INTRODUCTION

Project Name: importing and securing data in service now

Project overview:

Importing and securing data in a Service Now project involves loading data from various sources into Service Now and then ensuring its security. This process typically uses import sets, transform maps, and various security measures to protect sensitive information.

Purpose

Importing and securing data in a Service Now project aims to efficiently and safely load data into the platform, ensuring data integrity and protecting sensitive information. This involves using import sets to bring data from various sources into Service Now, mapping it to target tables, and implementing security measures to control access and prevent unauthorized modifications.

IDEATIONPHASE

Problem statement:

The goal of this project is to establish a seamless connection between each record and its corresponding employee. This includes pulling specific employee attributes (such as department, role, and other pertinent details) directly into the record. By doing this, we aim to enhance reporting capabilities, improve data accuracy, reduce manual effort, and enable better visibility into record trends across the organization based on employee demographics.

Challenges:

Data Quality Issues: External data sources may contain incomplete, inconsistent, or duplicate data requiring extensive cleansing.

Complex Transformations: Mapping diverse source formats into Service Now's data structure can be technically challenging.

Security Compliance: Ensuring strict access controls and compliance with data privacy regulations can be resource-intensive.

Objective:

The primary goal of this project is to design, implement, and validate a robust process for importing data into ServiceNow from multiple external sources, while ensuring that data security, integrity, and compliance requirements are met.

REQUIREMENTANALYSIS

Solution requirement (functional & Non functional)

Team ID	LTVIP2025TMID31005
Project Name	Importing and securing Data in service now

Functional Requirements:

 following are the functional requirements of the proposed solution

FR No	Functional requirements	Sub requirement
FR-1	Tables	Create table set label to employee training records insert rows training name, completion date, status and department.
FR-2	Importing data	Open ServiceNow Search for System Import Sets Select Load Data Upload

		file (with fields: Training Name, Completion Date, Status, Employee) Set Label to Employee Training Set Name to u_employee_training.
FR-3	Using Dot walking to access employee department information	In ServiceNow, navigate to All > System Definition> List Layouts, search for Customer Orders, use dot-walking to add the Employee Department field, select it, save changes, and the field will appear in the list view.
FR-4	Access control list (ACL)	Create ACL Define ACL for Employees Set Operation to Read.
FR-5	Roles	Create role: HR Manager Add to sys_user Assign role to Tables, Application, and Module Add HR Manager role to sys_user

		Now HR Manager can view employee department info in Employee Training Records list view.
FR-6	Result	Impersonate sys_user search Employee Training Records can view and edit fields. Impersonate another user cannot see the table.

Non functional requirements:

Following are the non function requirements of the proposed solution

NFR N0	Non functional requirement	Description
NFR-1	**Usability**	Ensures data import and security processes in ServiceNow are clear, intuitive, and easy for authorized users to manage safely.
NFR-2	**Security**	Ensure secure data import by enforcing access controls, encryption, and audit logging

		to protect data integrity, confidentiality, and compliance during the import process.
NFR-3	**Reliability**	Ensure reliable data import by validating files, handling errors gracefully, and maintaining consistent data availability throughout the process.
NFR-4	**Performance**	Ensure fast, efficient data import and secure processing in ServiceNow, minimizing delays and ensuring system responsiveness during large data operations.
NFR-5	**Availability**	Ensures that data import and security features in ServiceNow are reliably accessible, minimizing downtime and ensuring continuous, secure operations.

Data flow diagram:A Data Flow Diagram (DFD) is a simple visual tool that shows how data moves through a system. It outlines the input, processing, storage, and output of data, helping to understand and improve system workflows.

- Where data comes from (external sources)
- Where it goes (processes and storage)
- How it's transformed along the way

Uses:

- Show how data moves through a system from input communication output
- Break down complex processes into simpler, understandable components

- Enhance communication between technical teams and business stakeholders
- Aid in system design and development by mapping data processes clearly

Technology Stack: The image shows how data flows from a third-party system into the ServiceNow app, gets processed through import mechanisms, and ends up in the Incident Table, where it can trigger further actions or updates.

Third Party → REST API → ServiceNow

- Data is sent from a third-party system via REST API.

REST API → Scheduled Import

API data is captured by a scheduled import job.

Scheduled Import → Import Sets

- Data is loaded into temporary import tables.

Import Sets → Transform Map

- Data is transformed to match the format of the target tables.

Transform Map → Incident Table

- Transformed data is saved as incidents in ServiceNow.

Incident Table → Triggered Actions

- Actions (like alerts, updates) are automatically triggered.

Incident Table ↔ CMDB Tables

- Incidents are linked to Configuration Items (Cis) from the CMDB.

Service now architecture
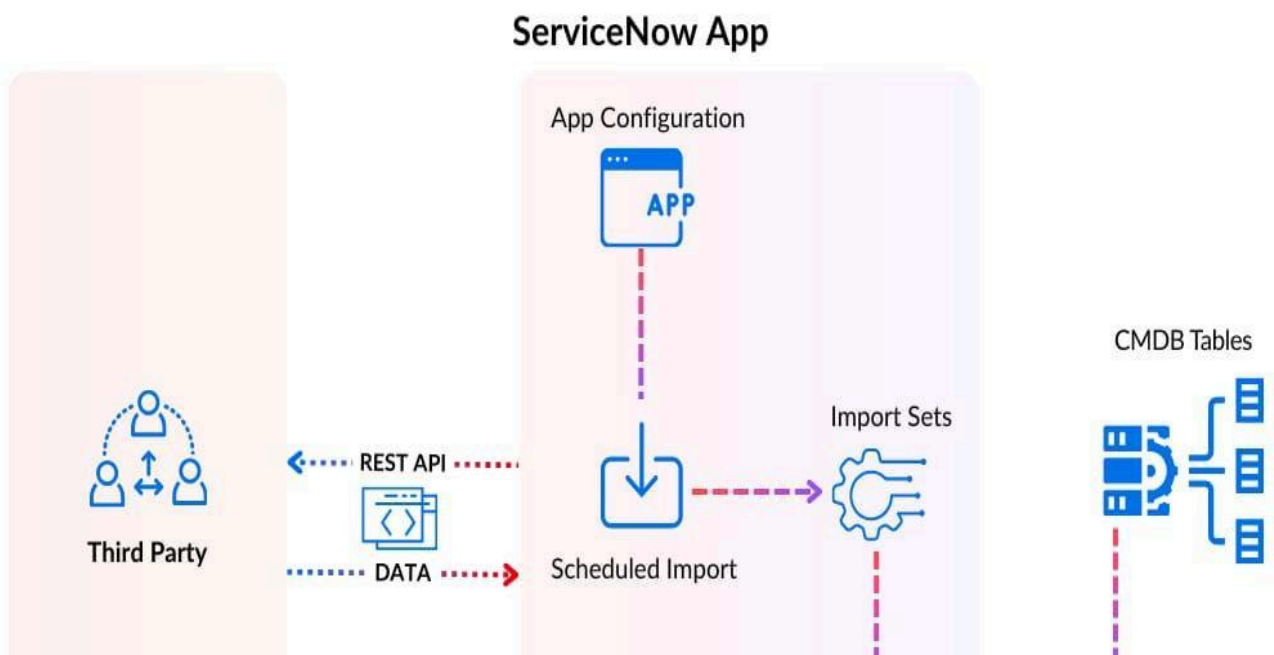
PROJECT DESIGN

Proposed solution template

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

S No	Parameters	Description
1.	Problem statement	Linking each record to an employee and pulling some employee details (like department) into the record for easier reporting
2.	Ideal / solution description	Multi step process using important maps for data loading combined with robot security measures to protect sensitive information

3.	Novelty / uniqueness	Ensure should Data integrity and confidently during the import process and within the platform
4.	Social impact / customer satisfaction	Ensure that I is handled and securely leading to increase customer satisfaction and positive social impact
5.	Business model (revenue model)	Customer pay for the right to use service now and that includes the ability to import data from various source
6.	Scalability of the solution	Service now can handle growing that of volumes and maintain Data integrity and confidently

Milestone 1: tables

Purpose:

- Store imported data.
- Ensure data accuracy.
- Control data access.

Uses:

- Store and organize data

- Control secure access

- Link related information

Steps:

1. Open service now

2. Click on all > >search for tables

3. Select tables under system security

4. Click on new

5. Fill the following details to create a new table

6. Add the following fields:

7. Training name (type: string)

8. Completion date (type: date)

9. Status (type: choice)

10. Employee(type: reference),(reference field to system user table)

11. Click on submit

12. Click on choice and add to choices in the dictionary entry status
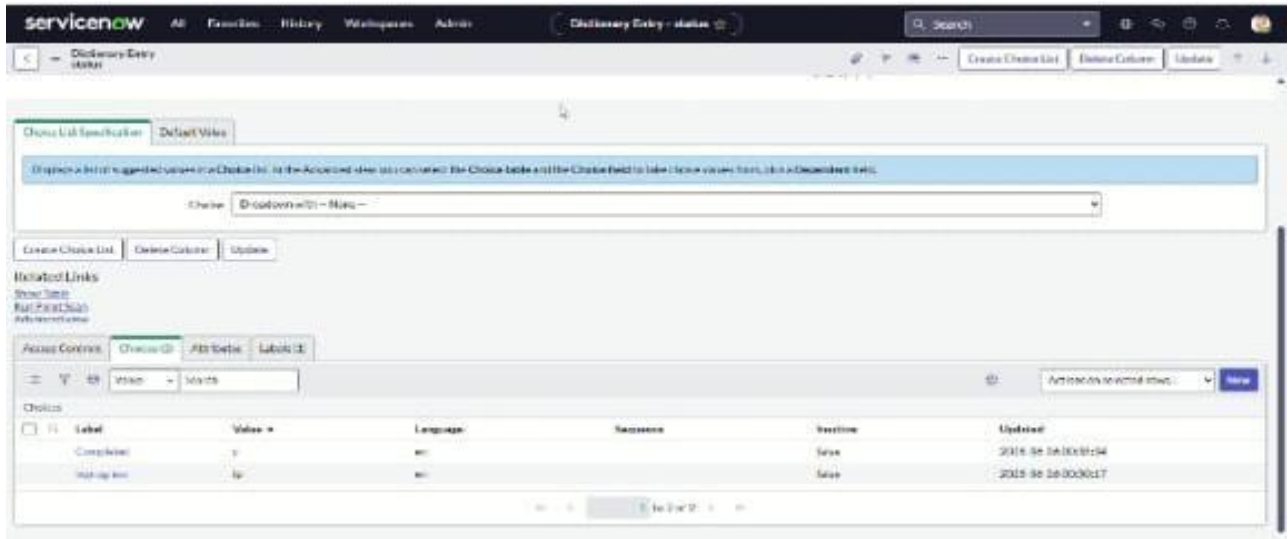
Milestone 2: import data

Purpose:
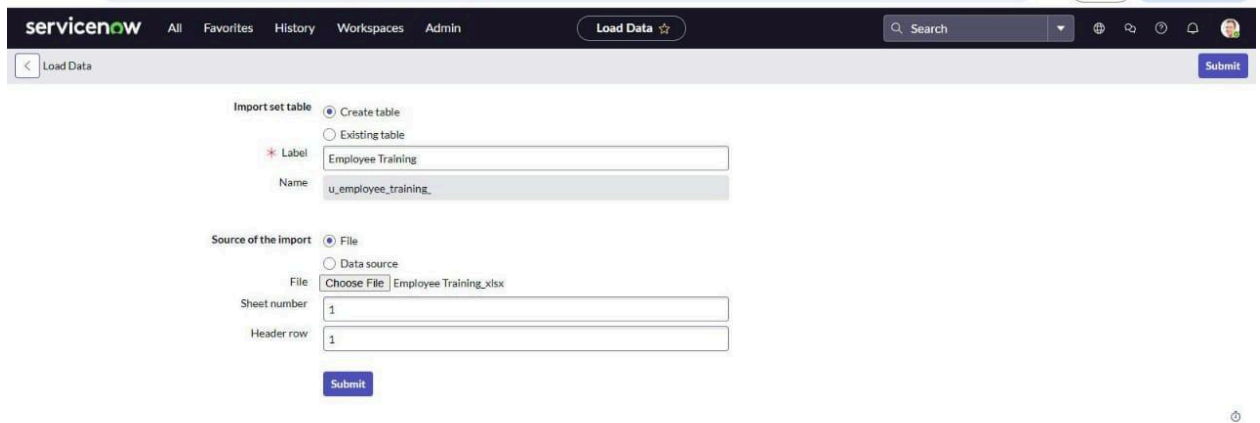
- Bring data into ServiceNow.
- Map data to correct tables.
- Enable secure access control.

Uses:

- Load external data
- Ensure data consistency
- Control secure access

Steps

1. Open service now

2. Click on all > >search for system import s Select

3. Select load data and upload file that you have already created with four fields that are: (training name, completion date, status and employee)

4. Label: employee training

5. Name: u_employee_training

6. Click on submit

Progress

Name   ImportProcessor
State   Complete
Completion code   Success
Message   Processed: 0, inserts 0, updates 0, errors 0, empty and ignored 0, ignored errors 0 (0:00:01.384)

Next steps...

Import sets   Go to the import sets for this data load

Loaded data   Go to the newly imported data inside the staging table: u_employee_training_

Create transform map   Create a transform map for the newly staged data

Import log   View the import log

Map fields

Purpose:

- Match source to target fields
- Enforce data security rules
- Ensure accurate data transfer

Uses:

- Match fields
- Place data correctly
- Prevent errors

Steps:

1. Open service now
2. Click on all > > search for Transform maps
3. Fill the following details to create a new table

4.   Click on submit

5.   Add field maps as shown

6.   Click transform to run the import

7.

Milestone 3: using dot walking to access employee department information

Purpose:

- Retrieve related record data
- Display linked information easily
- Build reports and conditions using referenced fields

Uses:

- Retrieve related department data
- Apply security rules via ACLs
- Keep department info consistent

Steps:

1. Open service now
2. Click on all >> system definition >>list layouts
3. Search for customer orders
4. Add the employee department field by using dot walking
5. Select the field and save changes

Milestone 4:Access control list (ACL)

Purpose:

- Restricts data access
- Secures sensitive info
- Controls user permissions

Uses:

- Restrict data access
- Protect sensitive fields
- Control user permissions

Steps:

1. Open service now
2. Click on all>>ACL>>create new ACL
3. Define ACL (Employees)
4. Operation: Read

Milestone 5: Roles

Purpose:

- Assign permissions to users
- Control access to imported data
- Enforce data security policies

Uses:

- Grant specific access rights to users
- Control who can import or modify data
- Secure sensitive data during import processes

Steps:

1. Open service now
2. Click on all>>roles>>create a new role:Hr manager
3. Add in the sys_user

4.   Add this roll to the tables application and module
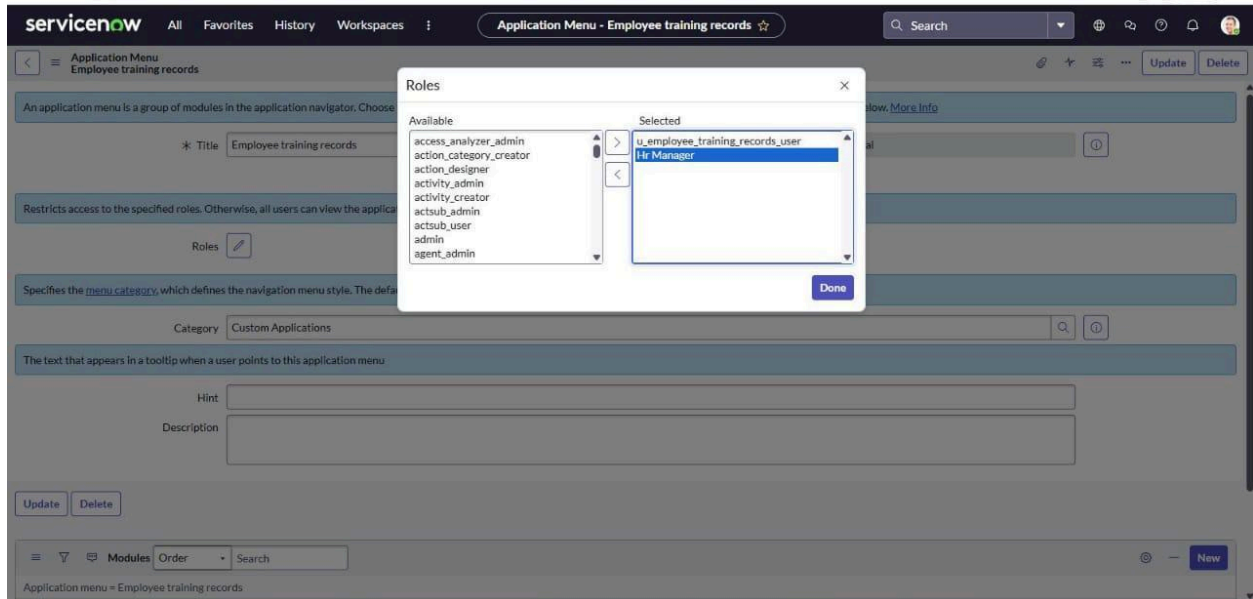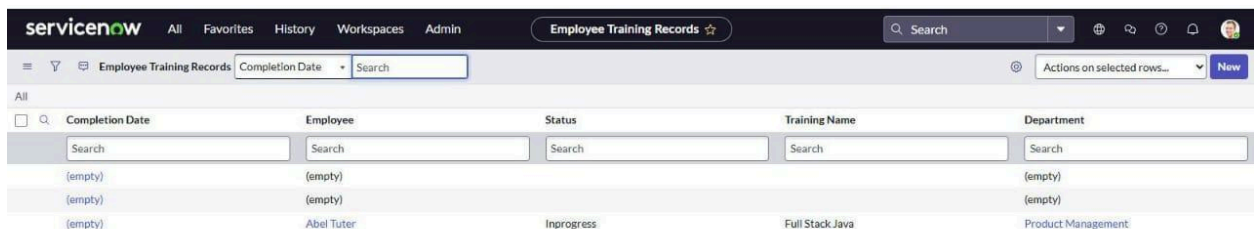
5.   At the HR manager role to the sys_user
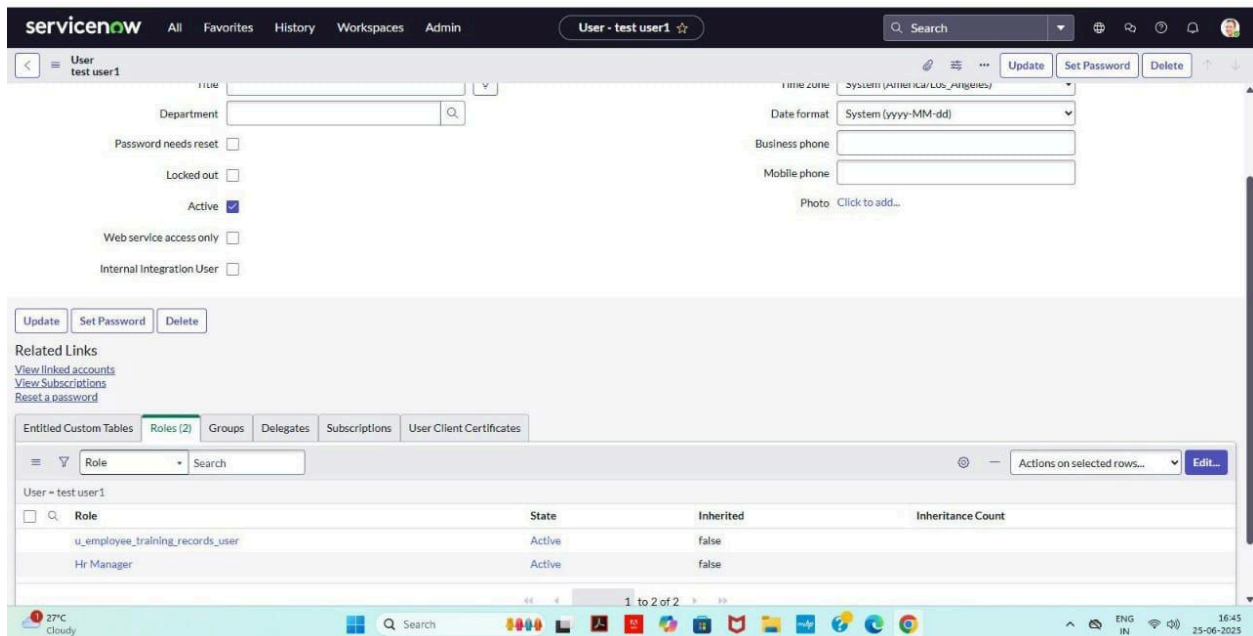
6. Now you can view each employees department information directly in the employee training records list view
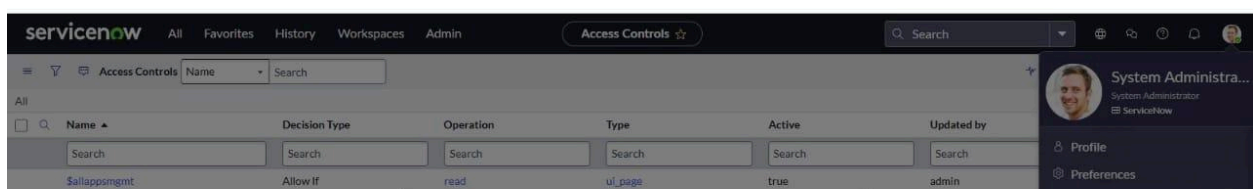
Update to elevate role

Purpose:

- Grant higher permissions for data import.
- Access restricted data and tables.
- Configure security controls during import.

Uses:

- Modify roles for data import.
- Approve imported data securely.
- Strengthen data access controls.

Steps:

1. Create new ACL and give read access to employee training records table

2. Give HR manager role to the ACL

3.   Create another new ACL and repeat the same process to the write access

Milestone 6: result

Purpose:

- Confirms data imported correctly
- Identifies errors or issues
- Ensures security and compliance

Uses:

- Confirms data accuracy
- Tracks import status
- Validates security controls

Steps :

1.   Impersonate the sys_ user and search employee training records
2.   Now you can see and edit the fields

☰ ▽ 🖵 Employee Training Records | Completion Date ▾ | Search   ⚙ | Actions on selected rows... ▾ | New

All

☐ 🔍 Completion Date ⋮	Employee	Status	Training Name	Department
(empty)	(empty)			(empty)
(empty)	(empty)			(empty)
(empty)	Abel Tuter	Inprogress	Full Stack Java	Product Management

< ☰ Employee Training Records
New record   𝟄 ⋯ Submit

Training Name		Completion Date		🖩
Employee	🔍	Status	-- None -- ▾	
Department				

Submit

⊘

3. Impersonate the other user you cannot see the table
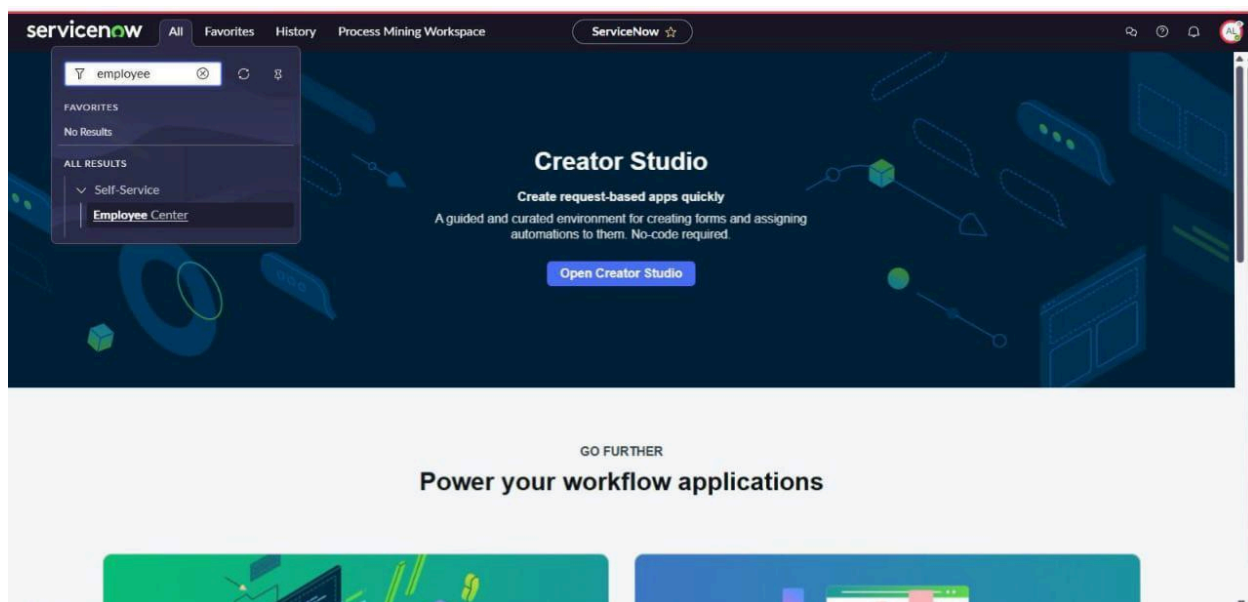
PROJECT PLANNING AND SCHEDULING

Assign Roles & Responsibilities to Team

→ Proceed to Workspace

| Tables | ⌄ | Create Table | ⌄ | ×Yarra Navya | ✓ | × |

| Import Data | ⌄ | Importing Data | ⌄ | ×Yarra Navya | ✓ | × |

| Import Data | ⌄ | Map Fields | ⌄ | ×Kalisetti Samanthakaman | ✓ | × |

| Using Dot-Walkin | ⌄ | Dot-Walking | ⌄ | ×Kalisetti Samanthakaman | ✓ | × |

| Access Control Li: | ⌄ | Creating an ACL | ⌄ | ×Vanka Parvathi | ✓ | × |

| Roles | ⌄ | Create Role | ⌄ | ×Vanka Parvathi | ✓ | × |

| Roles | ⌄ | Update to Elevate | ⌄ | ×Eeti Sharmila | ✓ | × |

| Result | ⌄ | Testing Result | ⌄ | ×Eeti Sharmila | ✓ | × |

+ ADD

Functional requirements	User story	No of activity	Team members
Tables	Tables to store imported data securely so I can manage and control access effectively.	1	Yarra Navya
Import data	Import data into ServiceNow tables so that records are accurate and secure.	1	Yarra Navya
Map fields	map fields during data import so that	1	Kalisetti Samanthakamani

	data is placed correctly and securely in ServiceNow.		
Using dot walking to access employee department	I Want to use dot walking to get employee department info during data import so I can secure and organize data by department.	1	Kalisetti Samanthakamani
Access control list (ACL)	create an ACL so employees have read-only	1	Vanka Parvathi

	access to imported data, ensuring data security.		
Roles	Create HR Manager role, assign to users, give access to view employee department info in training records.	1	Vanka Parvathi
Update to elevate role	Create two ACLs (one for read and one for write) on the	1	Eeti Sharmila

	Employee Training Records table, assigning the HR Manager role to both. This ensures only HR Managers can view and update employee training data, improving data security.		
Result	When impersonating sys_user, I can access records.	1	Eeti Sharmila

	When impersonating other users, they cannot access records.		

FUNCTIONAL AND PERFORMANCE TESTING

Performance testing

Purpose:

- Confirms data imported correctly
- Identifies errors or issues
- Ensures security and compliance

Uses:

- Confirms data accuracy
- Tracks import status

- Validates security controls

Milestone 6: result

1. Impersonate the sys_ user and search employee training records

2. Now you can see and edit the fields

3.Impersonate the other user you cannot see the table

ADVANTAGES & DISADVANTAGES

Advantages

- Ensures accurate data import and reduces errors.

- Protects sensitive data from unauthorized access.

- Helps meet regulatory requirements and industry standards.

- Maintains data consistency and completeness.

- Streamlines data import and management processes.

- Minimizes risks associated with data breaches or unauthorized access.

Disadvantages

- Importing and securing data can be a complex process, requiring specialized knowledge and expertise.

- The process can be time-consuming, especially for large datasets or complex security configuration.

- Importing and securing data may require significant resources, including personnel, infrastructure, and technology.

- Errors during the import process can lead to data inconsistencies or security vulnerabilities.

- Implementing robust security measures and importing data can incur additional costs, such as licensing fees or consulting services.

CONCLUSION:

The **importing and securing Data in service now project** demonstrated the essential process of importing data into Service Now using Import Sets, leveraging dot-walking to access and utilize related table data efficiently, and applying Access Control Rules (ACLs) to enforce robust data security. By combining these core functionalities, we ensured accurate data integration, streamlined data relationships, and protected sensitive information through role-based access control.