >> Scheduled Job
2. Click on New
3. Name: Warranty Expiry Alert,

4. Run: Daily
5. Time: 12:00
6. Write the script
7. And click on save



MILESTONE 4: REPORT

Activity 1: create report

PURPOSE:

To visually display and analyse data stored in the system for better decision-making.

USE:

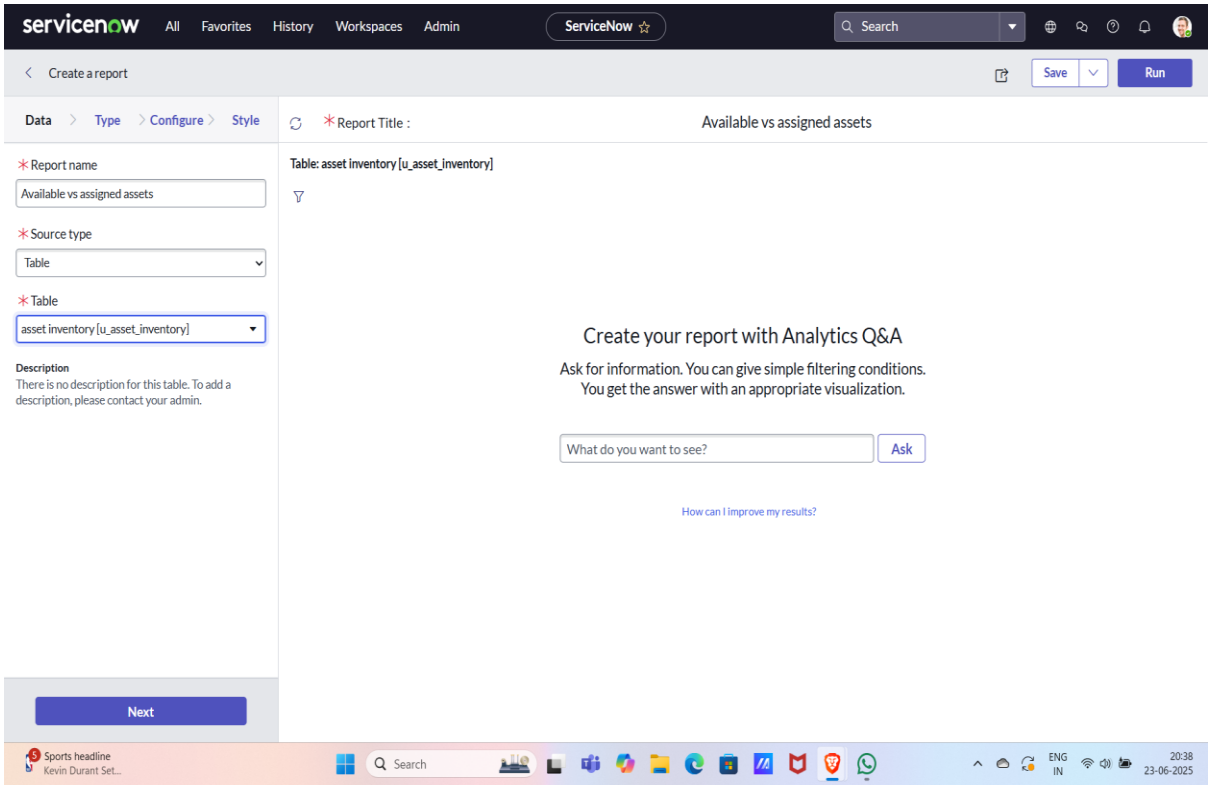
Reports help track asset usage, availability, maintenance status, and inventory trends. They support data-driven decisions, improve transparency, and assist in audits or reviews.

STEPS:

1. Navigate To Reports
2. Click on Create New

3. Report Name: Available vs assigned assets, Source Type: Table, Table: Asset Inventory
4. Type: Pie Chart
5. Group By: Status, Aggregation: Count
6. Click on save

7. And then click on Run



MILESTONE 5: TESTING

Activity 1: testing UI action

PURPOSE:

To ensure that the UI action (button or link) works correctly and performs the intended function without errors.

USE:

Testing UI actions like "Assign Asset" or "Return Asset" ensures the system responds correctly to user inputs, improves reliability, and provides a smooth user experience.

STEPS:

1. Go to Asset Inventory table
2. Click on New
3. Fill in the details

a) Asset name: Laptop

b) Type: laptop

c) Assigned to: Abel Tutors

d) Status: Available

e) select some purchase and expiry date

4. Click on submit
5. Open the record again
6. Click on mark as lost button and save
7. Check the status is changed to lost.

MILESTONE 5: TESTING

Activity 2: testing scheduled job

PURPOSE:

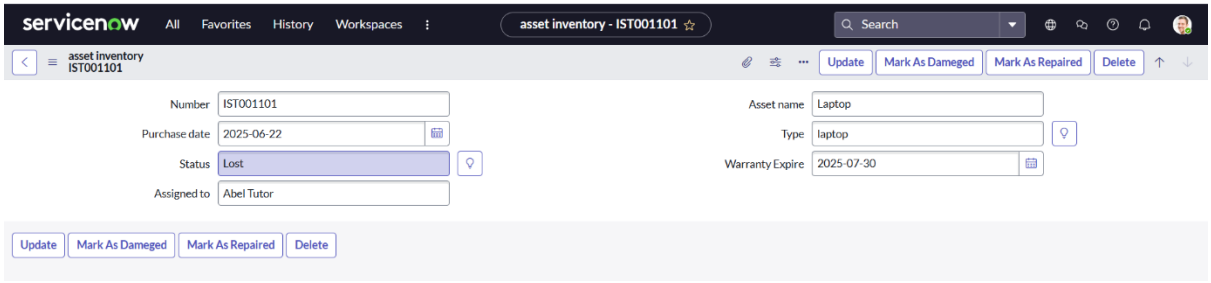
To verify that the scheduled job runs automatically at the set time and performs its task correctly.

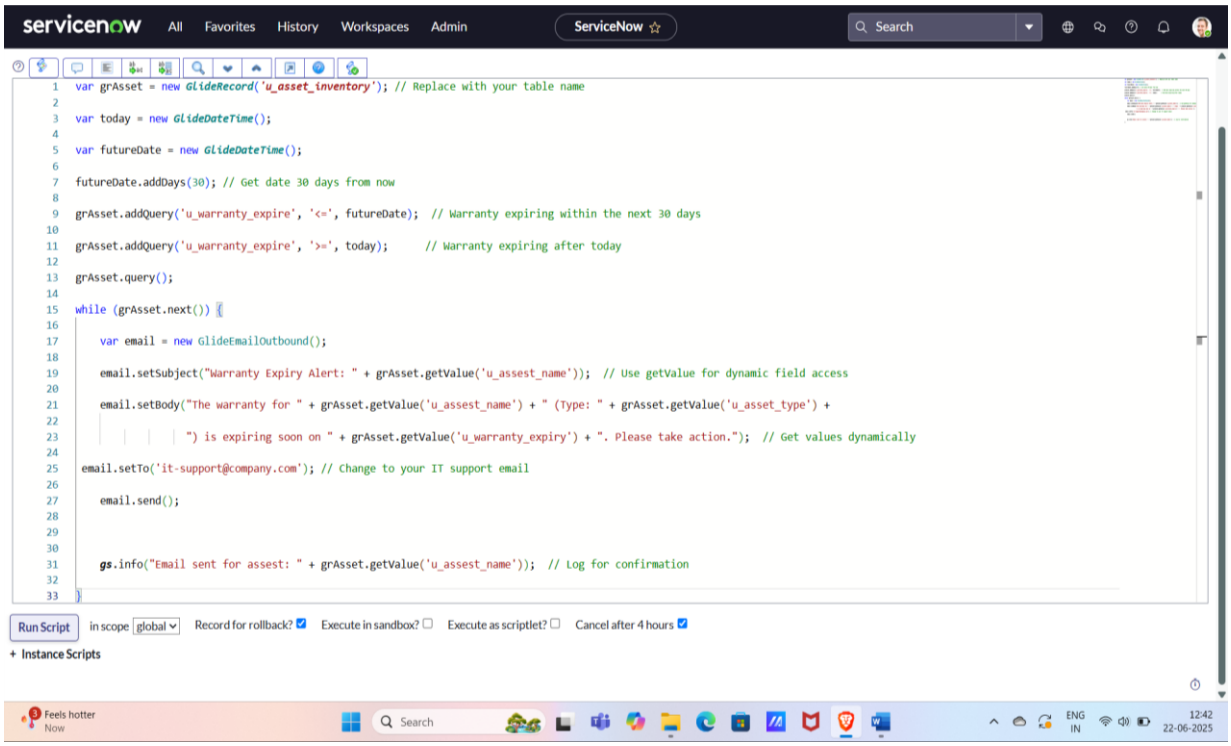
USE:

Testing ensures that automated tasks like sending maintenance alerts or generating reports run as expected, helping maintain system accuracy and reducing manual effort.

STEPS:

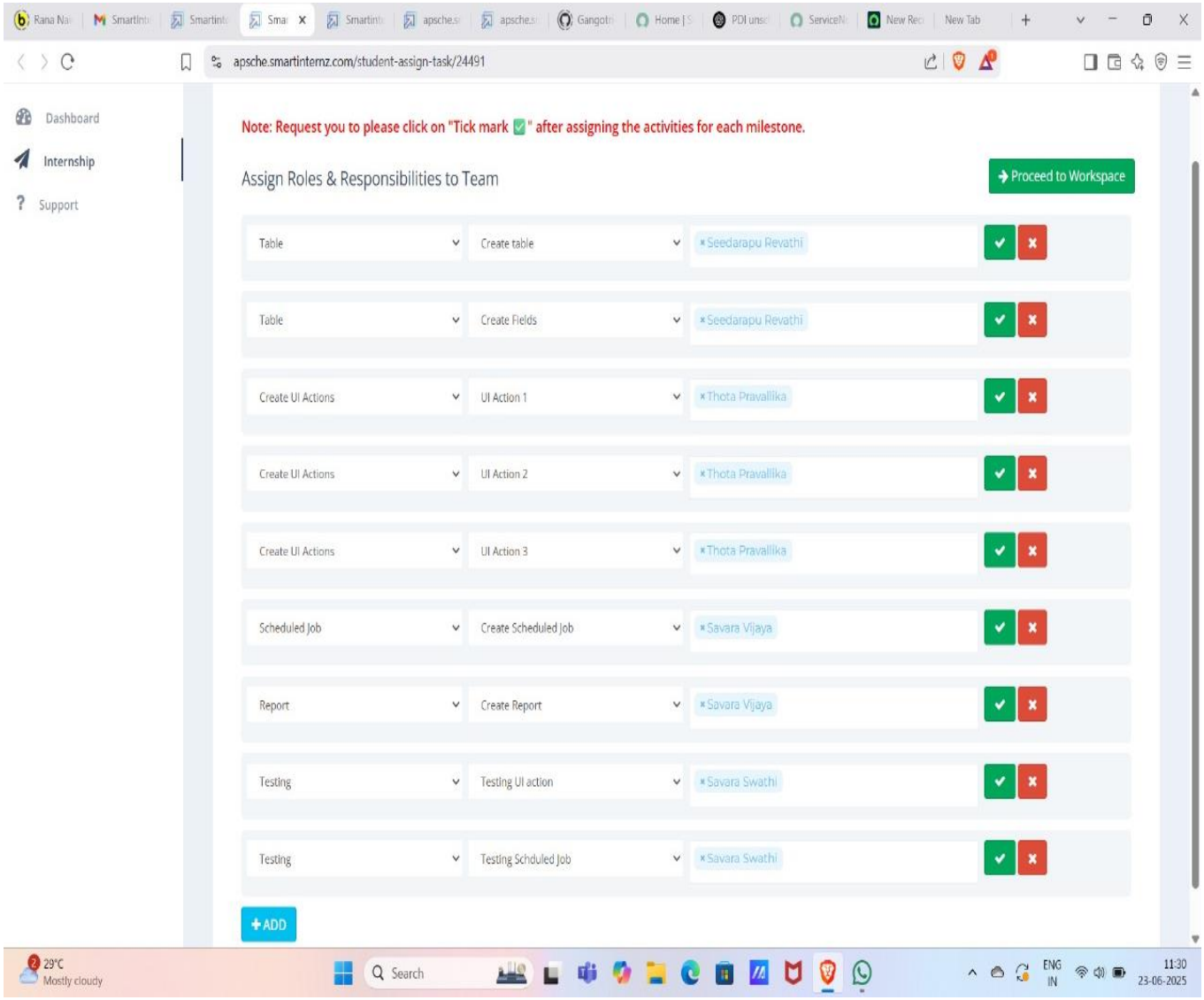
- Navigate to background scripts
- Write the Scheduled job script in the background scripts
- Click on Run Script
- Check the result





PROJECT PLANNING & SCHEDULING

Assigned Task to the Group members as shown in below.



Functional Requirement	User story	No of activity	Team members
TABLES	**As a database administrator**, I want to create and manage the asset inventory table so that all asset information is organized and easily retrievable.	2	S revathi
UI ACTION	**As a system user**, I want to use UI buttons like *Mark as Lost*,	3	T pravallika

	Repaired, or *Damaged* so that I can update the asset's condition efficiently.		
SCHEDULED JOB	**As a system scheduler**, I want to automate warranty expiry alerts so that assets can be serviced before the warranty ends.	1	S vijaya
REPORT	**As a data analyst**, I want to generate pie chart reports showing the distribution of asset statuses so that I can quickly visualize asset usage.	1	S vijaya
TESTING	**As a quality assurance tester**, I want to validate UI actions and scheduled jobs to ensure they work as intended and maintain system reliability.	2	S swathi

FUNCTIONAL AND PERFORMANCE TESTING

MILESTONE: TESTING

PURPOSE:

- Ensure UI elements like buttons and links work as intended
- Confirm actions trigger the correct backend processes
- Identify and eliminate any interface bugs or inconsistencies
- Enhance the system's response accuracy to user inputs
- Improve the overall reliability of the user interface

USE:

- Verify actions like “Assign Asset” and “Return Asset” operate smoothly
- Ensure intuitive interaction and system feedback for end users
- Reduce chances of errors during asset assignment or return
- Increase confidence in UI-based workflows for asset management
- Support smoother onboarding and usability for new users

Activity 1: testing UI action

STEPS:

4. Go to Asset Inventory table
5. Click on New
6. Fill in the details

a) Asset name: Laptop

b) Type: laptop

c) Assigned to: Abel Tutors

d) Status: Available

e) select some purchase and expiry date

4. Click on submit
5. Open the record again
6. Click on mark as lost button and save
7. Check the status is changed to lost.

MILESTONE : TESTING

PURPOSE:

- Verify scheduled jobs run automatically at designated times
- Confirm execution of tasks like alerts, updates, or reports
- Ensure correct script behavior in background execution
- Detect failures or irregularities in job scheduling
- Maintain integrity of automated processes within the system

USE:

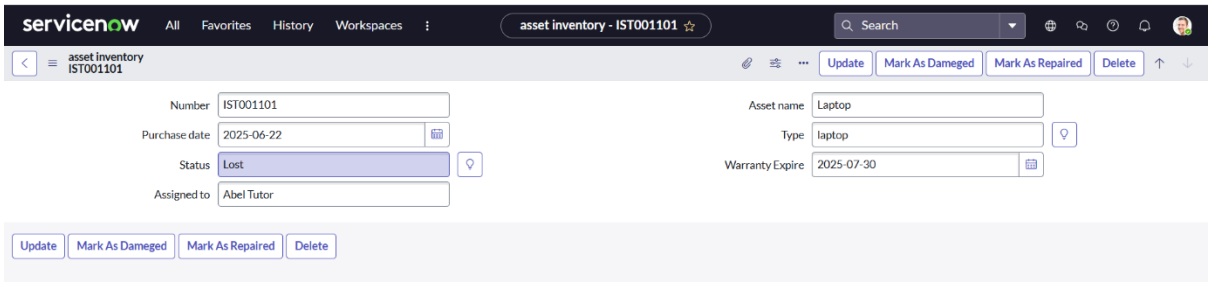
- Automate routine tasks like maintenance notifications
- Generate reports without manual involvement

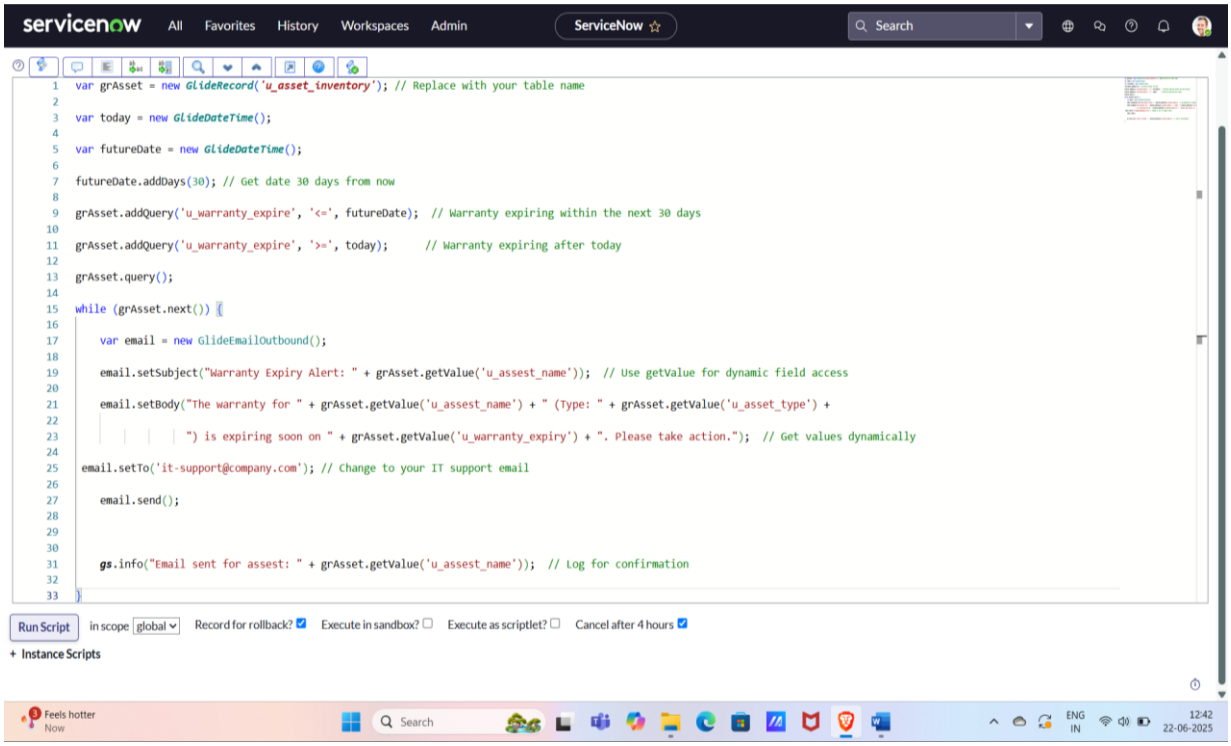
- Save time and reduce human error in repetitive operations
- Enhance system scalability by supporting timed executions
- Improve asset tracking through consistent periodic updates

Activity 2: testing scheduled job

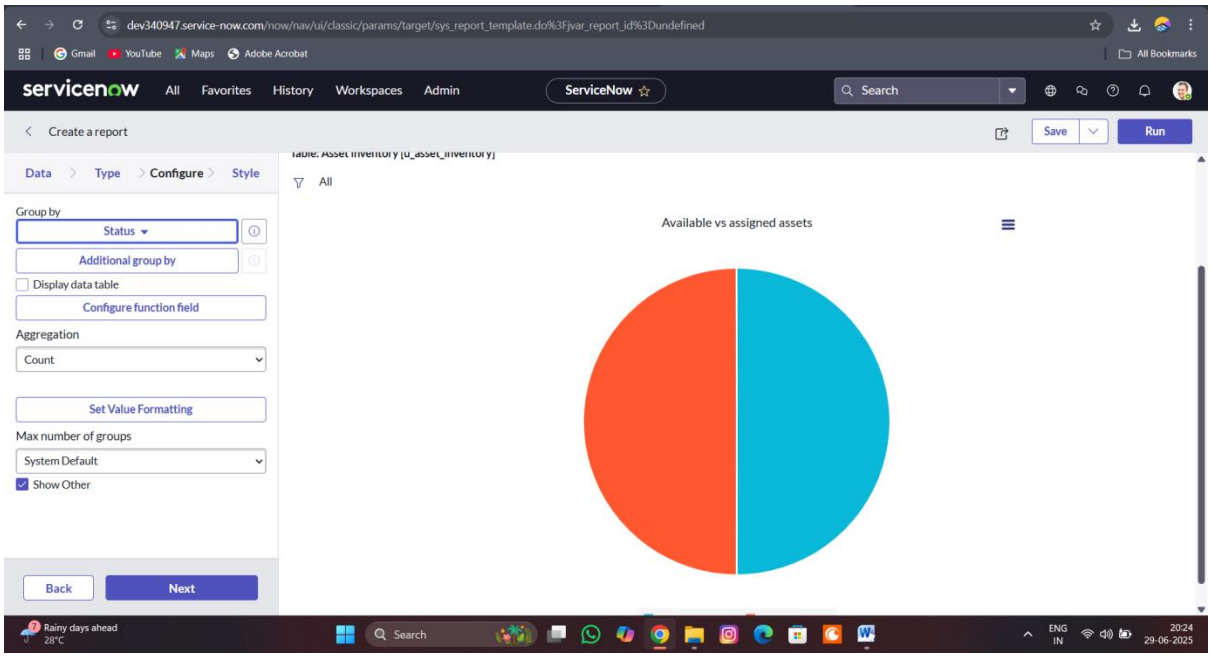
STEPS:

- Navigate to background scripts
- Write the Scheduled job script in the background scripts
- Click on Run Script
- Check the result





RESULTS: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Max number of groups
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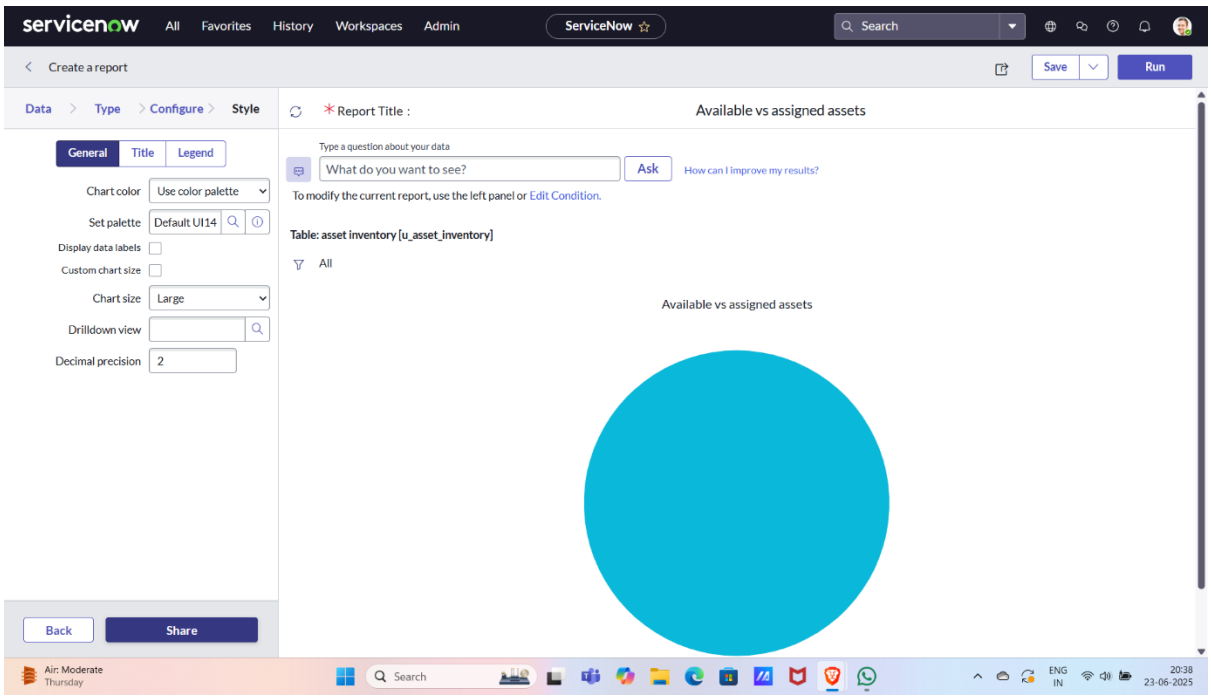
Available vs assigned assets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Legend
Type a question about your data
What do you want to see?
Ask
How can I improve my results?
To modify the current report, use the left panel or Edit Condition.
Chart color
Use color palette
Set palette
Default UI14
Display data labels
Custom chart size
Chart size
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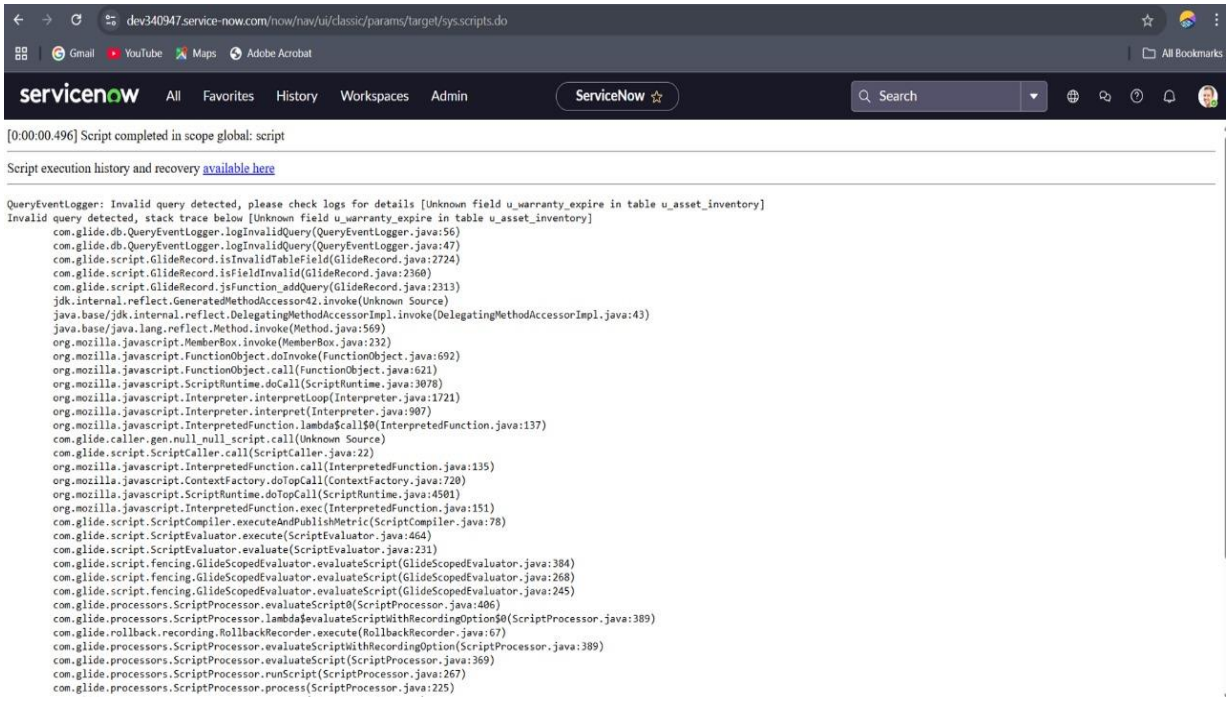

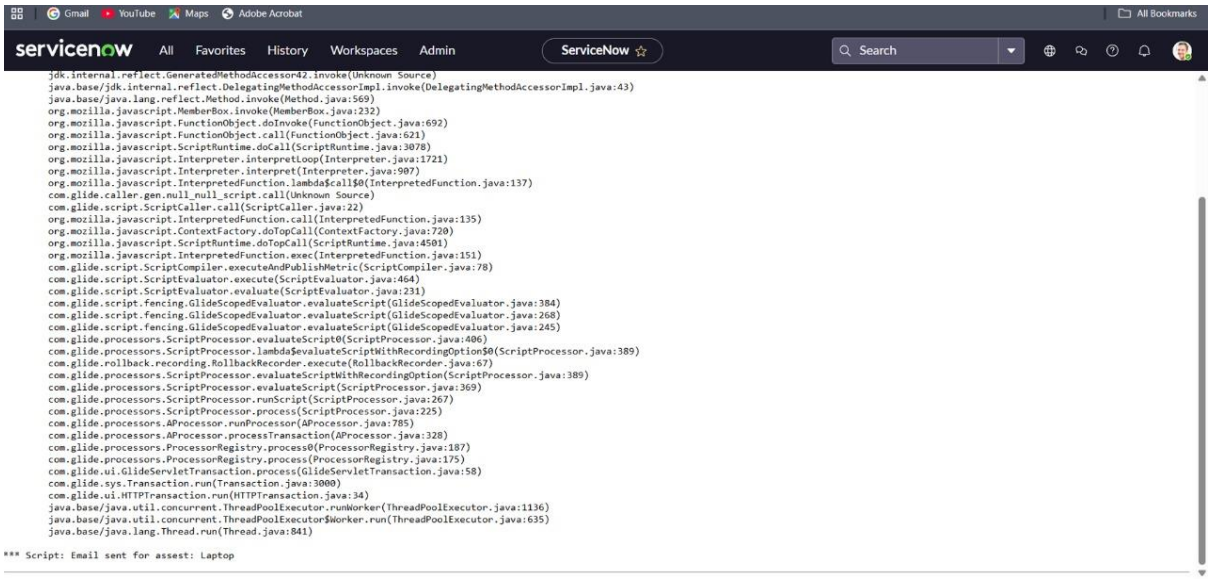

Advantages & disadvantage

Advantages of ServiceNow:

1. **Centralized Platform**
   - Combines ITSM, HR, Customer Service, and more into one unified system.
2. **Automation of Workflows**
   - Reduces manual tasks with intelligent automation and scheduled jobs.
3. **Scalability**
   - Easily handles growing data, users, and processes without performance issues.
4. **Customizability**
   - Offers low-code/no-code tools to tailor apps and workflows to business needs.
5. **Integration Capabilities**

    - Connects with third-party tools like Jira, SAP, Active Directory, and more.
6. **Real-Time Reporting & Dashboards**
    - Provides live insights for decision-making and performance tracking.
7. **Self-Service Portals**
    - Empowers users to resolve issues independently, reducing support load.
8. **Security & Compliance**
    - Role-based access, audit trails, and encryption support regulatory needs.
9. **Mobile Accessibility**
    - Offers mobile apps for on-the-go access to tasks and approvals.
10. **Improved Collaboration**

- Breaks down silos between departments with shared data and workflows.

Disadvantages of ServiceNow:

1. **High Licensing Costs**
    - Can be expensive for small or mid-sized businesses2.
2. **Steep Learning Curve**
    - Requires training for admins and developers due to its depth3.
3. **Complex Customization**
    - Advanced scripting and configuration may need skilled developers.
4. **Limited Reporting Flexibility**
    - Some users find built-in reporting tools restrictive.
5. **Performance Lag**
    - Large instances or poorly optimized workflows may slow down the system.
6. **Overwhelming for Small Teams**
    - Feature-rich platform may be too much for simple use cases.
7. **Dependency on Internet**
    - Being cloud-based, it requires stable connectivity at all times.
8. **Limited Offline Functionality**
    - Most features are unavailable without internet access.
9. **Plugin Complexity**
    - Adding new modules or plugins can introduce integration challenges.

Conclusion:

The **Asset Management Portal**, developed on the robust ServiceNow platform, offers a transformative solution for organizations struggling with asset visibility, control, and lifecycle management. By integrating modules like UI Actions, Scheduled Jobs, Reports, and Automated Workflows, the portal streamlines operations, improves accuracy, and enhances accountability across all departments.

Its scalable architecture and user-centric features empower teams—from employees and managers to auditors and technicians—with real-time access, simplified request handling, and actionable insights. This results in reduced manual effort, better resource utilization, and stronger compliance readiness.

Ultimately, the Asset Management Portal isn't just a tool—it’s a strategic investment in **operational excellence**, **digital transformation**, and **sustainable growth** for any organization aiming to future-proof its asset ecosystem.