INTRODUCTION

Project: "Asset Management Portal"

In modern enterprises, asset management is more than just tracking physical items—it involves optimizing the entire lifecycle of organizational resources. The **Asset Management Portal** is a comprehensive web-based platform designed to digitize and automate the process of managing both **physical and digital assets** across their complete lifecycle—from acquisition and deployment to maintenance and disposal.

This portal offers a centralized, cloud-based environment where assets can be requested, approved, assigned, tracked, and maintained by users with role-based access. Employees can request items such as laptops, software licenses, or hardware components, while administrators can approve requests, monitor usage, and track maintenance schedules. It reduces manual interventions, automates repetitive tasks, and ensures that organizational assets are properly recorded, maintained, and utilized.

Key features of the portal include:

- Real-time asset inventory updates
- Automated alerts for warranty expiry and preventive maintenance
- Detailed reporting and dashboards
- Seamless integration with approval workflows

The portal enhances operational efficiency, boosts compliance, and supports strategic decision-making. By eliminating traditional, error-prone manual methods, the Asset Management Portal empowers organizations to manage resources more effectively, reduce costs, and support business continuity.

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.

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.

REQUIREMENT ANALYSIS

SOLUTION REQUIREMENT:

DATE	
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-5	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:

A **Data Flow Diagram (DFD)** visually represents how data moves within the Asset Management Portal. It depicts the relationship between users, processes, and data stores. The DFD simplifies understanding of the internal workflow for requesting, assigning, and managing assets.

Use of DFD in the Portal:

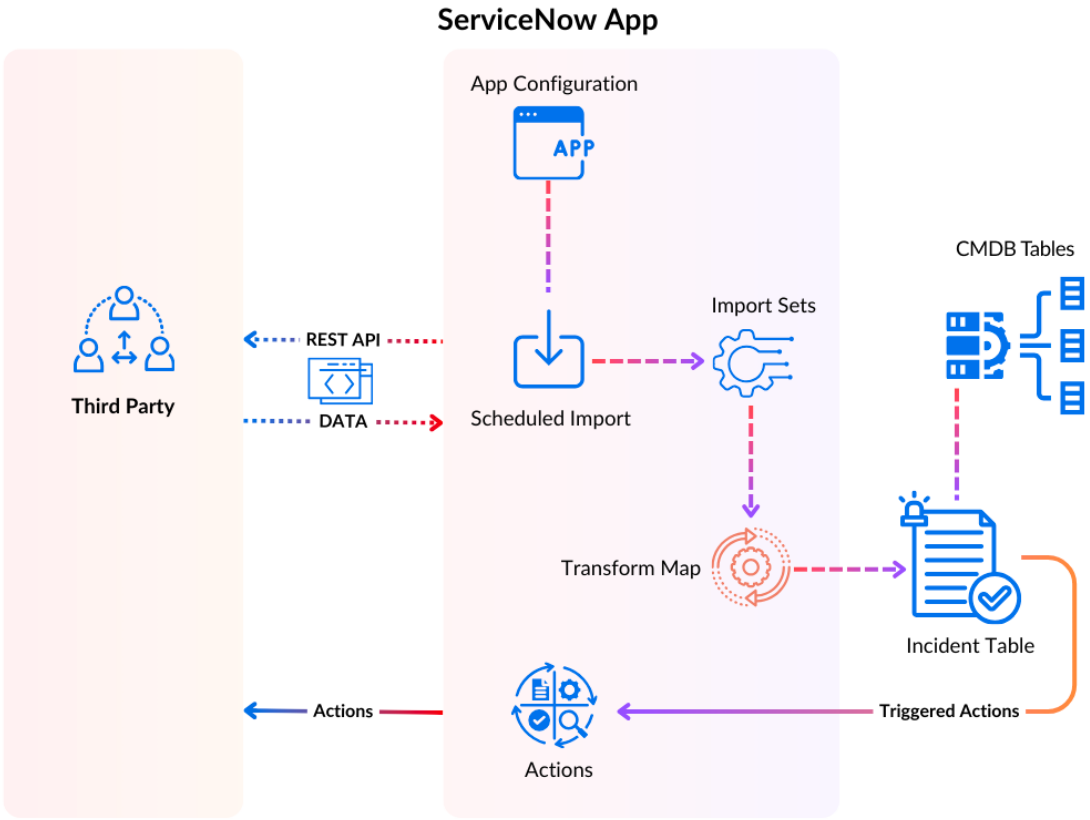
- Shows how employees initiate asset requests
- Illustrates approval routing to managers
- Displays how data updates the inventory database
- Reflects how scheduled jobs (e.g., maintenance reminders) are triggered

Benefits of DFD:

- Improves system design by clarifying inputs, processes, and outputs
- Helps identify data bottlenecks and workflow inefficiencies
- Enhances communication between development and non-technical stakeholders

Technology Stack: The Asset Management Portal is developed using **ServiceNow**, a powerful cloud-based platform tailored for enterprise service automation. It supports scripting, workflow creation, UI customization, and report generation—all vital for building a scalable and robust portal.

Architecture of ServiceNow



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 satisfaction	The Asset Management Portal improves organizational 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

MILESTONE 1: TABLE

Activity 1: create table

PURPOSE:

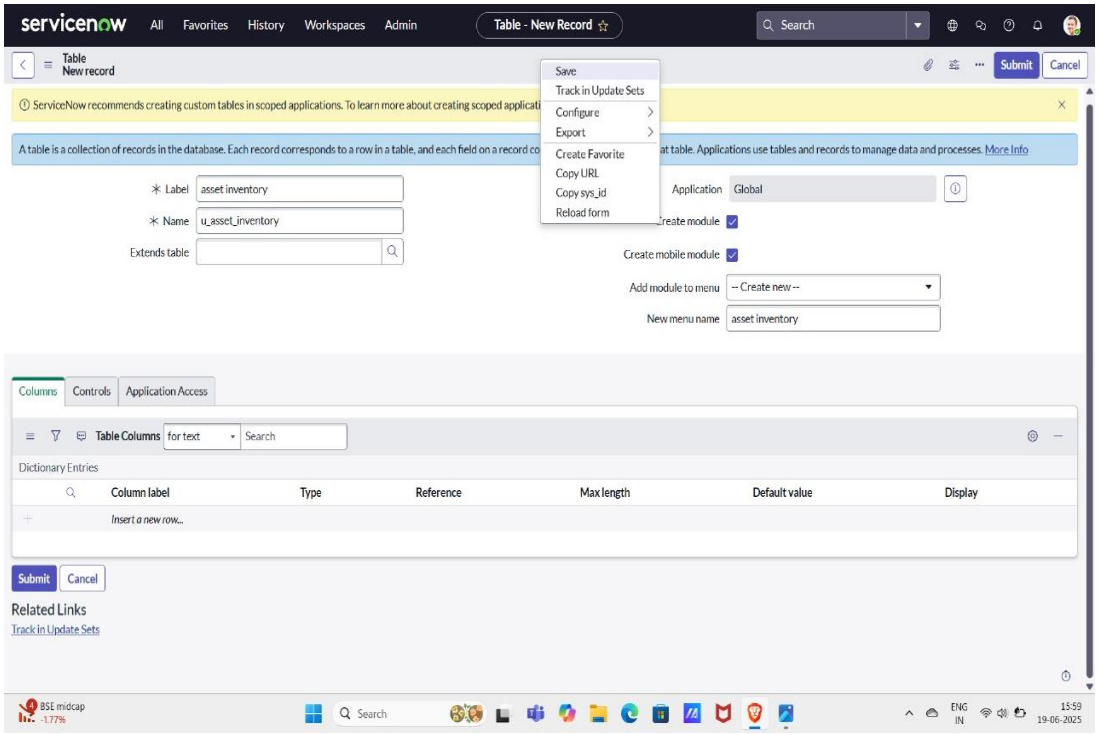
The purpose of creating a table in the Asset Management Portal is to store and organize asset-related data in a structured format. This table serves as the backbone of the portal's database, where each asset record (like ID, name, type, owner, status, location, etc.) is stored in rows and columns for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

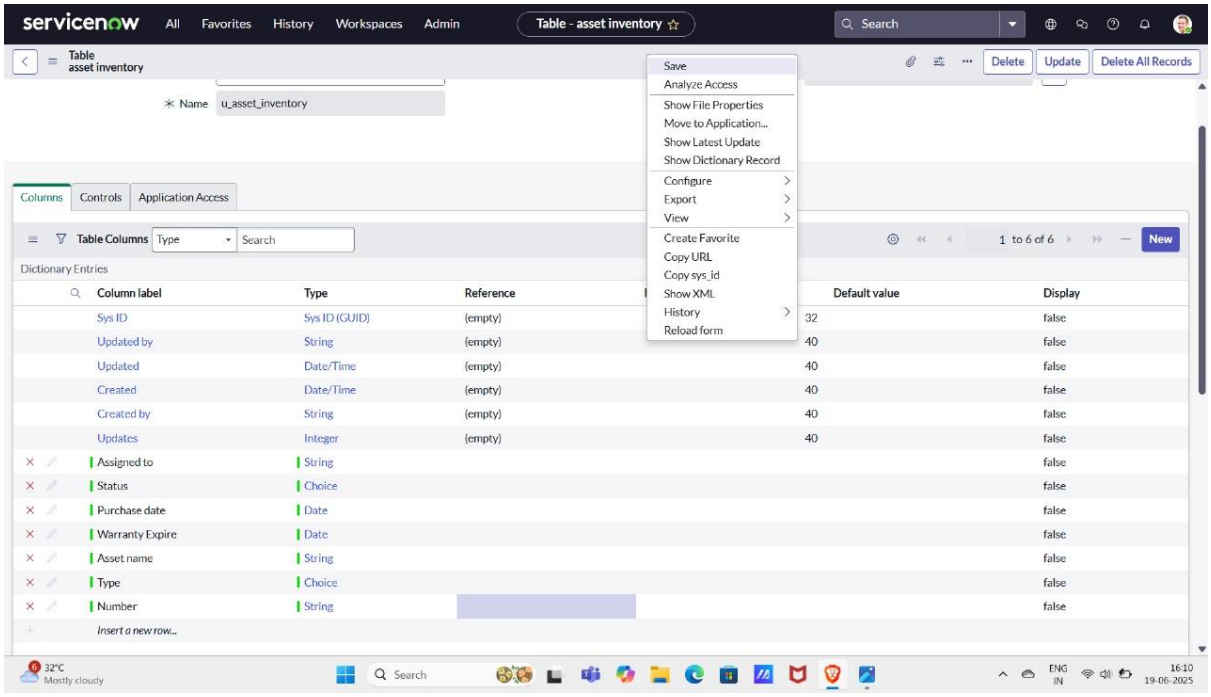
STEPS:

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

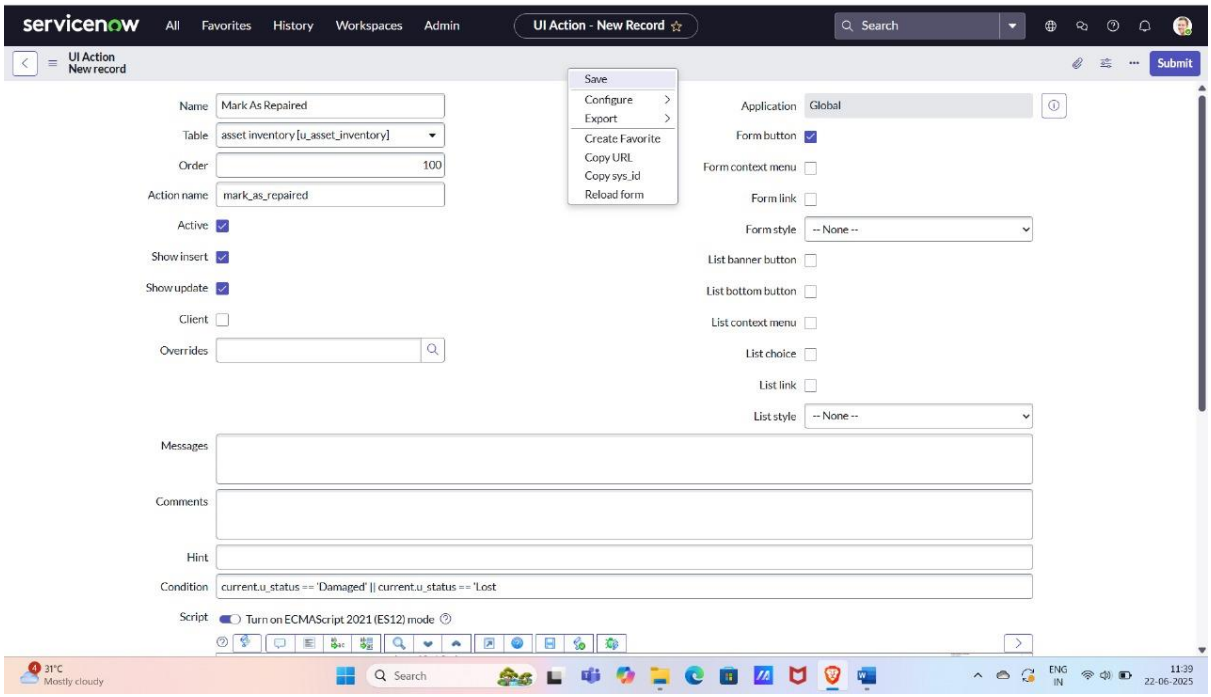
Action name: mark_as_lost

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:

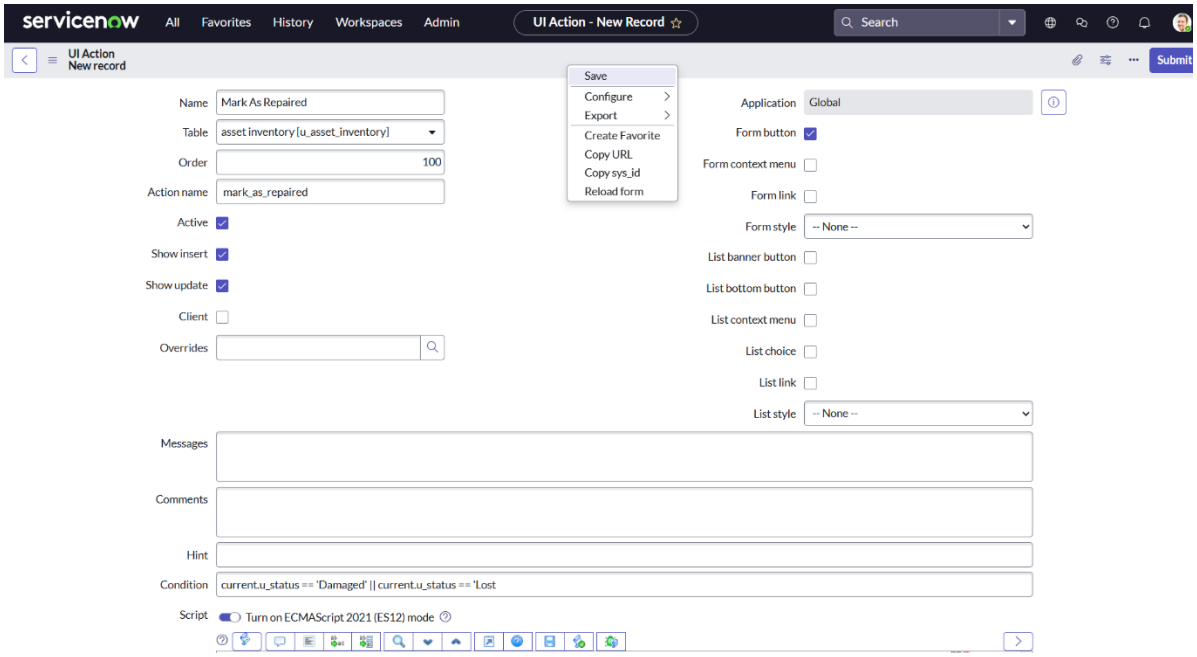
```
current.u_status = 'Available';

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:

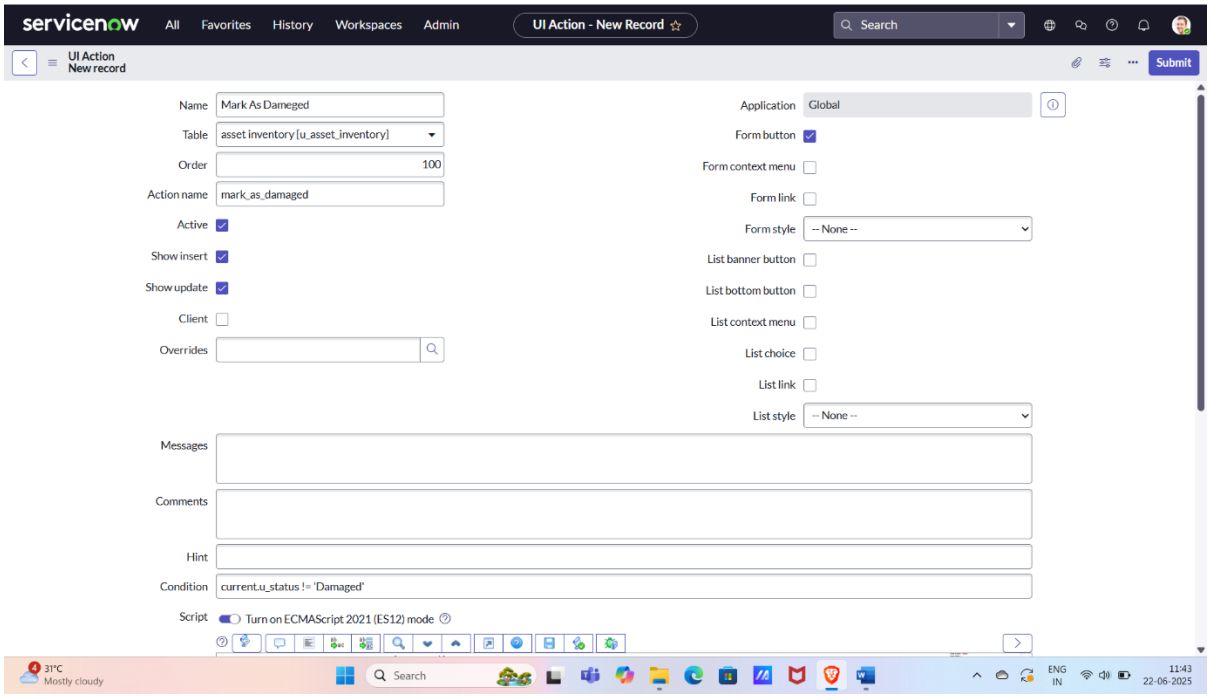
```
current.u_status = 'Damaged';

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.

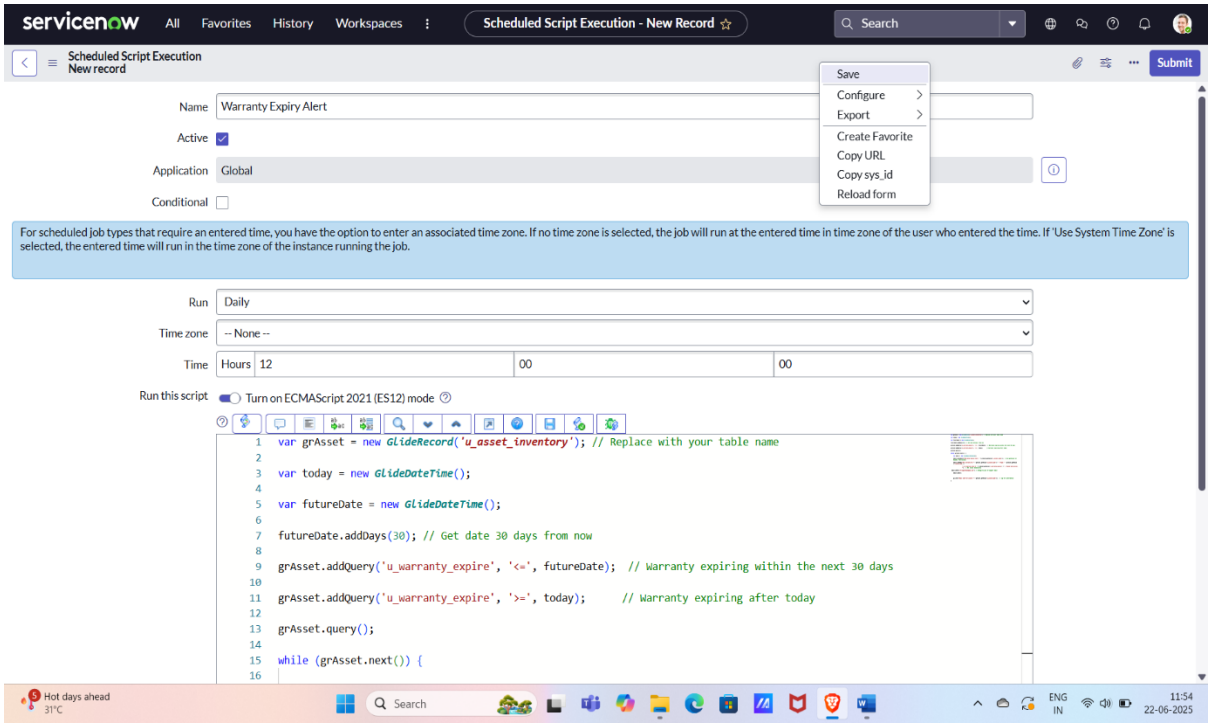
USE:

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:

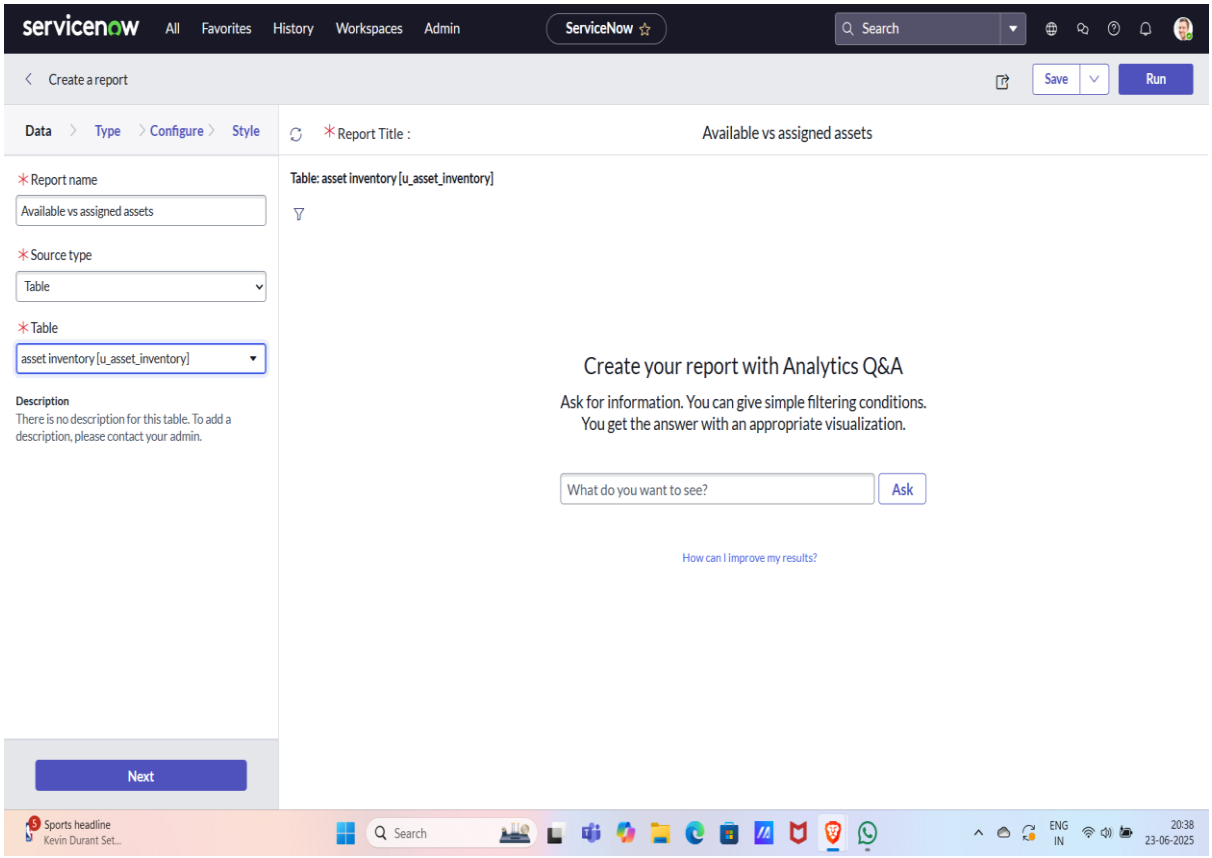
Reports help track asset usage, availability, maintenance status, and inventory trends. They support data-driven decisions, improve transparency, and assist in audits or reviews.

STEPS:

1. Navigate To Reports
2. Click on Create New
3. Report Name: Available vs assigned assets, Source Type: Table, Table: Asset Inventory

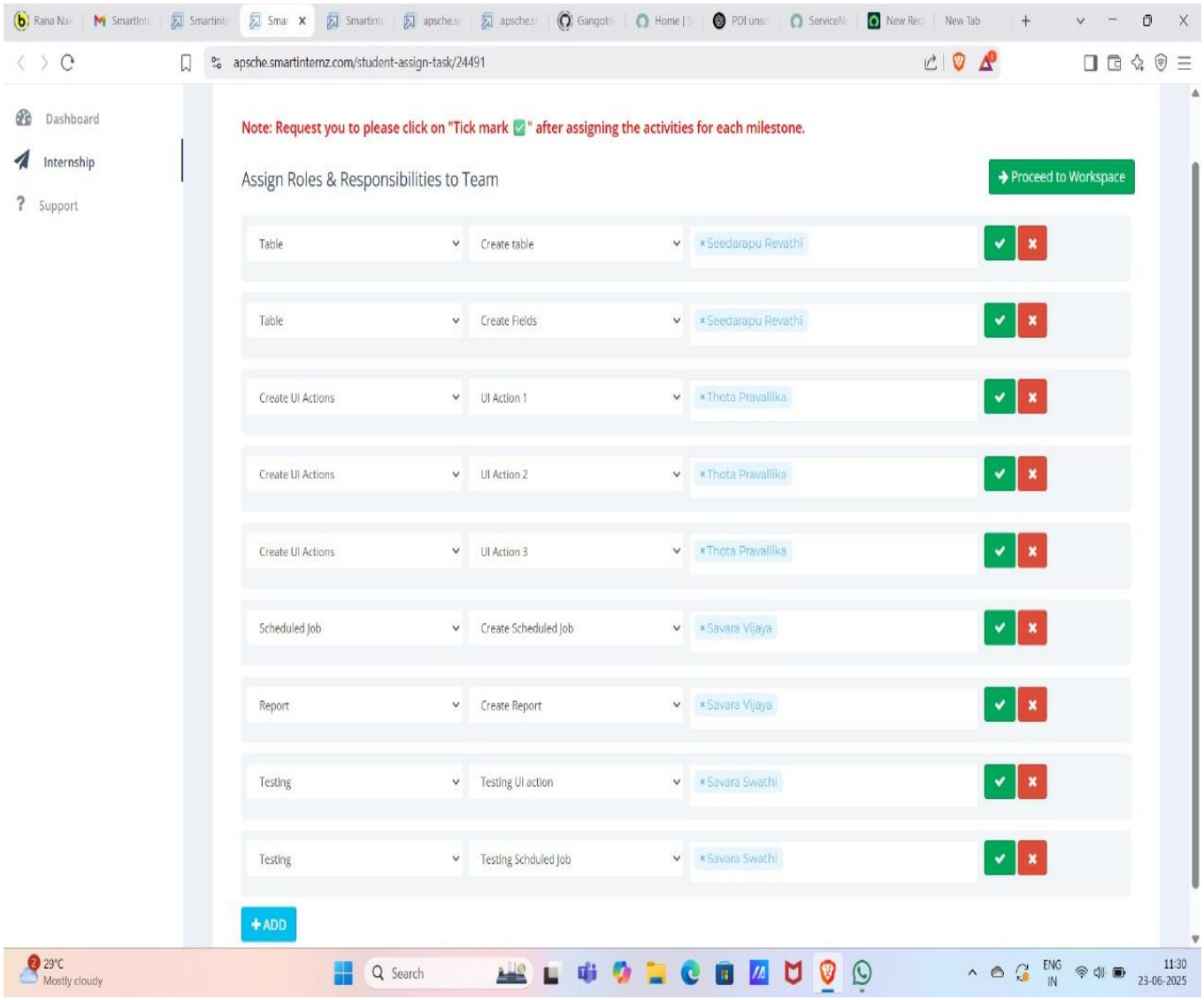
4. Type: Pie Chart
5. Group By: Status, Aggregation: Count
6. Click on save

7. And then click on Run



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*, *Repaired*, or *Damaged* so that I can update the asset's condition efficiently.	3	T pravallika
SCHEDULED JOB	**As a system scheduler**, I want to automate warranty expiry alerts so that assets can be serviced before the warranty	1	S vijaya

	ends.		
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 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:

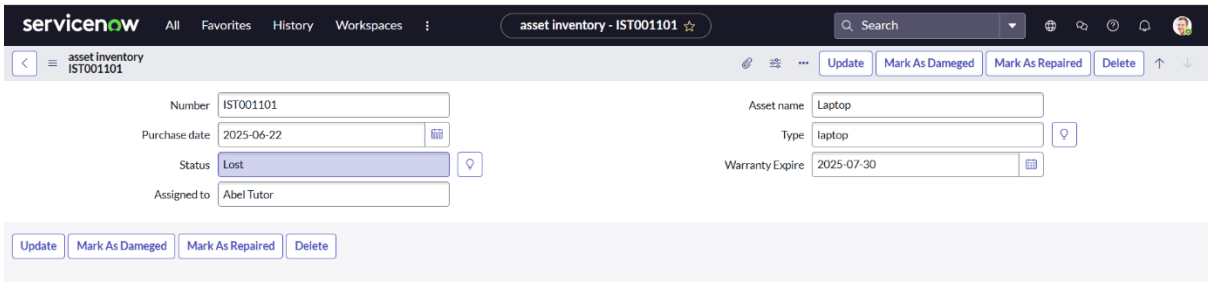
To verify that the scheduled job runs automatically at the set time and performs its task correctly.

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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Mark As Repaired
Delete
Number
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Purchase date
2025-06-22
Status
Lost
Assigned to
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Asset name
Laptop
Type
laptop
Warranty Expire
2025-07-30
Update
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Mark As Repaired
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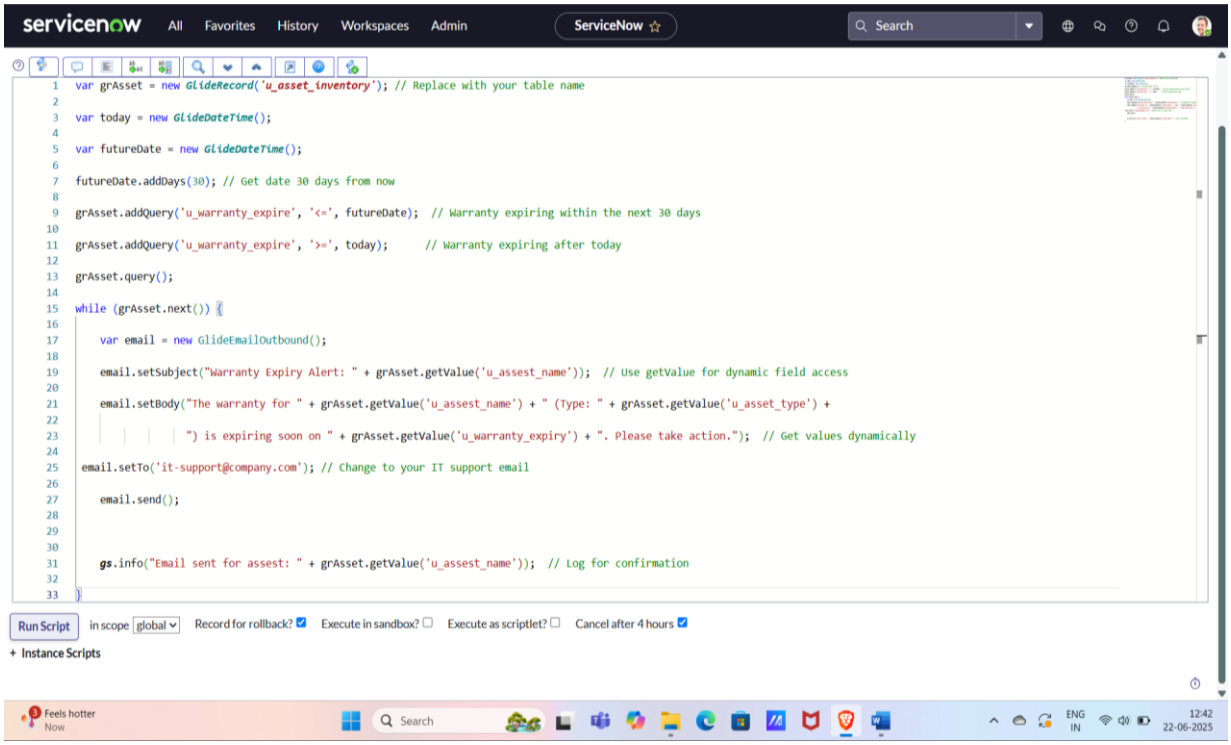
servicenow
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var grAsset = new GlideRecord('u_asset_inventory'); // Replace with your table name
var today = new GlideDateTime();
var futureDate = new GlideDateTime();
futureDate.addDays(30); // Get date 30 days from now
grAsset.addQuery('u_warranty_expire', '<=', futureDate); // Warranty expiring within the next 30 days
grAsset.addQuery('u_warranty_expire', '>=', today); // Warranty expiring after today
grAsset.query();
while (grAsset.next()) {
var email = new GlideEmailOutbound();
email.setSubject("Warranty Expiry Alert: " + grAsset.getValue('u_assest_name')); // Use getValue for dynamic field access
email.setBody("The warranty for " + grAsset.getValue('u_assest_name') + " (Type: " + grAsset.getValue('u_asset_type') +
") is expiring soon on " + grAsset.getValue('u_warranty_expiry') + ". Please take action."); // Get values dynamically
email.setTo('it-support@company.com'); // Change to your IT support email
email.send();
gs.info("Email sent for assest: " + grAsset.getValue('u_assest_name')); // Log for confirmation
}
Run Script
in scope
global
Record for rollback?
Execute in sandbox?
Execute as scriptlet?
Cancel after 4 hours
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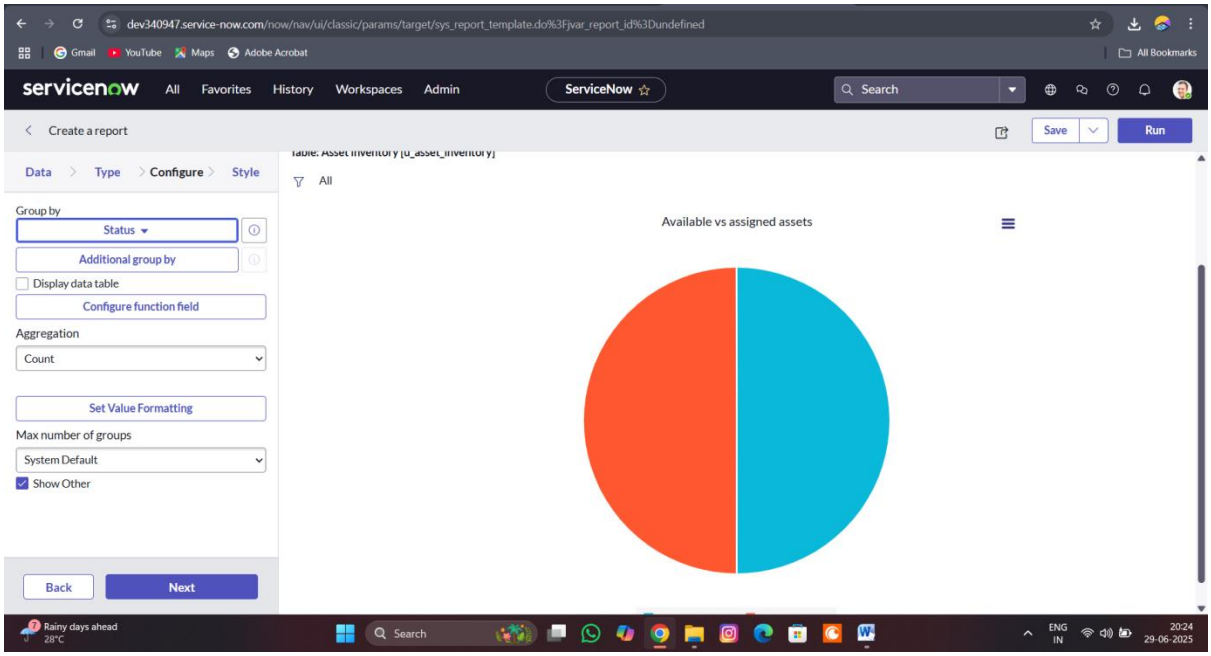
RESULTS: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Configure function field
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Set Value Formatting
Max number of groups
System Default
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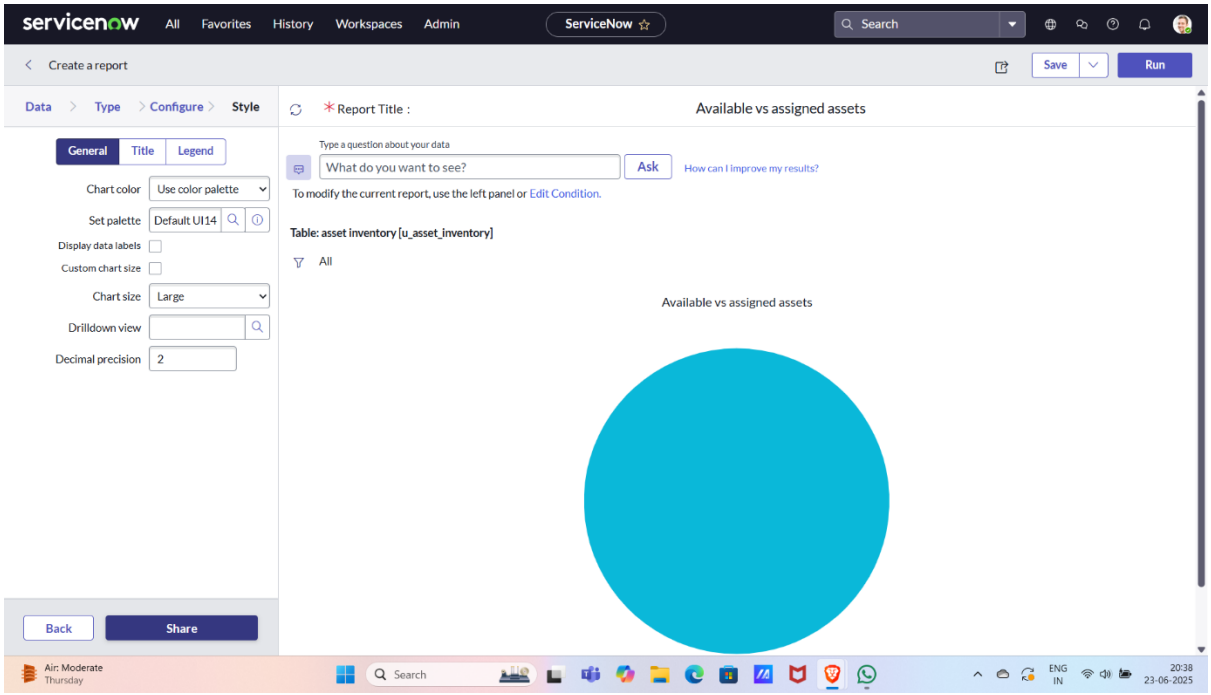
All
Available vs assigned assets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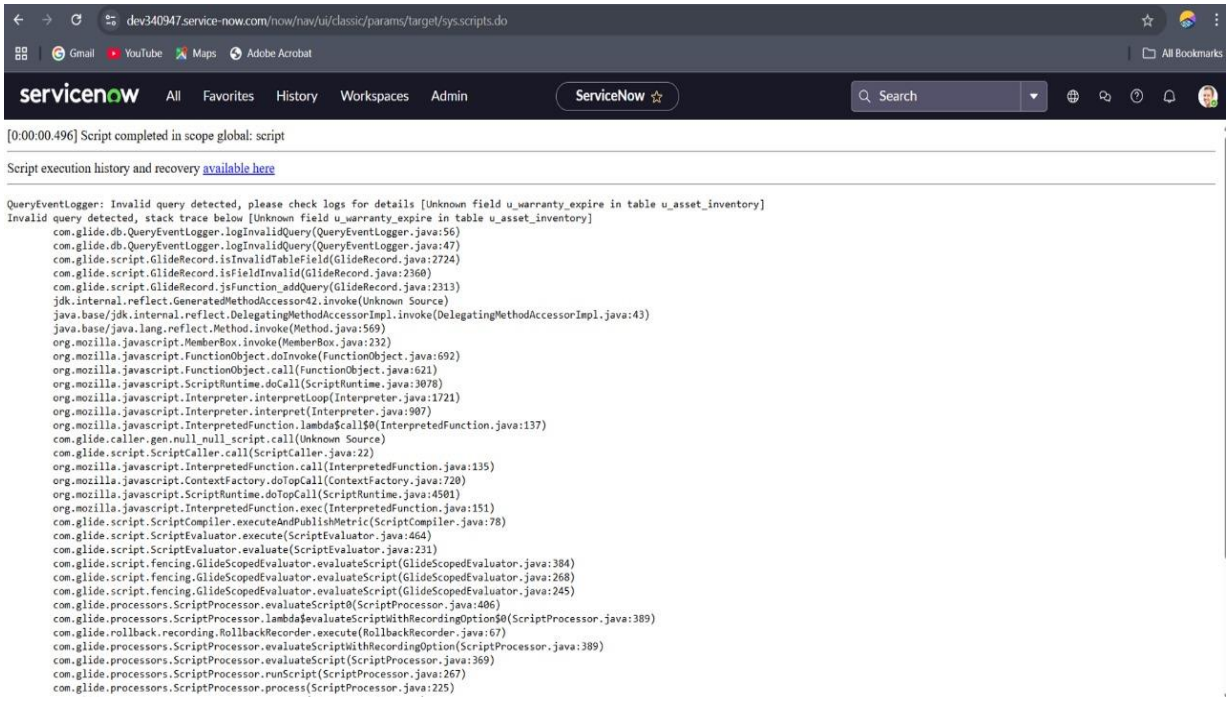
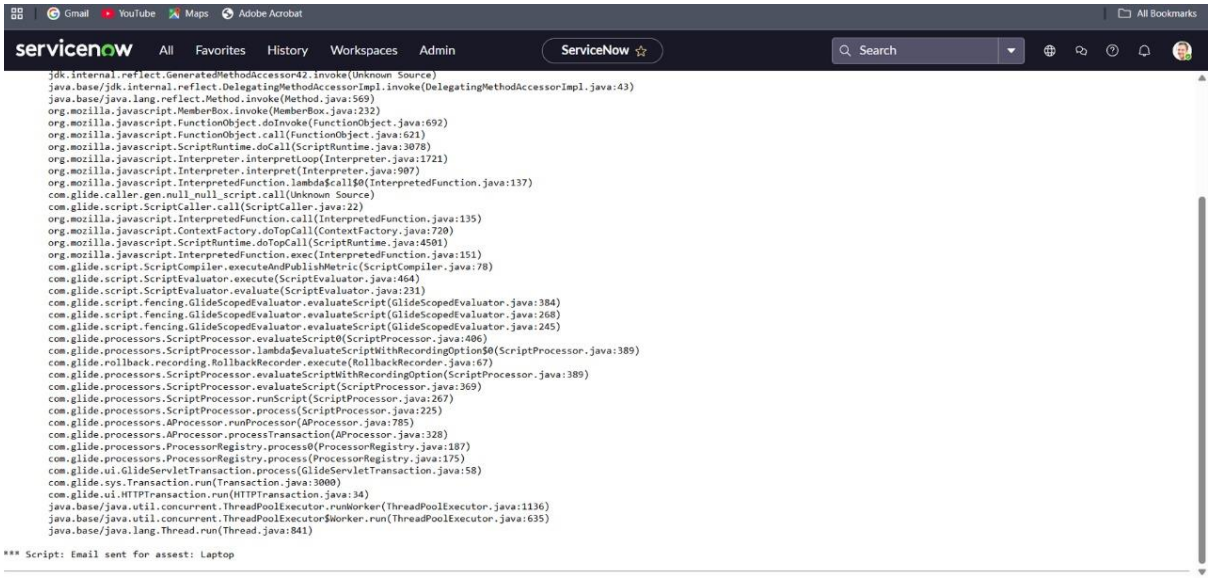
Legend
Chart color
Use color palette
Set palette
Default UI14
Display data labels
Custom chart size
Chart size
Large
Drilldown view
Decimal precision
2
Back
Share
Report Title :
Available vs assigned assets
Type a question about your data
What do you want to see?
Ask
How can I improve my results?
To modify the current report, use the left panel or Edit Condition.
Table: asset inventory [u_asset_inventory]
All
Available vs assigned assets





ADVANTAGES:

- **Centralized Inventory:** One-stop solution to view, track, and manage all organizational assets.
- **Automation:** Reduces administrative overhead by automating repetitive tasks like assignment, tracking, and maintenance alerts.
- **Improved Compliance:** Logs and history tracking aid in preparing for audits and adhering to regulations.

- **Data Accuracy:** Real-time updates reduce discrepancies and support informed decisions.
- **Scalability:** Easily adaptable as the organization grows in terms of assets and employees.
- **Maintenance Efficiency:** Scheduled alerts ensure assets are serviced before they fail.
- **Enhanced Security:** Role-based access ensures only authorized users can view or edit data.

DISADVANTAGES:

- **High Initial Setup Cost:** Depending on licensing and customization, the upfront investment can be significant.
- **Learning Curve:** Requires training for staff unfamiliar with ServiceNow or digital asset workflows.
- **System Downtime Impact:** Any service interruption could delay access to critical asset information.
- **Customization Complexity:** Tailoring workflows to specific business processes may require advanced scripting.
- **Internet Dependency:** As a cloud platform, consistent connectivity is essential for uninterrupted access.

CONCLUSION:

The Asset Management Portal provides a comprehensive solution for tracking, managing, and optimizing physical and digital assets throughout their lifecycle. By leveraging automation and real-time data updates, the platform ensures efficient asset allocation, minimizes discrepancies, and enhances operational visibility. Automated workflows for asset tracking, maintenance alerts, and reporting enable organizations to make data-driven decisions, reduce asset downtime, and optimize resource utilization.This project demonstrates the power of ServiceNow's capabilities in integrating asset tracking, automation, and reporting tools to create a streamlined asset management system. By improving asset accountability and operational efficiency, the platform helps organizations maximize asset value, reduce costs, and enhance overall productivity.

The **Asset Management Portal** developed on the ServiceNow platform transforms traditional asset handling into a digital, automated, and highly efficient system. It enables

accurate tracking, proactive maintenance, real-time reporting, and role-based controls that support transparency and accountability.

By integrating modern IT service management principles into asset workflows, the portal ensures higher availability, reduced loss, and optimized use of organizational resources. It not only boosts internal efficiency but also positions the organization to meet future compliance and scalability needs.

This internship project demonstrates the practical value of combining cloud technologies and workflow automation to solve real-world operational challenges in enterprise environments.