

Importing & Securing Data in ServiceNow

Project Documentation Format

1.Introduction

- **Project Name :** Importing & Securing Data in ServiceNow
- **Team ID :** LTVIP2025TMID29765
- **Team Leader :** Vadde Manogna
- **Team Members :** Manasa Reddy Y, Peravali Poojitha, Poojitha Valli

2. Project Overview

- **Objective:**
To automate the process of importing employee data into ServiceNow and link each record to an employee, while pulling additional details (like department) using dot-walking, and securing the data access using ACLs and role-based permissions.
- **Description:**
This project focuses on enabling secure and structured data handling within ServiceNow. It demonstrates how employee records can be imported, transformed, connected, and presented dynamically using platform features like transform maps, dot-walking, and ACL (Access Control Lists). The system also ensures proper access segregation based on user roles, making it ideal for real-time enterprise environments where security and efficiency are critical.
- **Key features:**

Features	Description
Data Import & Mapping	Imports employee data from external sources using Import Sets & Transform Maps.
Dot-Walking	Automatically pulls related fields like Department from linked user records.
Access Control (ACL)	Restricts field/table-level access based on user roles.
Role-Based Access Management	Defines different permissions for admin, HR, and IT users.

Custom Tables and Fields	Creates tailored data structures to store employee and training data.
Dynamic Reporting	Enables filtered and department-wise reporting using imported data.
Testing with User Impersonation	Verifies data visibility/editability using impersonated user sessions.
Scalability and Performance	Designed to handle large datasets with fast loading and secure operations.

3. Project Ideation Phase

- **Project Title:** Importing & Securing Data in ServiceNow
- **Problem Statement:** Linking each record to an employee and pulling some employee details (like department) into the record for easier reporting.

4. Requirement Analysis Phase

- **Tables:** Define custom table to store employee data.
- **Import Data:** Load data via Import Sets.
- **Dot-Walking:** Auto-pull department using reference field.
- **Access Control List (ACL):** Secure fields based on roles.
- **Roles:** Create HR Manager role
- **Results:** Test outcome—verify links and field population.
- **Conclusion:** Evaluate success and readiness for deployment.

5. Project Planning Phase

1. Project Timeline:

- Break your project into phases:
 - Ideation
 - Requirement Analysis
 - Design
 - Development (Import, ACL, Roles setup)

- Testing
- Report generation
- Review & Conclusion

2. Risk Management:

Risk	Probability	Impact	Mitigation Strategy
Data import fails due to format	Medium	High	Validate CSV before import
ACLs restrict legitimate access	Low	Medium	Test roles thoroughly before deploy
Dot-walking does not auto-populate	Medium	High	Script include fallback logic

3. Task Allocation:

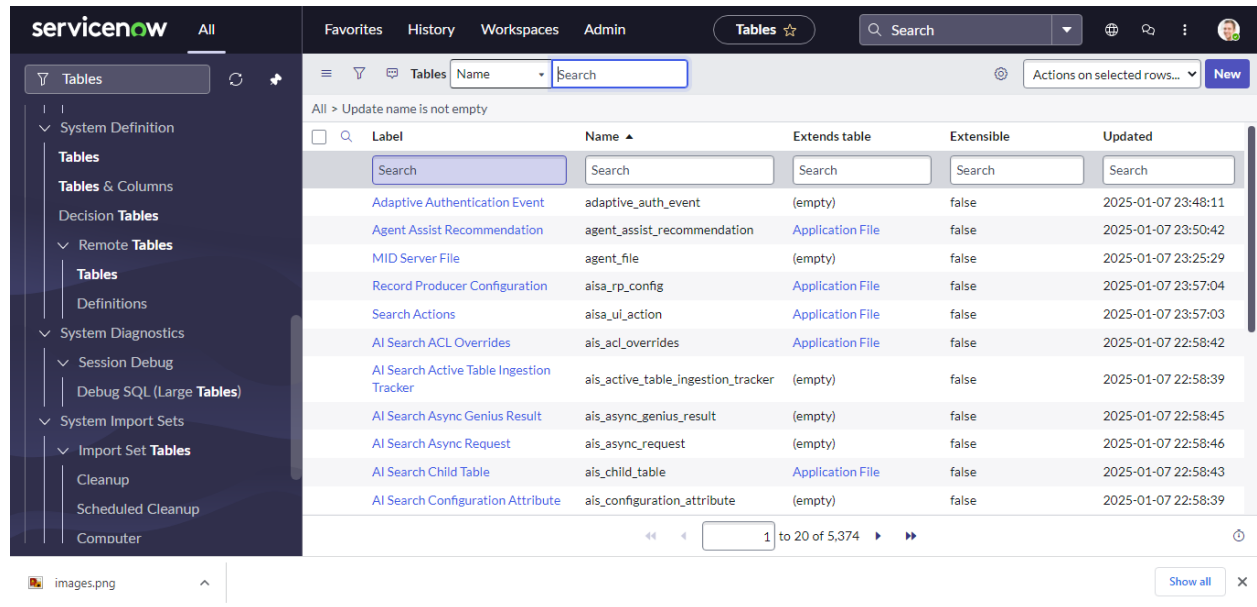
Task	Assigned To	Time Estimate	Tools Required
Import Table Setup	Developer	2 Days	ServiceNow Studio
Transform Map Configuration	Developer	2 Days	Import Set, Map Script
ACL Creation	Admin	1 Days	ACL Editor
Dot-walking Setup	Developer	1 Days	Dictionary Field Config
Reporting Dashboard	Analyst	1 Days	Report Builder

6. Project Design Phase

1. Create Table

- Open service now.
- Click on **All** >> search for **Tables**

- Select Tables under **system security**
- Click on **New**



- Fill the following details to create a new Table

- Add the following fields:
- **Training Name** (Type: **String**)
- **Completion Date** (Type: **Date**)
- **Status** (Type: **Choice**)
- **Employee**(Type: **Reference**), (Reference field to **sys_user** table)

servicenow All Favorites History Admin : Table - Employee Training Records

Search

Table Employee Training Records

Columns * Controls Application Access

Table Columns Type Search

1 to 10 of 10 New

Dictionary Entries

Column label	Type	Reference	Max length	Default value	Display
Status	Choice	(empty)	40	40	false
Completion Date	Date	(empty)	40	40	false
Updated	Date/Time	(empty)	40	40	false
Created	Date/Time	(empty)	40	40	false
Updates	Integer	(empty)	40	40	false
Employee	Reference	User	32	32	false
Training Name	String	(empty)	40	40	false
Created by	String	(empty)	40	40	false
Updated by	String	(empty)	40	40	false
Sys ID	Sys ID (GUID)	(empty)	32	32	false
Insert a new row...					

images.png Show all

- Click on **submit**
- Click on Choice and Add to choices in the **Dictionary Entry Status**
- **Right click** on **Status** Field
- Select **Configure Dictionary**
- Enter **choices** under **Related list(choices)**

servicenow All Favorites History Admin : Dictionary Entry - Status

Search

Dictionary Entry Status

Create Choice List Delete Column Update

Create Choice List Delete Column Update

Related Links

Show Table Run Point Scan Advanced view

Access Controls Choices (2) Attributes Labels (1)

Label Search

Actions on selected rows... New

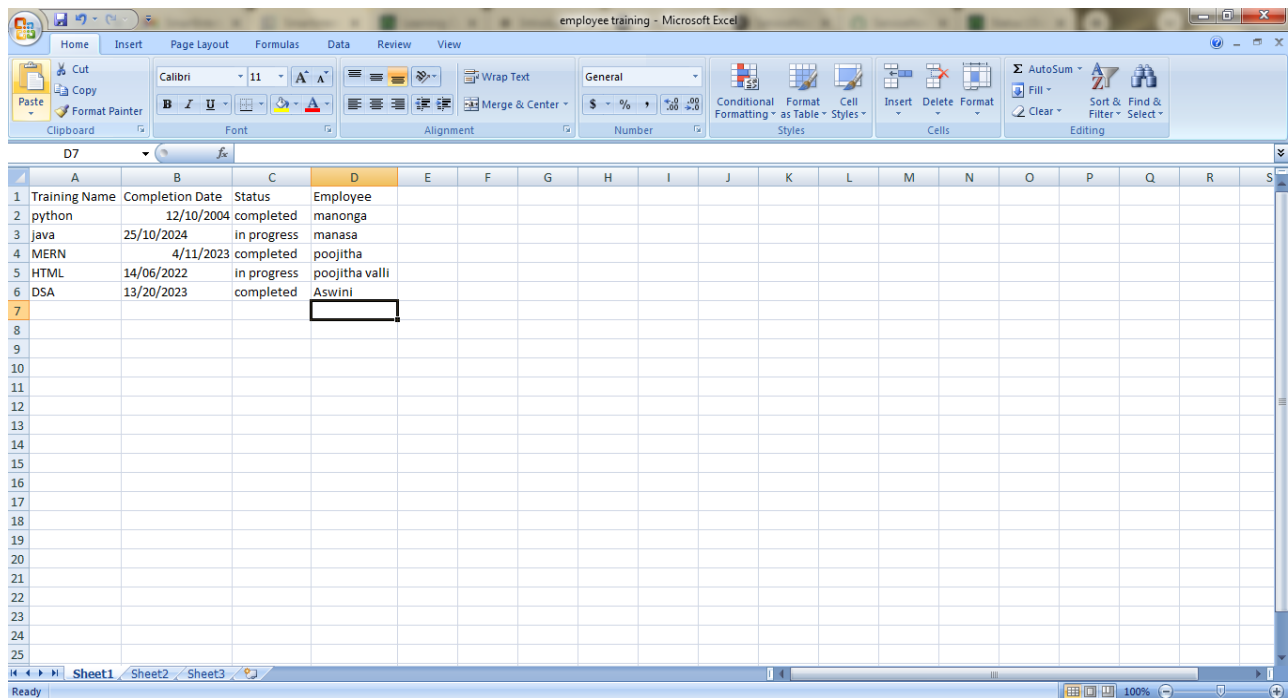
Choices

Label	Value	Language	Sequence	Inactive	Updated
Completed	c	en		false	2025-06-20 22:41:18
Inprogress	ip	en		false	2025-06-20 22:40:56
Insert a new row...					

1 to 2 of 2

2. Create Data

- Create XLSX sheet for Training Employee table
- Sheet fields will be:
 - ✓ Training Name
 - ✓ Completion Date
 - ✓ Status
 - ✓ Employee



The screenshot shows a Microsoft Excel window titled "employee training - Microsoft Excel". The ribbon includes tabs for Home, Insert, Page Layout, Formulas, Data, Review, and View. The Home tab is active, showing options for Clipboard, Font, Alignment, Number, Conditional Formatting, Styles, Cells, and Editing. The worksheet contains a table with the following data:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Training Name	Completion Date	Status	Employee															
2	python	12/10/2004	completed	manonga															
3	java	25/10/2024	in progress	manasa															
4	MERN	4/11/2023	completed	poojitha															
5	HTML	14/06/2022	in progress	poojitha valli															
6	DSA	13/20/2023	completed	Aswini															
7																			
8																			
9																			
10																			
11																			
12																			
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25																			

3. Importing Data

- Open service now.
- Click on **All** >> search for **System Import Sets**
- Select **Load Data** and **Upload File** that you have already created.
- **Label:** Employee Training
- **Name:** u_employee_training

dev220069.service-now.com/now/nav/ui/classic/params/target/create_import_set.do

serviceNow All

system i

FAVORITES

No Results

ALL RESULTS

System Import Sets

- Load Data
- Create Transform Map
- Run Transform
- Administration
 - Data Sources
 - Robust Import Set Transform
 - ETL Definitions
 - Transform Maps
 - Scheduled Imports
 - Execution Contexts
- Advanced

Load Data

Import set table

Create table

Existing table

* Label employee training

Name u_employee_training

Source of the import

File

Data source

File Choose File employee...ning.xlsx

Sheet number 1

Header row 1

Submit

- Click on **Submit**.

serviceNow All

system i

FAVORITES

No Results

ALL RESULTS

System Import Sets

- Load Data
- Create Transform Map
- Run Transform
- Administration
 - Data Sources
 - Robust Import Set Transform
 - ETL Definitions
 - Transform Maps
 - Scheduled Imports
 - Execution Contexts
- Advanced

ServiceNow

Progress

Name	ImportProcessor
State	Complete
Completion code	Success
Message	Processed: 5, inserts 5, updates 0, errors 0, empty and ignored 0, ignored errors 0 (0:00:01.221)

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_employees_training
- [Create transform map](#) Create a transform map for the newly staged data
- [Import log](#) View the import log

- Click on **Create Transform Map**

servicenow All Favorites History Admin Table Transform Map - New Record

system i

FAVORITES
No Results

ALL RESULTS

- System Import Sets
 - Load Data
 - Create Transform Map
 - Run Transform
- Administration
 - Data Sources
 - Robust Import Set Transform...
 - ETL Definitions
 - Transform Maps
 - Scheduled Imports
 - Execution Contexts
- Advanced

* Name

* Source table employees training [u_employ...]

Application Global

Created

* Target table -- None --

Order 100

Run script

Active

Run business rules

Enforce mandatory fields No

Copy empty fields

Create new record on empty coalesce fields

Submit

Related Links

[Auto Map Matching Fields](#)

[Mapping Assist](#)

- Give **Name** and **Target Table** Name to store the sheet data

servicenow All Favorites History Admin Table Transform Map - employees tr...

system im

FAVORITES
No Results

ALL RESULTS

- System Import Sets
 - Load Data
 - Create Transform Map
 - Run Transform
- Administration
 - Data Sources
 - Robust Import Set Transform...
 - ETL Definitions
 - Transform Maps
 - Scheduled Imports
 - Execution Contexts
- Advanced

Table Transform Map employees training

Copy Update Delete

Related Links

[Auto Map Matching Fields](#)

[Mapping Assist](#)

[Validate Coalesce Fields](#)

[Transform](#)

[Index Coalesce Fields](#)

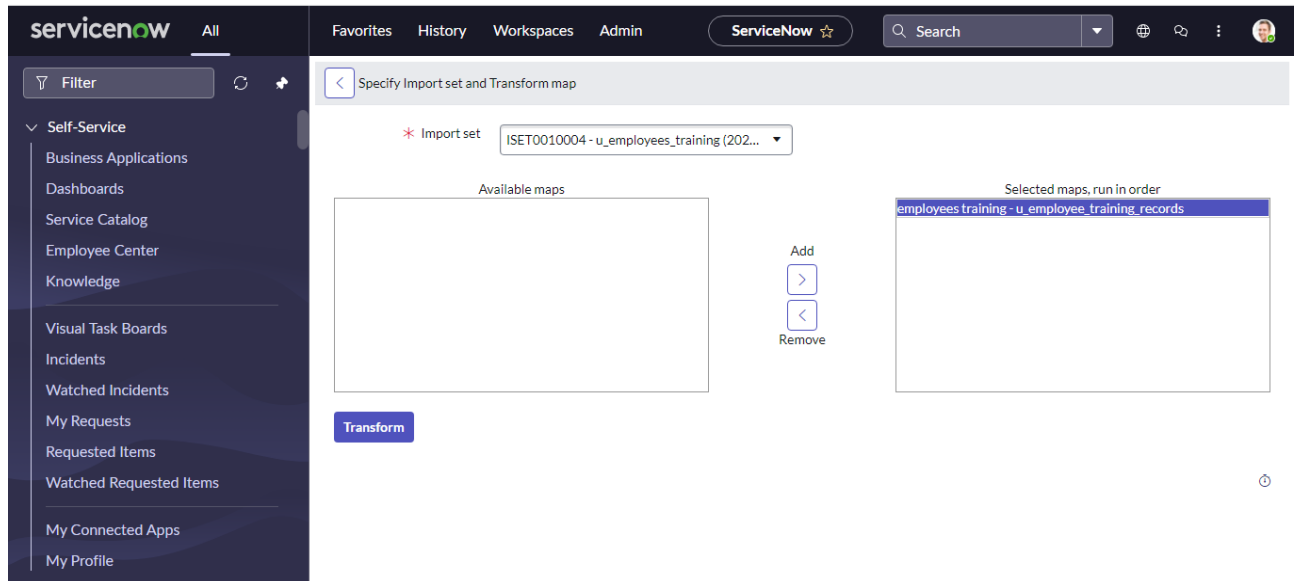
[Run Point Scan](#)

Field Maps (4) Transform Scripts Empty reference fields (1)

Source field	Target field	Coalesce
u_training_name	u_training_name	false
u_status	u_status	false
u_employee	u_employee	false
u_completion_date	u_completion_date	false

1 to 4 of 4

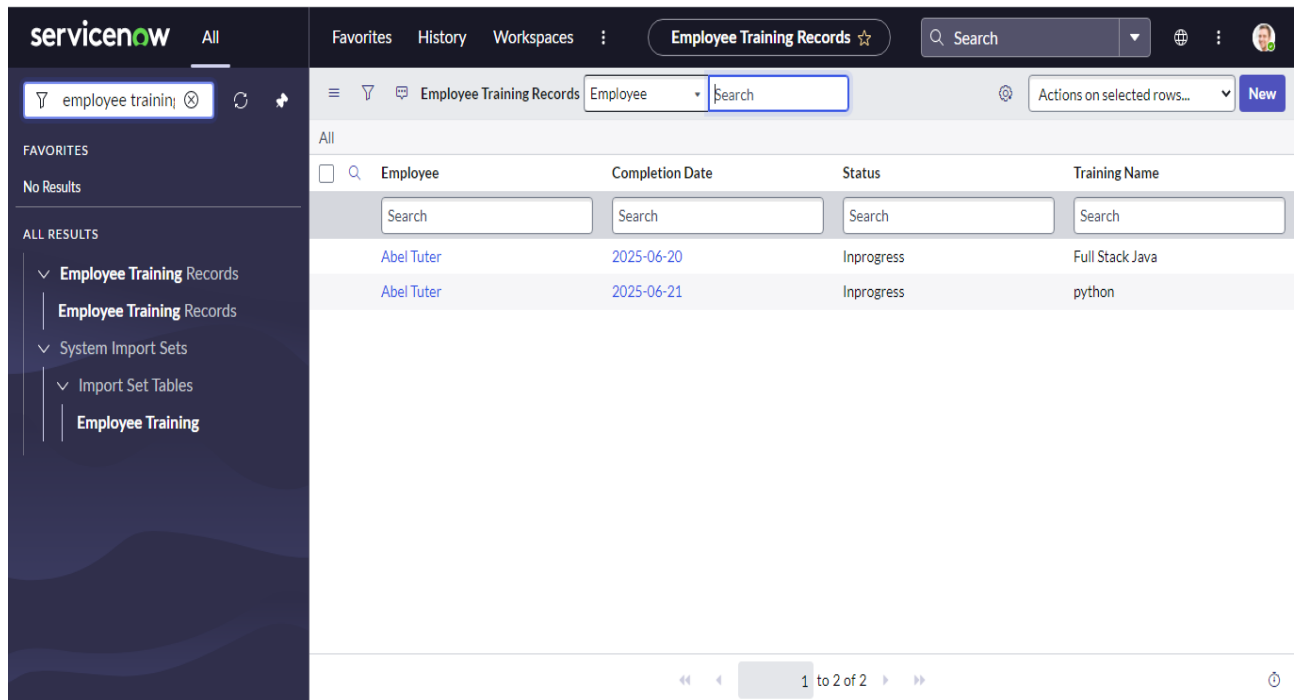
- Click On **Submit**
- Click on **Run Transform**



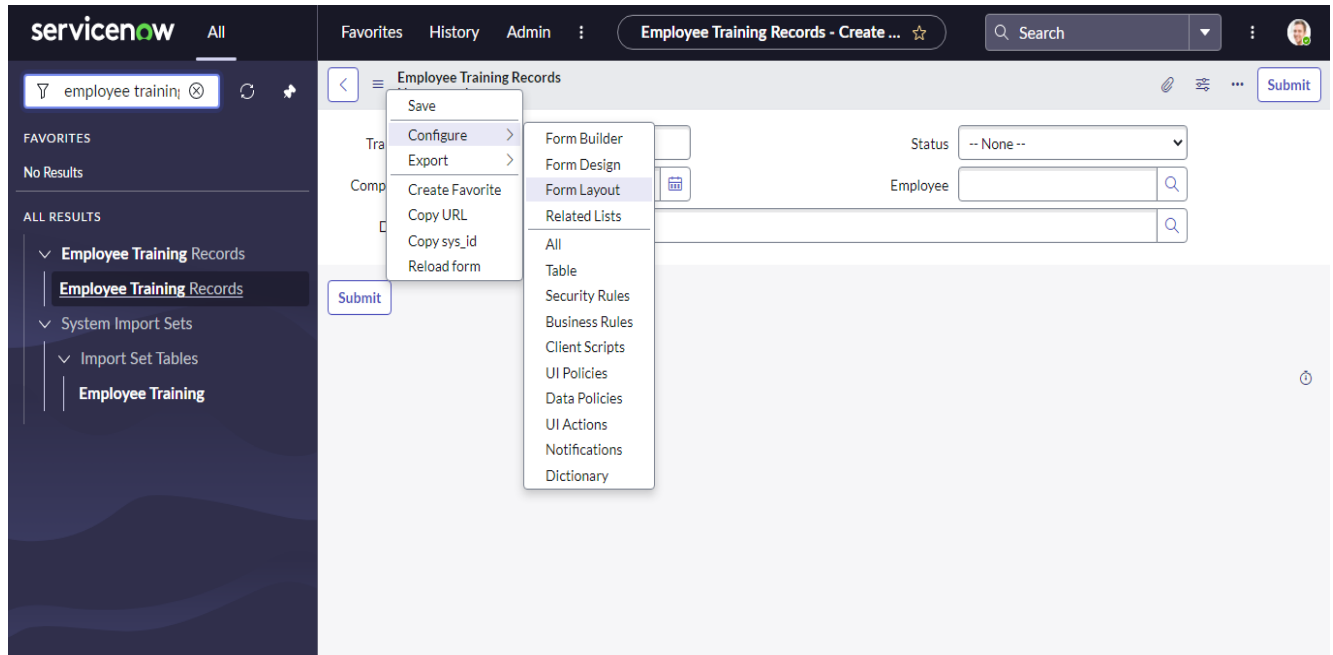
- Click on **Transform**

4. Dot-Walking

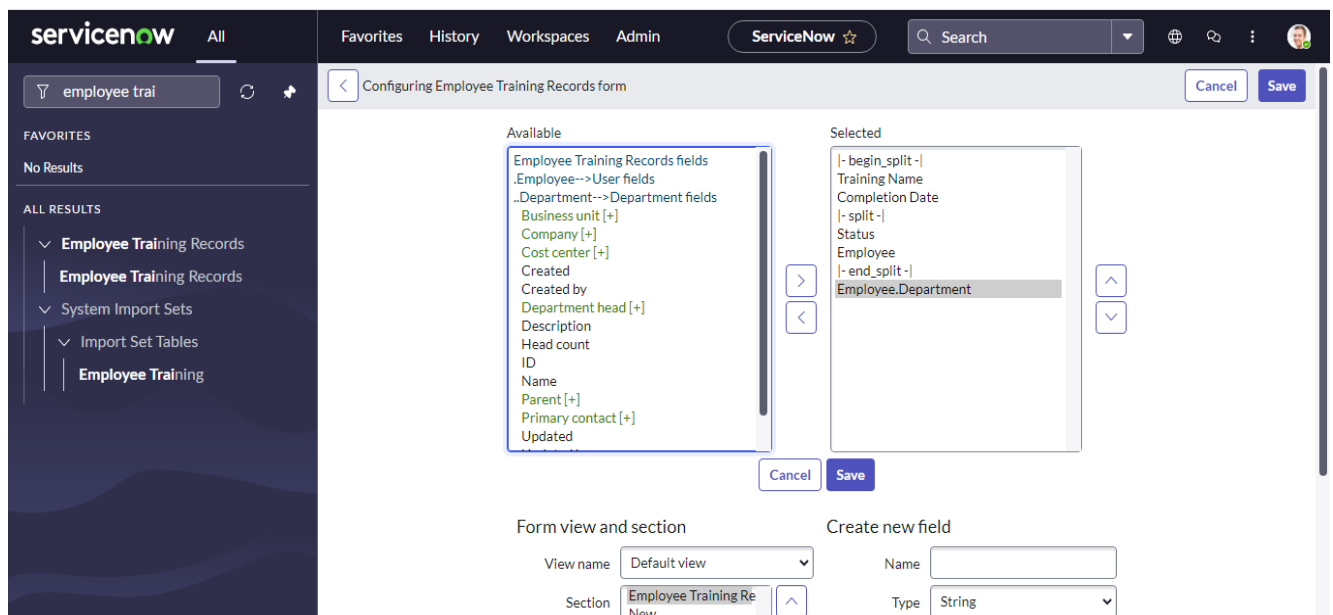
- Using “**Dot Walking**” To Access Employee Department Information.
- Click on **All** >> **Search** the **employee training records** table.
- Click on **New**, the form will open



- Go to the **Form Context Menu>>Configure>>Form Layout**



- Search for customer orders
- Add the “**Employee Department**” field by using dot walking
- Select the field and **Save** changes



- Now you can see the field in the **Form view**.

The screenshot shows the ServiceNow interface for creating a new record in the 'Employee Training Records' table. The left sidebar contains navigation links under 'Self-Service'. The main form area has the following fields:

- Training Name:** A text input field.
- Status:** A dropdown menu currently showing '-- None --'.
- Completion Date:** A date picker field.
- Employee:** A searchable dropdown field.
- Department:** A searchable dropdown field.

A 'Submit' button is located at the bottom left of the form area.

5. Access Control List (ACL)

- To add ACL we have to do **Elevate Role** to the “security_admin”
- Click on **All>>ACL>>Create New ACL**
- Define ACL (Employees)
- **Operation:** Read

The screenshot shows the ServiceNow interface for creating a new Access Control List (ACL). The left sidebar contains navigation links under 'Self-Service'. The main form area has the following configuration:

- Type:** record
- Operation:** read
- Decision Type:** Allow If
- Application:** Global
- Active:** ☒
- Advanced:** ☐
- Admin overrides:** ☒
- Protection policy:** -- None --
- Name:** Employee Training Records [u_employee_trainin...] (selected from a dropdown)
- Description:** Allow read for records in u_employee_trainin_records, for users with role admin.
- Applies To:** No. of records matching the condition: 2
- Buttons:** Add Filter Condition, Add "OR" Clause
- Fields:** -- choose field --, -- oper --, -- value --

A 'Conditions' section is visible at the bottom of the form area.

6. Roles

- Click on **All>>Roles>>** create a **New**
- **Role : HR Manager**

The screenshot shows the ServiceNow interface for configuring a role. The left sidebar has a search bar with 'roles' and a list of categories: System Security, Users and Groups, Roles, User Administration, Time-Limited User Roles, Role Delegation, User Roles, and Group Roles. The main panel is titled 'Role - Hr Manager' and contains the following fields:

- Name:** Hr Manager
- Application:** Global
- Elevated privilege:** ☐
- Description:** (empty text box)

Below the fields are 'Update' and 'Delete' buttons. The 'Related Links' section includes a link to 'Run Point Scan'. The 'Contains Roles' tab is active, showing a table with the following data:

Role = Hr Manager
Contains

- **Add that Role in the sys_user(User) table**

The screenshot shows the ServiceNow interface for configuring a module. The left sidebar has a search bar with 'user' and a list of categories: System Logs, Transactions (All user), System Security, Users and Groups, Reports, Identity and Access Audit, System User Guide, and Administration. The main panel is titled 'Module - Users' and contains the following fields:

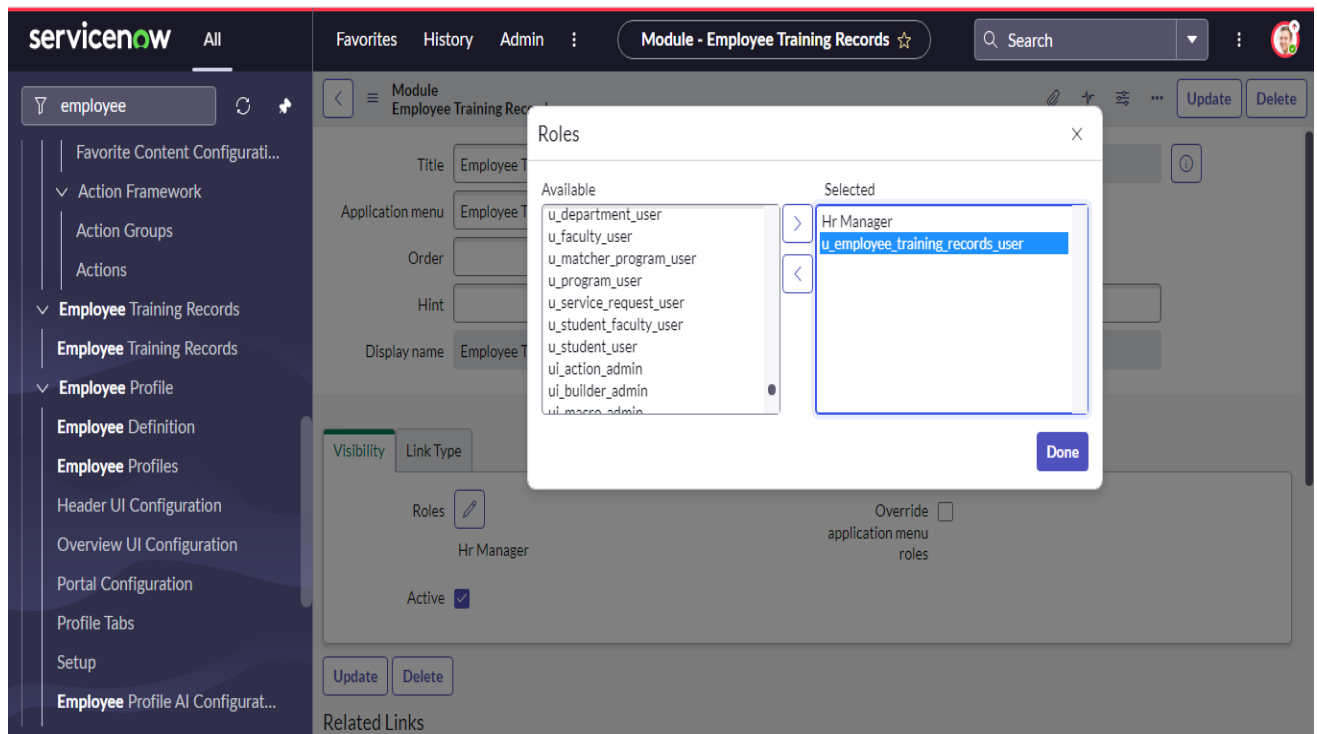
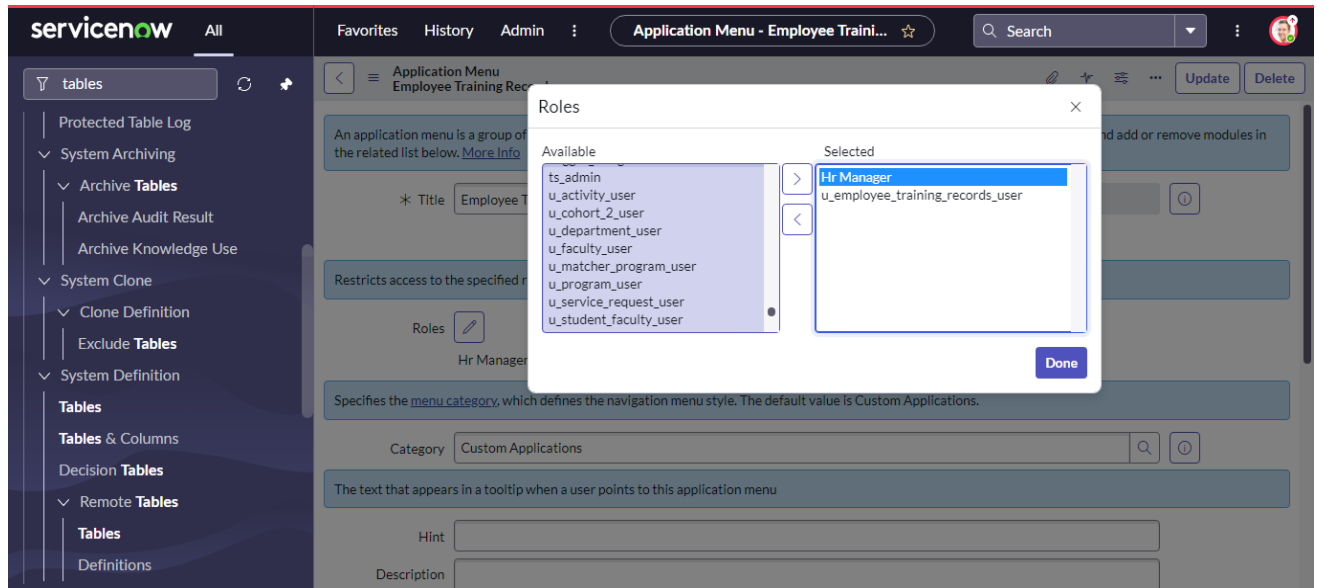
- Title:** Users
- Application:** Global
- Application menu:** System Security
- Order:** 410
- Hint:** (empty text box)
- Display name:** Users

Below the fields are 'Update' and 'Delete' buttons. The 'Visibility' tab is active, showing a table with the following data:

Roles	Link Type
Hr Manager	

The 'Active' checkbox is checked. There is also an 'Override application menu roles' checkbox which is unchecked.

- Add this **Role** to the **Tables Application and Module**



- Add the **HR Manager** Role to the **sys_user**(table)

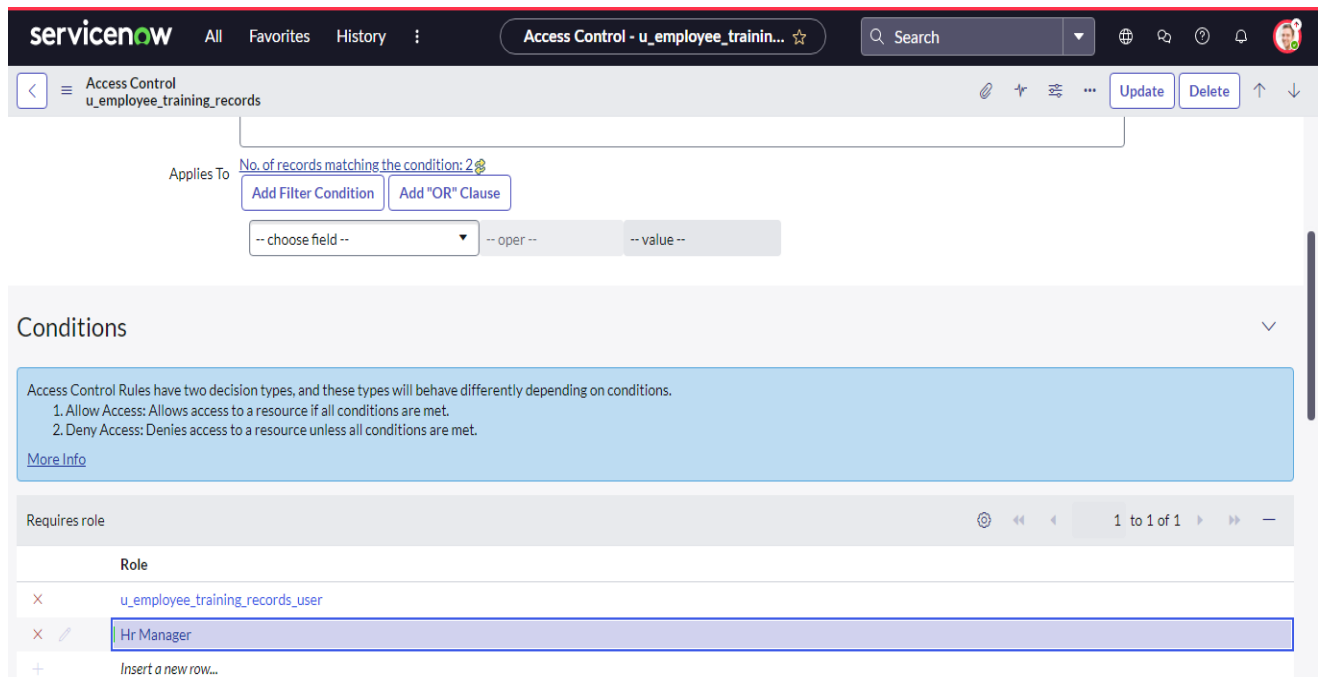
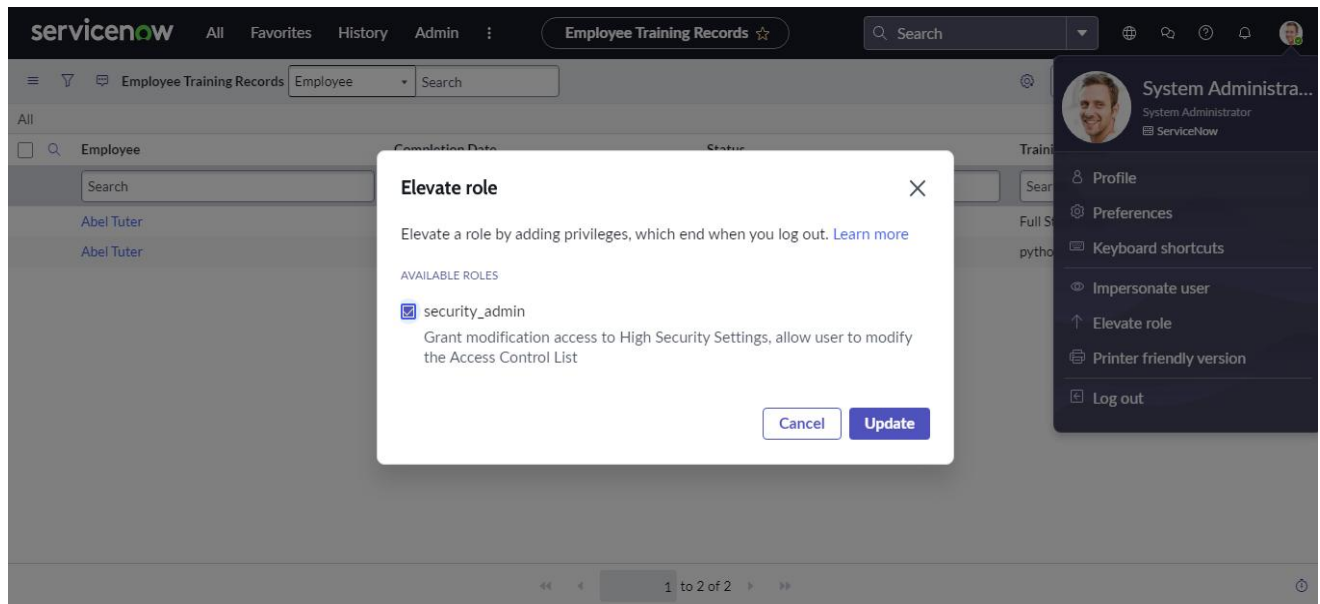
ServiceNow configuration page for the **Users** module. The left sidebar shows the navigation menu with **Users** selected under **System Security**. The main area shows the configuration for the **Users** module, including fields for Title, Application, Application menu, Order, Hint, and Display name. The **Link Type** tab is active, showing the **Roles** field with **Hr Manager** selected and the **Active** checkbox checked. There are **Update** and **Delete** buttons at the bottom.

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

ServiceNow list view for **Employee Training Records**. The left sidebar shows the navigation menu with **Employee Training** selected under **System Import Sets**. The main area shows a table with columns: Employee, Completion Date, Status, and Training Name. The table contains two rows of data for 'Abel Tuter'.

Employee	Completion Date	Status	Training Name
Abel Tuter	2025-06-20	Inprogress	Full Stack Java
Abel Tuter	2025-06-21	Inprogress	python

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



- Give **HR Manager** Role to the **ACL**

The screenshot shows the ServiceNow interface for configuring an Access Control Rule. The breadcrumb trail is "Access Control - u_employee_trainin...". The page title is "Access Control u_employee_training_records".

At the top, there are buttons for "Update" and "Delete". Below the title, there is a section "Applies To" with a link "No. of records matching the condition: 2" and buttons "Add Filter Condition" and "Add 'OR' Clause". Below this is a dropdown menu for "-- choose field --", a dropdown for "-- oper --", and a text input for "-- value --".

The main section is titled "Conditions". It contains a blue box with the following text:

Access Control Rules have two decision types, and these types will behave differently depending on conditions.

1. Allow Access: Allows access to a resource if all conditions are met.
2. Deny Access: Denies access to a resource unless all conditions are met.

Below this box is a link "More Info".

Below the "Conditions" section is a table titled "Requires role". It has a single row with the role "Hr Manager". The table has a "Role" column and a "Requires role" column. The "Hr Manager" role is highlighted in blue.

At the bottom, there is a button "Insert a new row..." and a pagination bar showing "1 to 1 of 1".

- Create Another **New ACL** and Repeat the same Process to the **Write Access**

The screenshot shows the ServiceNow interface for configuring an Access Control Rule. The breadcrumb trail is "Access Control - u_employee_trainin...". The page title is "Access Control u_employee_training_records".

At the top, there are buttons for "Update" and "Delete". Below the title, there is a section "Applies To" with a link "No. of records matching the condition: 2" and buttons "Add Filter Condition" and "Add 'OR' Clause". Below this is a dropdown menu for "-- choose field --", a dropdown for "-- oper --", and a text input for "-- value --".

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At the bottom, there is a button "Insert a new row..." and a pagination bar showing "1 to 1 of 1".

7. Performance & Functional Testing Phase

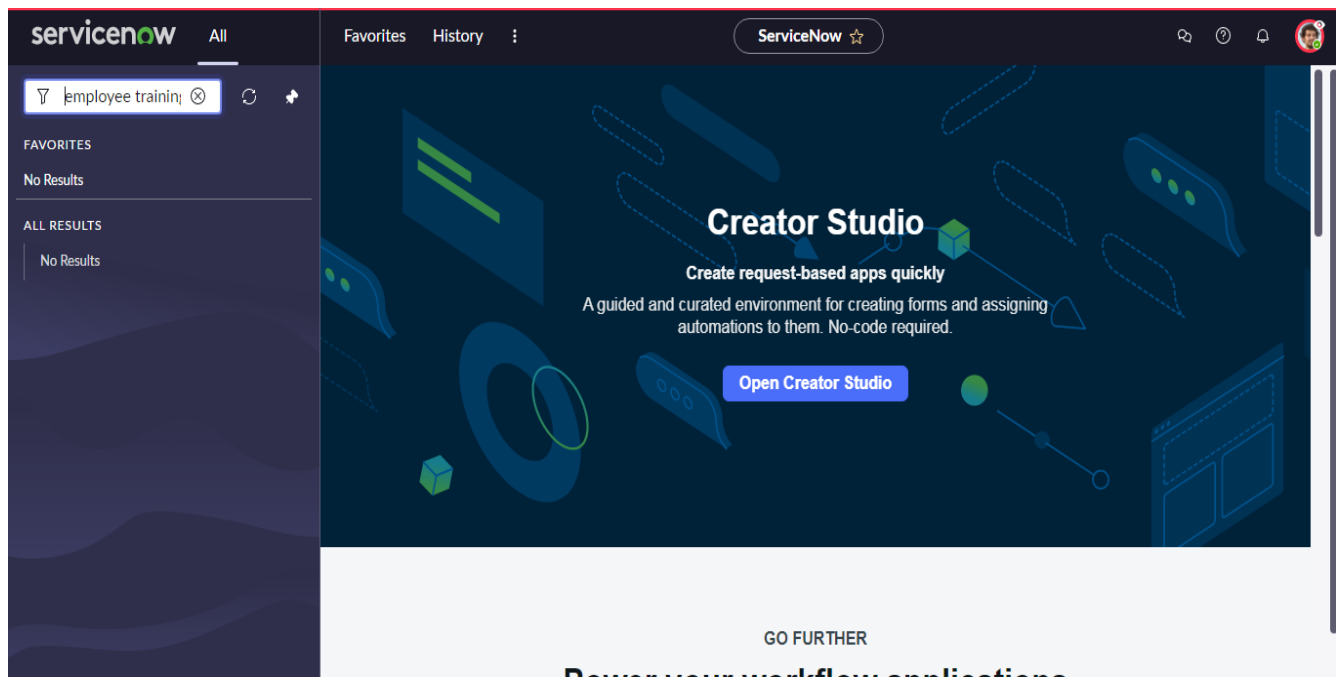
- Impersonate the **sys_user** and Search Employee Training Records
- Now you can see and **edit** the **Fields**

The screenshot shows the ServiceNow interface for the 'Employee Training Records' table. The left sidebar contains a navigation menu with 'employee training' selected. The main area displays a list of records. The table has columns for 'Employee', 'Completion Date', 'Status', and 'Training Name'. Two records are visible, both for 'Abel Tuter' with completion dates in June 2025 and status 'Inprogress'. The first record's training name is 'Full Stack Java' and the second is 'python'. The bottom of the screen shows a status bar with the text 'Waiting for dev220069.service-now.com...' and a pagination indicator '1 to 2 of 2'.

Employee	Completion Date	Status	Training Name
Abel Tuter	2025-06-20	Inprogress	Full Stack Java
Abel Tuter	2025-06-21	Inprogress	python

The screenshot shows the 'Employee Training Records - Create ...' form in ServiceNow. The form includes fields for 'Training Name', 'Status' (a dropdown menu currently showing '-- None --'), 'Completion Date', 'Employee' (with a search icon), and 'Department' (with a search icon). A 'Submit' button is located at the bottom left of the form area. The left sidebar is the same as in the previous screenshot.

- Impersonate the other User you **CANNOT** See the Table



- Successful linking of employee records
- Dot-walking retrieves department info accurately
- ACLs protect sensitive fields
- Role-based access is enforced properly

8. Final Conclusion

The ServiceNow project successfully demonstrates how to **import, link, secure, and display** employee-related data using best practices including **dot-walking** and **ACLs**. This setup ensures secure, efficient, and scalable reporting for real-world enterprise needs.