INTRODUCTION

Project:Importing and Securing Data In ServiceNow

Importing and securing data in ServiceNow involves importing data from various sources and implementing security measures to protect that data within the platform. ServiceNow provides tools and features for both importing data into the platform and securing that data against unauthorized access and modification.

Import Sets act as a staging area for importing data from various sources into ServiceNow. They allow users to load data into staging tables before transforming and loading it into target tables. This simplified feature allows users to quickly import data from Excel files into ServiceNow tables with minimal configuration.

ServiceNow allows defining data sources to connect to external databases or other systems for importing data. The ServiceNow Security Center (SSC) offers tools to scan for security vulnerabilities, harden instance settings, and monitor security metrics.

IDEATION PHASE

PROBLEM STATEMENT:

Linking each record to an employee and pulling some employee details (like department) into the record for easier reporting

CHALLENGES:

1. Data Quality and Consistency

- Inconsistent or duplicate data can be introduced during imports.
- Lack of data validation in source files (e.g., Excel, CSV) can lead to polluted records.

2. Complex Data Mapping

- Complex or nested data structures require custom transform scripts.
- Mistakes in mapping fields or coalescing logic can lead to data loss or duplication.

OBJECTIVE:

To efficiently import, validate, and manage data within the ServiceNow platform while implementing robust security practices to ensure the confidentiality, integrity, and availability of data throughout its lifecycle.

REQUIREMENT ANALYSIS

SOLUTION REQUIREMENT:

DATE	
TEAM ID	LTVIP2025TMID30840
PROJECT NAME	Importing&Securing Data in Servicenow

Functional Requirements:

Following are the functional requirement

FR NO	Functional Requirement	Sub Requirement
FR-1	TABLES	Create table
FR-2	IMPORT DATA	Importing data,map fields
FR-3	USING DOT-WALKING TO ACCESS EMPLOYEE DEPARTMENT INFORMATION	Dot-walking
FR-4	ACCESS CONTROL LIST(ACL)	creating an ACL
FR-5 FR-6	ROLES RESULT	Create role, update to elevate role Testing Result

Non-Functional Requirements:

Following are the Non-functional requirements.

FR NO.	Non-Functional Requirement	Description
NFR-1	Usability	ServiceNow provides powerful and flexible tools to import data from external sources such as Excel, CSV, XML, and databases into its platform. The usability of importing data in ServiceNow is enhanced by features like.
NFR-2	Security	ServiceNow provides a comprehensive security framework to protect data throughout the import process and beyond. Whether data is being imported via files, APIs, or integrations, multiple layers of security controls are applied to ensure its confidentiality, integrity, and availability.
NFR-3	Reliability	ServiceNow is designed to deliver a high level of reliability in both data import operations and data security, ensuring consistent performance, minimal errors, and trustworthy handling of sensitive information.

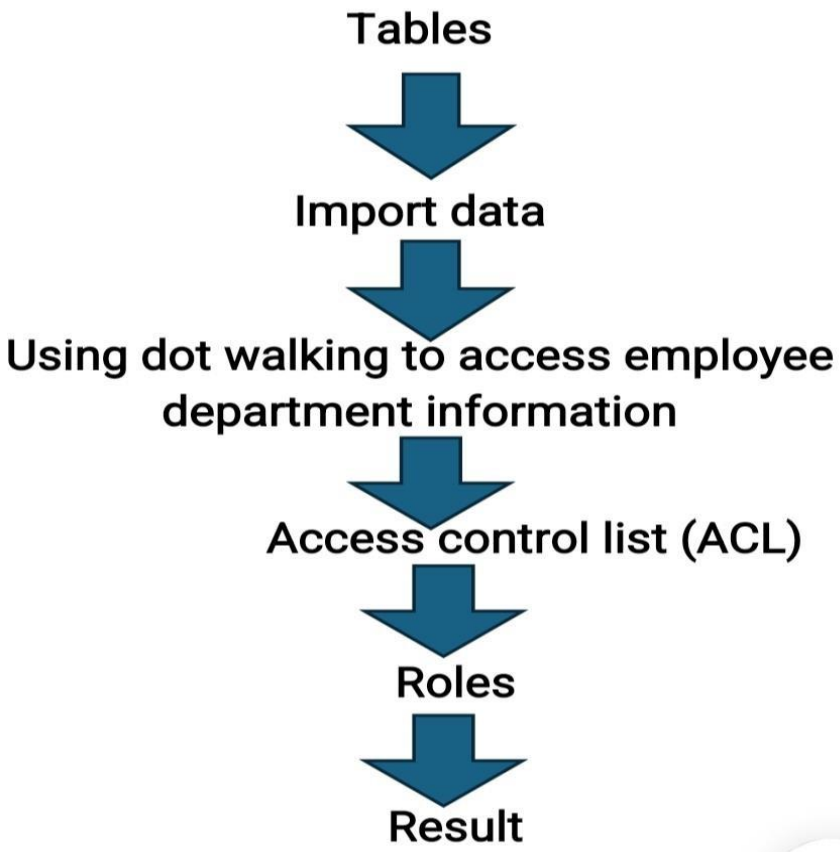
NFR-4	Performance	ServiceNow offers optimized tools and frameworks to ensure high performance during data import and security operations, even when handling large volumes of data or complex integrations.
NFR-5	Availability	ServiceNow ensures high availability for both data import and security functionalities, providing a reliable and continuously accessible platform for managing critical business information.
NFR-5	Scalability	ServiceNow is built to support the growing needs of organizations, offering scalable solutions for importing and securing data across large and complex environments.

Data Flow Diagram:

A Data Flow Diagram (DFD) is a simple graphical tool used to show how data moves through a system. Data Flow Diagram (DFD) for Importing and Securing Data in ServiceNow, along with a description. Since I can generate visuals, I'll first describe the components, then provide the diagram.

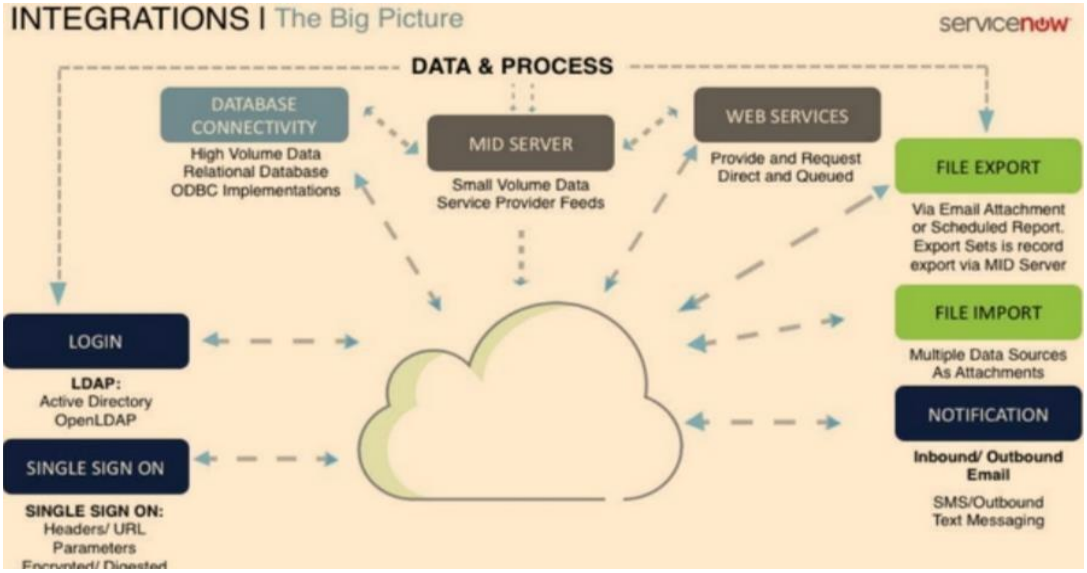
Uses:

- Helps teams understand where data comes from, how it's processed, stored, and secured.
- Simplifies complex processes for stakeholders (business, technical, compliance).



Technology Stack:

Architecture of serviceNow



Project Design:

Proposed Solution:

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

S. No	Parameter	Description
1	Data Source Type	Type of external source (CSV, Excel, JDBC, REST, SOAP, etc.)
2	Import Set Table	Temporary table where incoming data is staged before transformation
3	Transform Map	Defines how data is mapped and transformed from the import set to target table
4	Coalesce Fields	Used to determine uniqueness to prevent duplicate records
5	Scheduled Import Time	Specifies the frequency of data import (manual, hourly, daily, etc.)
6	Field Mapping Rules	Maps source fields to target fields, including data type conversions

Importing & Securing Data in ServiceNow

What is importing & securing data?

1. Importing Data - Bringing external data into the ServiceNow platform.
2. Securing Data Protecting that data through access controls, encryption, and compliance features to ensure it is safe, private, and used appropriately.

Types of Importing & Securing Data

- File-Based Import
- Database Import
- Web Service Import
- Email Import
- Third-Party Connectors

MILESTONE 1: TABLES

Activity 1: create table

PURPOSE:

Creating a table lets you define Access Control Rules (ACLs) to secure it at the table, field, or record level.You can specify which roles or groups can access the data in that table (e.g., only HR users can see employee salaries).Sensitive fields in the table (e.g., SSN, bank info) can be encrypted using field-level or full-table encryption.

USE:

When importing data (e.g., from Excel or an API), the data must be inserted into a target tableeither an existing one (like Incident or cmdb_ci) or a new custom table.

STEPS:

1.Open service now.

2.Click on All >> search for Tables

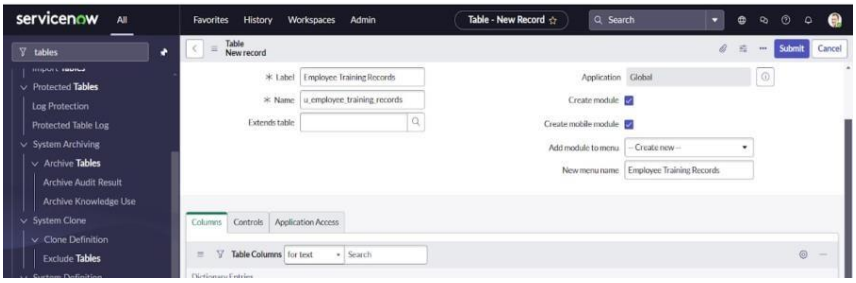
3.Select Tables under system security

4.Click on new

5.Fill the following details to create a new Table

7.Add the following fields:

6.

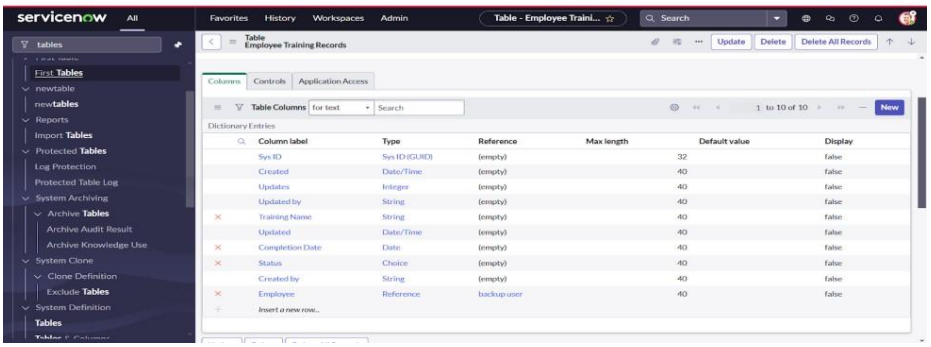


8.Training Name (Type: String)

9.Completion Date (Type: Date)

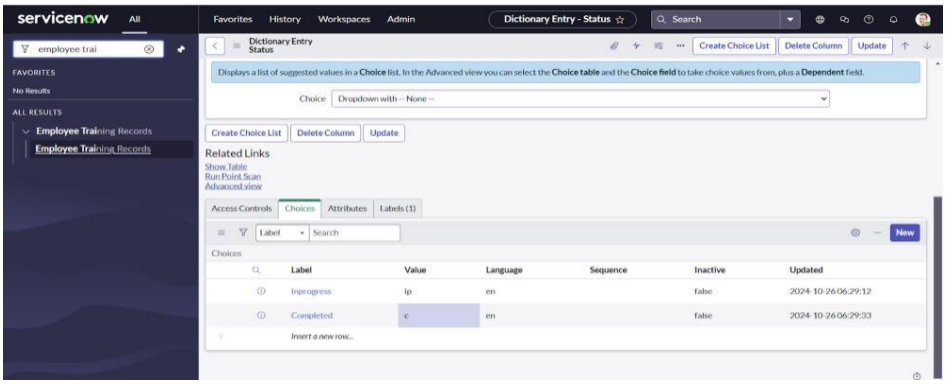
10.Status (Type: Choice)

11.Employee(Type: Reference), (Reference field to sys_user table)



12.Click on submit

13.Click on Choice and Add to choices in the Dictionary Entry Status



MILESTONE 2: IMPORT DATA

Activity 1: Importing data

PURPOSE:

Importing data into ServiceNow is a critical function that allows organizations to integrate, centralize, and automate data-driven processes across their enterprise systems.

USE:

Importing data into ServiceNow allows organizations to leverage external data sources to drive workflows, maintain accurate records, and automate business processes. It's a powerful capability used across IT, HR, finance, customer service, and more.

STEPS:

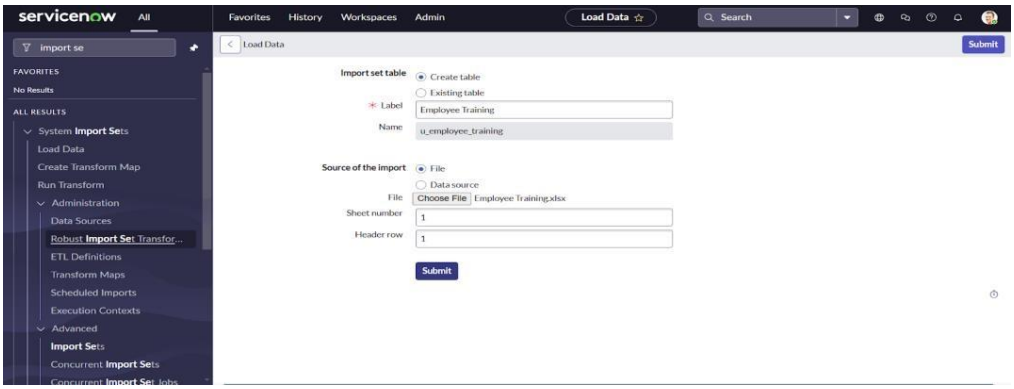
1.Open service now.

2.Click on All >> search for System Import Sets

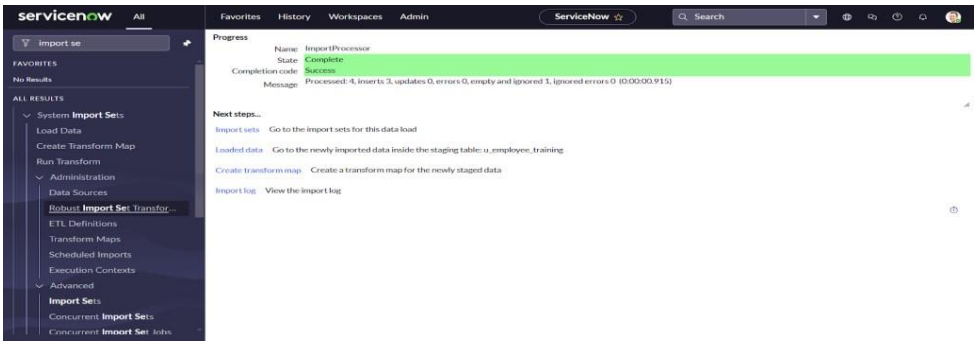
3.Select Load Data and Upload File that you have already created with four fields that are:(Training Name, Completion Date, Status and Employee)

4.Label: Employee Training

5.Name: u_employee_training



6. Click on submit



MILESTONE 2: UI ACTION

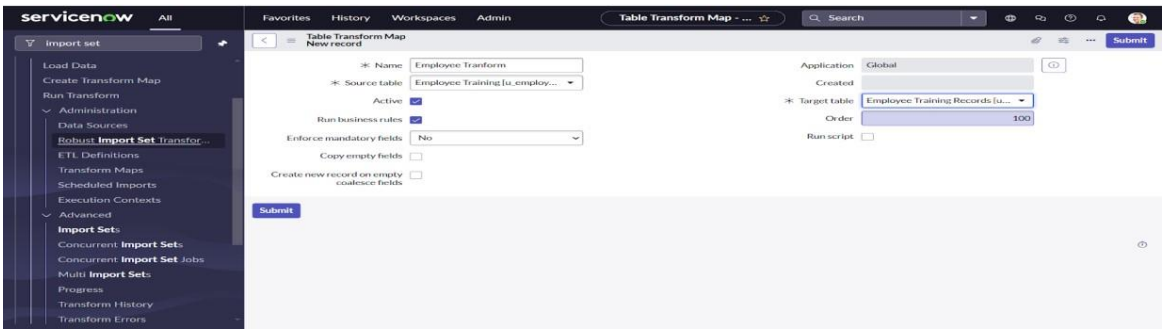
Activity 2: Map fields

STEPS:

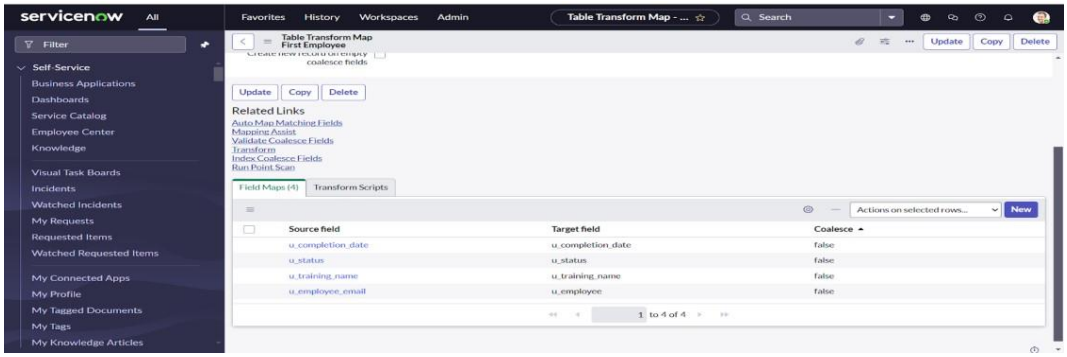
1.Open Service Now

2. Click on All >> search for Transform Maps

3.Fill the following details to create a new Table.

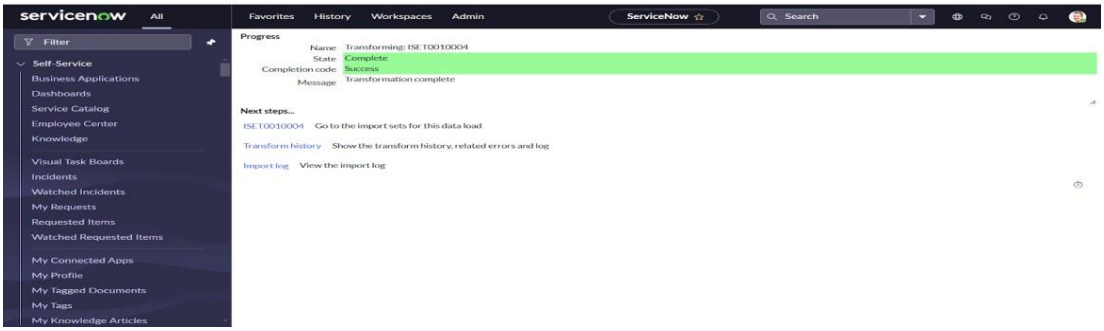


4.Click on Submit.

5. 

6.Add Field Maps as Shown

7.Click Transform to run the import.



MILESTONE 3: USING DOT-WALKING TO ACCESS EMPLOYEE DEPARTMENT INFORMATION

Activity 1: DOT-WALKING

STEPS:

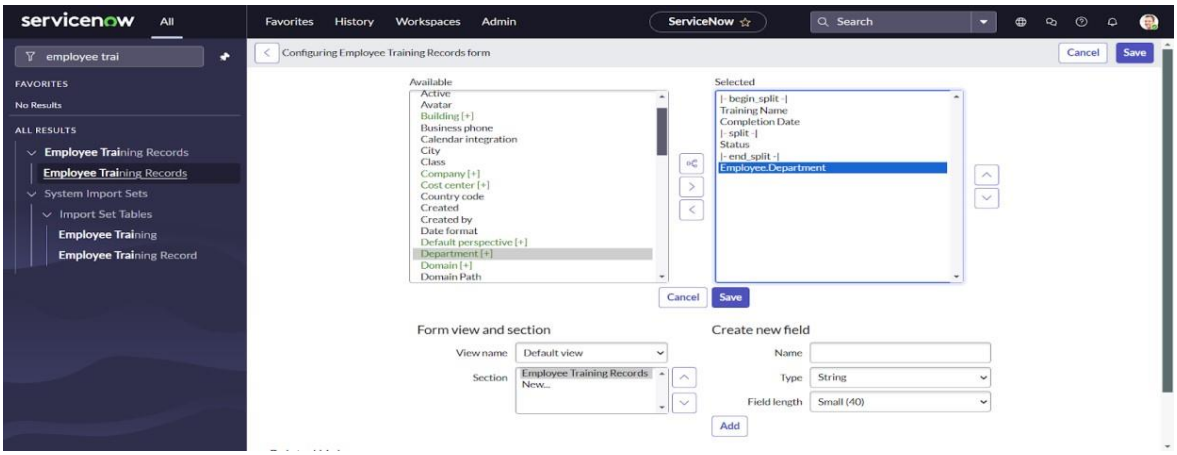
1.Open service now.

2.Click on All >> system definition>>List Layouts

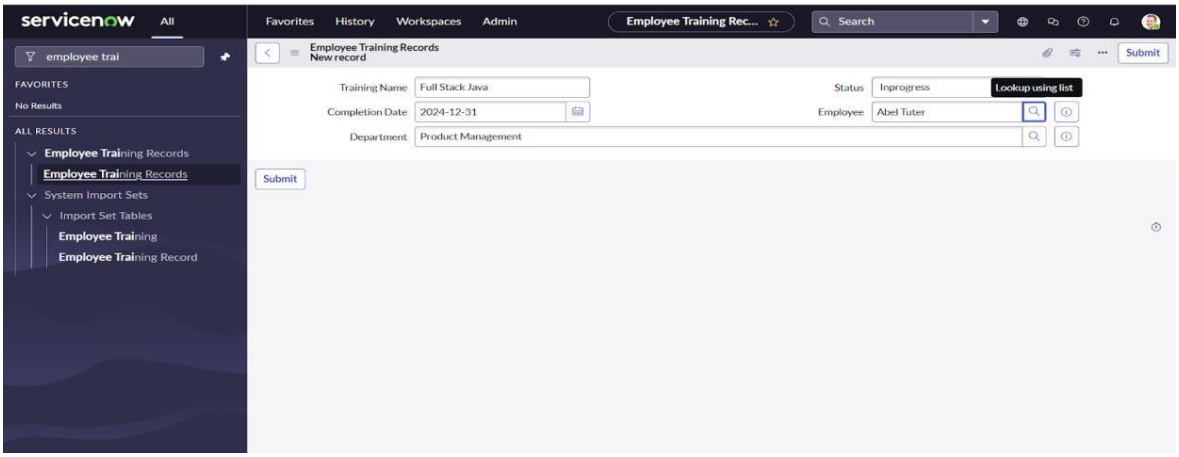
3.Search for customer orders

4.Add the “Employee Department” field by using dot walking

5.Select the field and Save changes



6.Now you can see the field in the List view.



MILESTONE 4: ACCESS CONTROL LIST(ACL)

Activity 1: creating an ACL

PURPOSE:

ACL stands for Access Control List in ServiceNow. Creating ACLs is essential when importing and securing data because they define who can access, modify, or view data in tables and fields.

USE:

ACLs can be applied to specific fields (like Social Security Numbers, salaries, or passwords), preventing unauthorized users from accessing sensitive data that was just imported.

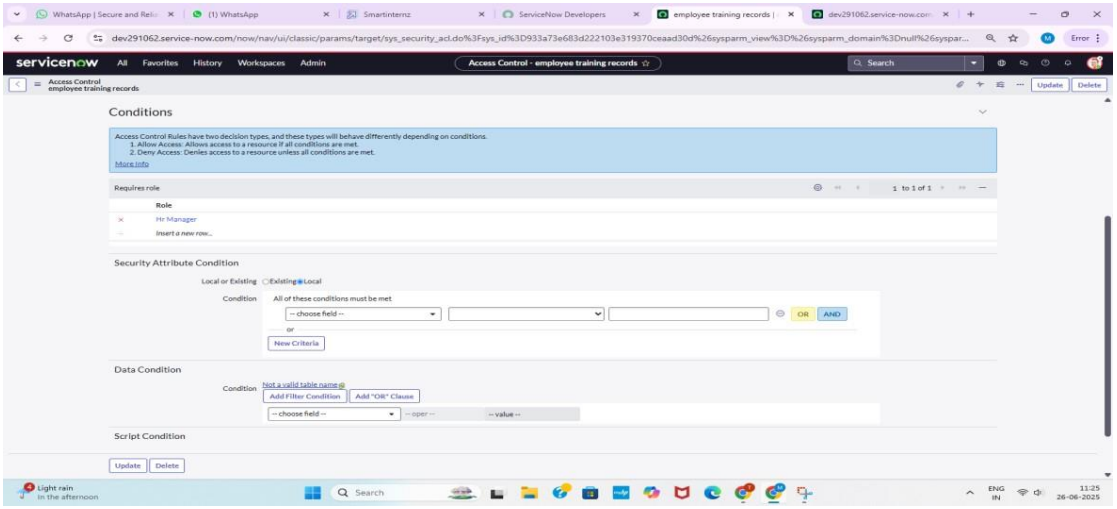
STEPS:

1.Open Service now

2.Click on all>>ACL>>Create New ACL

3.Define ACL (Employees)

4.Operation: Read



MILESTONE 5: ROLES

Activity 1: create role

PURPOSE:

Creating a role in ServiceNow is essential for managing who can perform specific actions during data import and data security operations. Roles are used to grant permissions and enforce access control, making them a foundation of secure, scalable data management.

USE:

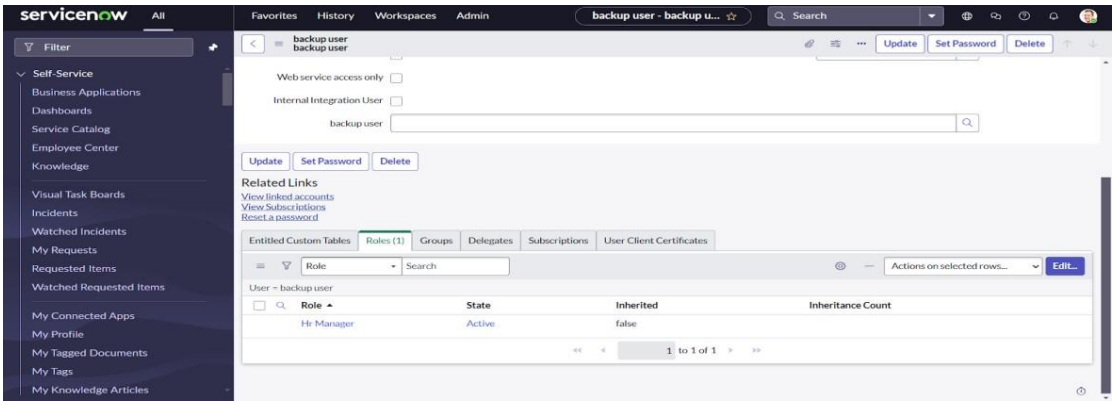
Creating a role in ServiceNow plays a central part in governing access and permissionsespecially when handling imported data and enforcing data security. Roles define what users or systems are allowed to do, making them essential for secure and efficient data operations.

STEPS:

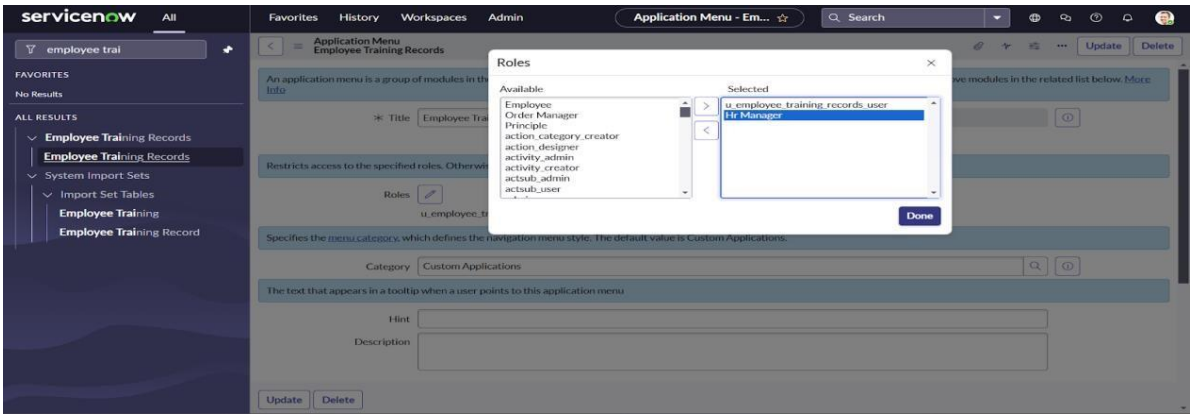
1.Open ServiceNow

2.Click on all>>Roles>> create a new role : Hr Manager

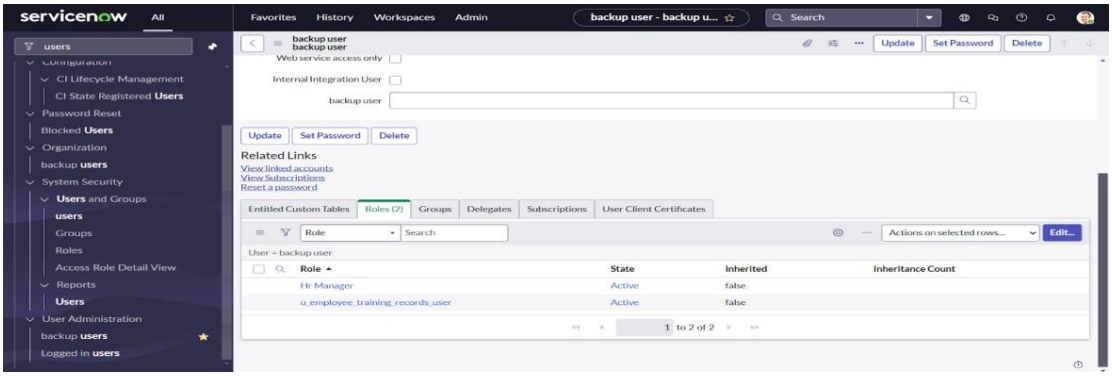
3.Add in the sys_user



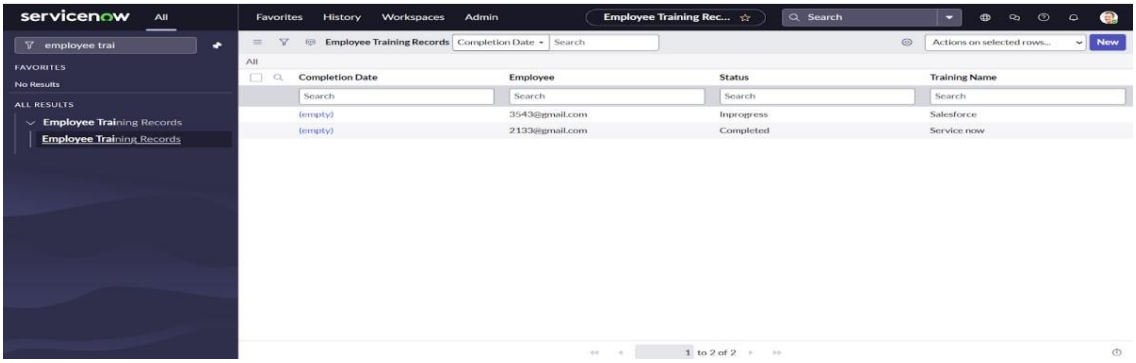
5.Add this role to the Tables Application and Module



6.Add the Hr Manager Role to the sys_user

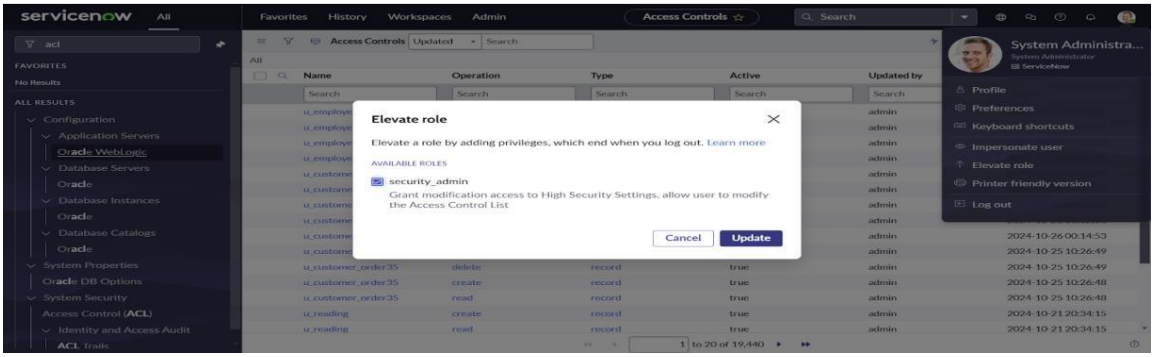


7.Now, you can view each employee's department information directly in the Employee Training Records list view

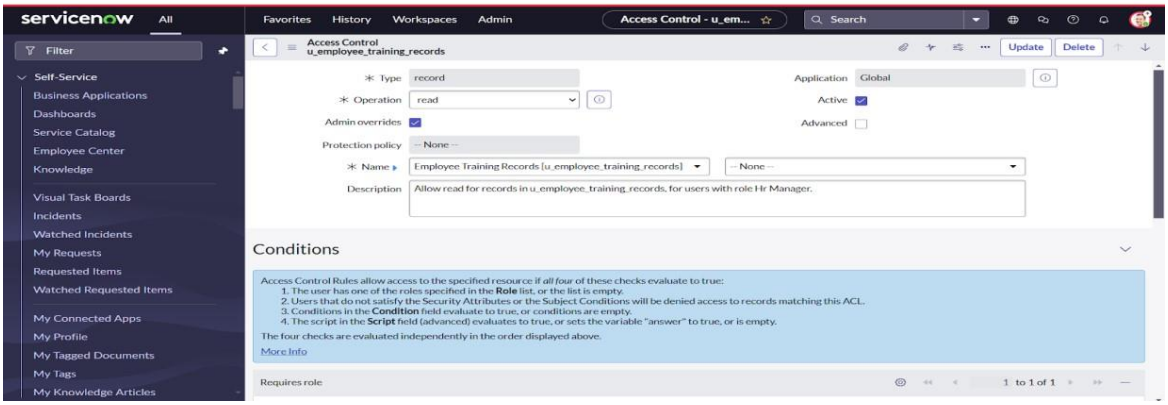


MILESTONE 5: ROLES

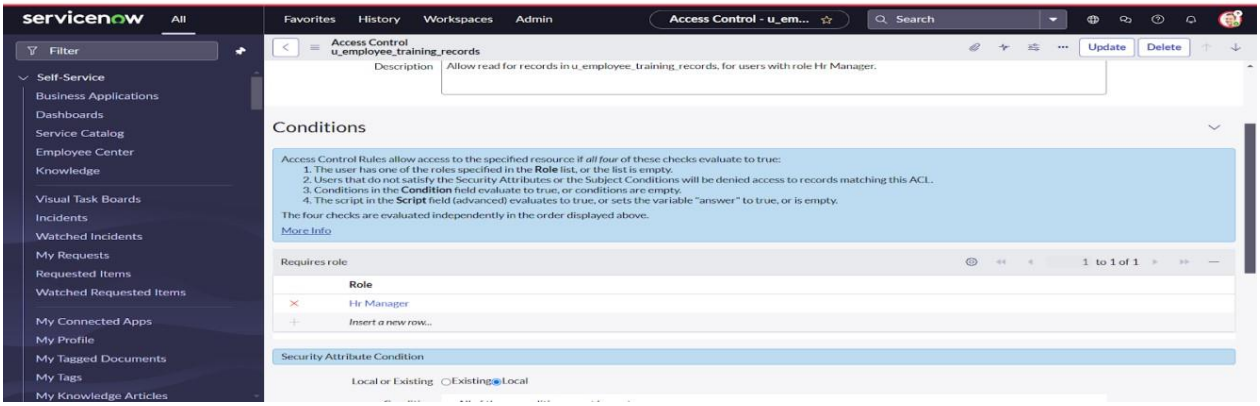
Activity 2: Update to elevate role STEPS:



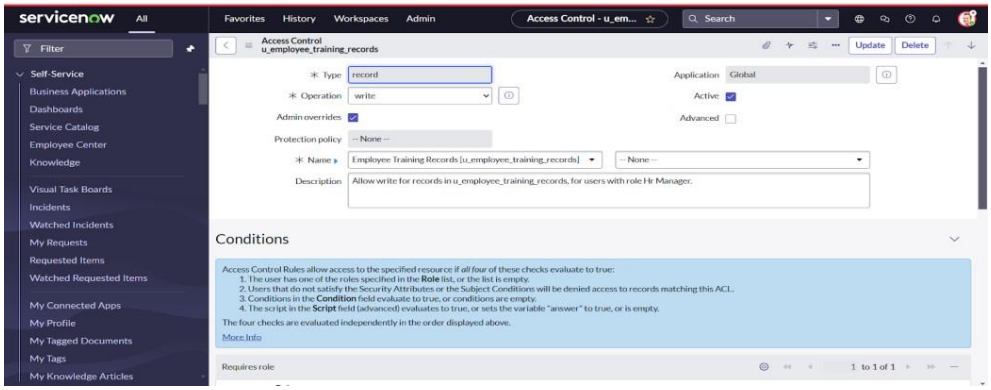
1.Create New ACL and give Read Access to Employee Training Records Table



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

Activity 1: Testing Result

PURPOSE:

Provide the foundational data needed for automated workflows, notifications, approvals, and integrations within ServiceNow modules (e.g., ITSM, HRSD, CMDB).Prevent unauthorized modifications or deletions that could compromise the accuracy and reliability of the system.

USE:

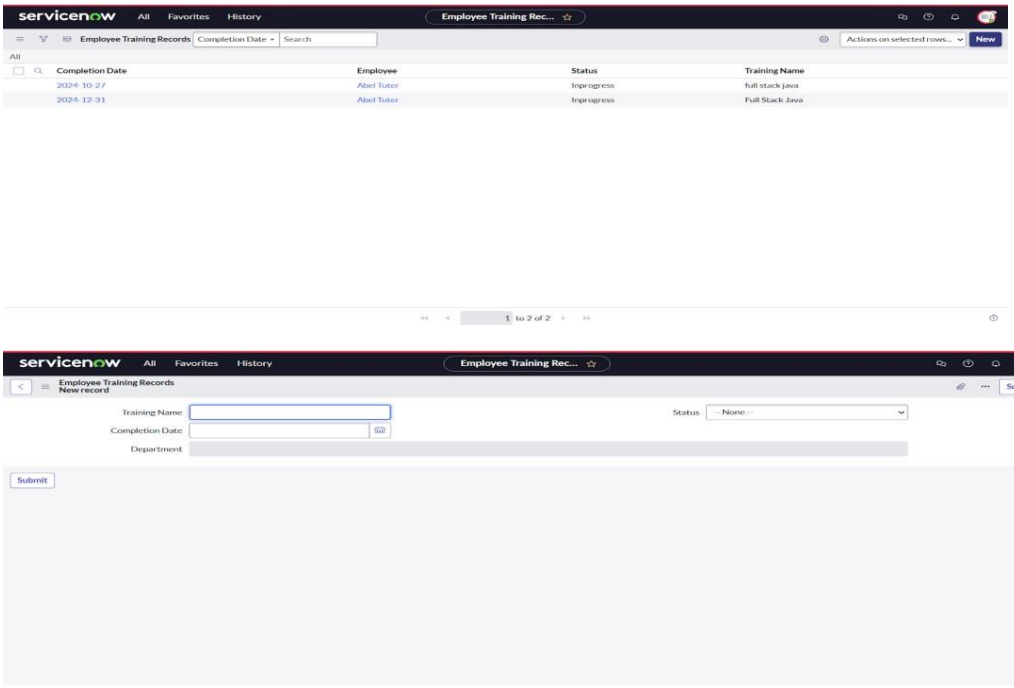
Use Case: Automated incident, request, and change management workflows.

How the Result Helps: Clean, importeddata (e.g., users, assets, locations) feeds processes with reliable inputs, improving accuracy and reducing manual entry.

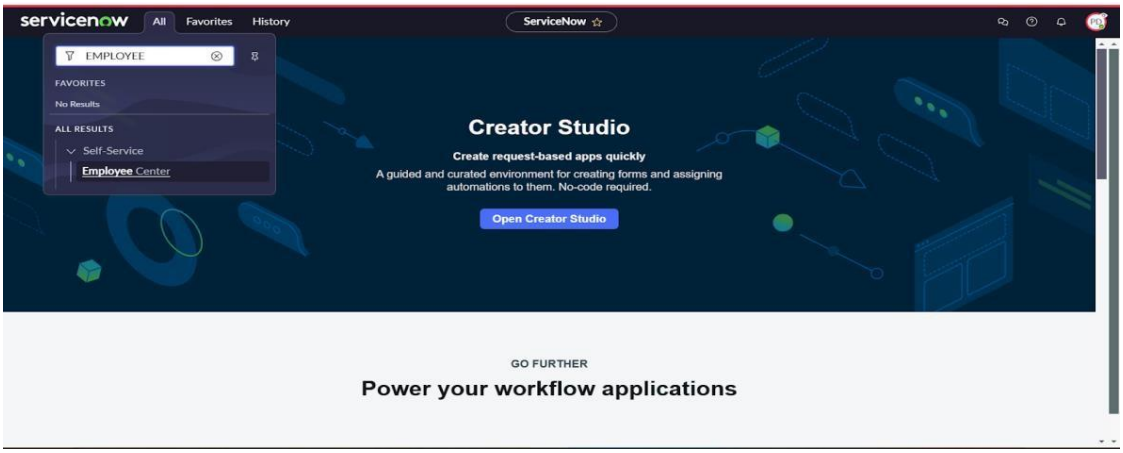
STEPS:

1.Impersonate the sys_user and Search Employee Training Records

2.Now You can see and edit the Fields

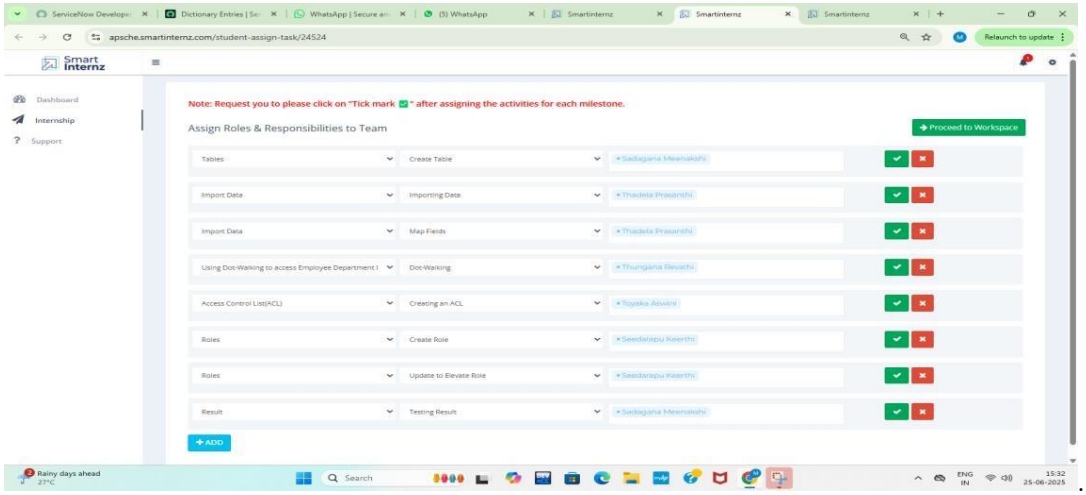


3.Impersonate the other User you cannot See the Table



Project planning & Scheduling:

Assigned Task to the Group members as shown in below



Functional requirement	User story	No of Activity	Team Members
TABLES	As an administrator, I want to create a table to store information so that I can easily track, update, and organize all data in the system	1	S Meenakshi
IMPORT DATA	An an admin, I want to run transform maps	2	T Prasanthi
USING DOTWALKING TO ACCESS EMPLOYEE DEPARTMENT INFORMATION	As an admin, I want accees to dotwalking the employee department	1	T Revathi
ACl	As a developer, I want to creating an ACL	1	T Aswini
ROLES	As a manager, I want to create a role and update an elevate role	2	S Keerthi
RESULT	As a developer, I want to testing the result	1	S Meenakshi

Functional and Performance

Importing and securing data in ServiceNow involves a combination of tools and best practices to ensure data is efficiently brought into the platform and protected throughout its lifecycle. Here's a breakdown of both functional and performance aspects:

- Used for importing data from external sources like Excel, CSV, JDBC, etc.
- Data goes into a staging table first, then transformed into target tables.
- Define how data from import sets maps to target tables. ● Include scripts for data manipulation or business logic.

ADVANTAGES&DISADVANTAGES

ADVANTAGES:

- Consolidates data from multiple external sources (e.g., Excel, SQL, ERP systems) into a single system of record.
- Reduces data silos and improves visibility across departments.
- Scheduled imports and automated workflows reduce manual data entry.
- Transform maps automate data formatting and business logic application.
- Coalescing ensures deduplication and data consistency.
- Data policies and validations help maintain clean and reliable data.
- Supports importing large volumes of data with chunking and batching.
- Can be extended to integrate with APIs, cloud platforms, and third-party systems.
- Supports a wide range of file formats (CSV, Excel, XML, JSON).
- MID Server enables secure imports from internal/private networks.

DISADVANTAGES:

- Transform maps can become complex, especially when dealing with large, nested, or non-standard data formats.
- Mistakes in coalescing or field mapping may lead to duplicate or incorrect records.
- Importing large datasets can strain system resources, especially if not optimized (e.g., using scripts inside transforms).
- Bulk imports may slow down the platform during peak usage if not scheduled correctly.
- Importing unclean or inconsistent data can pollute the CMDB or other critical tables.
- Garbage in, garbage out: ServiceNow does not inherently fix bad source data.

CONCLUSION:

This project demonstrated the essential process of importing data into ServiceNow 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.

Importing and securing data in ServiceNow is critical for building a reliable, scalable, and secure enterprise platform. When done effectively, these processes enable organizations to centralize data, automate workflows, maintain compliance, and protect sensitive information.

ServiceNow provides powerful tools-such as import sets, transform maps, scheduled jobs, and role-based ACLs-that allow for robust data integration and security management. However, these capabilities come with challenges including system performance concerns, configuration complexity, and ongoing maintenance requirements.