

Importing & Securing Data in ServiceNow

Project Documentation

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 P

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 <code>Department</code> 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, Role's 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 includes 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**

Label	Name	Extends table	Extensible	Updated
Adaptive Authentication Event	adaptive_auth_event	(empty)	false	2025-01-07 23:48:11
Agent Assist Recommendation	agent_assist_recommendation	Application File	false	2025-01-07 23:50:42
MID Server File	agent_file	(empty)	false	2025-01-07 23:25:29
Record Producer Configuration	ais_rp_config	Application File	false	2025-01-07 23:57:04
Search Actions	ais_ui_action	Application File	false	2025-01-07 23:57:03
AI Search ACL Overrides	ais_acl_overrides	Application File	false	2025-01-07 22:58:42
AI Search Active Table Ingestion Tracker	ais_active_table_ingestion_tracker	(empty)	false	2025-01-07 22:58:39
AI Search Async Genius Result	ais_async_genius_result	(empty)	false	2025-01-07 22:58:45
AI Search Async Request	ais_async_request	(empty)	false	2025-01-07 22:58:46
AI Search Child Table	ais_child_table	Application File	false	2025-01-07 22:58:43
AI Search Configuration Attribute	ais_configuration_attribute	(empty)	false	2025-01-07 22:58:39

- Fill the following details to create a new Table

A table is a collection of records in the database. Each record corresponds to a row in a table, and each field on a record corresponds to a column on that table. Applications use tables and records to manage data and processes. [More Info](#)

* Label: employee training records
 * Name: u_employee_training_records
 Extends table:
 Application: Global
 Create module: ☒
 Create mobile module: ☒
 Add module to menu: -- Create new --
 New menu name: employee training records

Column label	Type	Reference	Max length	Default value	Display
Insert a new row...					

- 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

Related Links

Show Table Run Point Scan Advanced view

Access Controls Choices (2) Attributes Labels (1)

Label Search Actions on selected rows... New

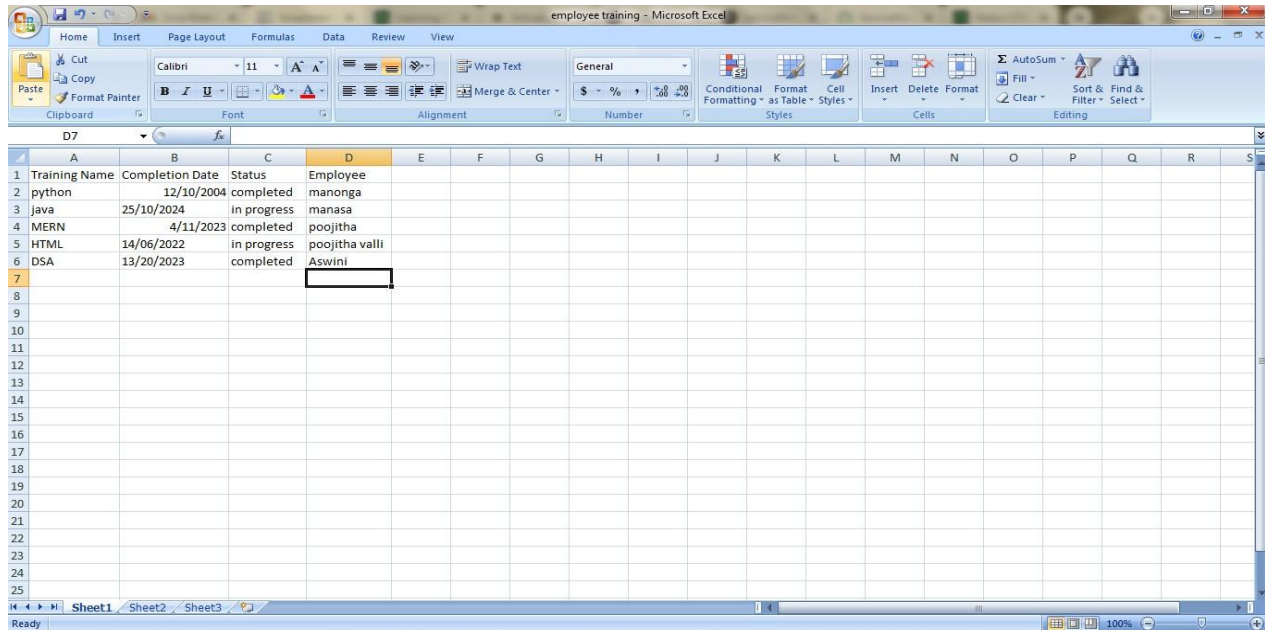
Choices

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 spreadsheet titled "employee training - Microsoft Excel". The spreadsheet 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																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24																			
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

service-now All

Load Data

system i

FAVORITES

No Results

ALL RESULTS

System Import Sets

- Load Data
- Create Transform Map
- Run Transform

Administration

- Data Sources
- Robust Import Set Transfor...
- ETL Definitions
- Transform Maps
- Scheduled Imports
- Execution Contexts

Advanced

Import set table

Create table

Existing table

* Label employee training

Name u_employee_training

Source of the import

File

Choose File employee...ning.xlsx

Sheet number 1

Header row 1

Submit

- Click on **Submit**.

service-now All

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

Table Transform Map - New Record

Name

Source table

Application

Created

Active ☒

Run business rules ☒

Target table

Order

Enforce mandatory fields

Copy empty fields ☐

Create new record on empty coalesce fields ☐

Run script ☐

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

Related Links

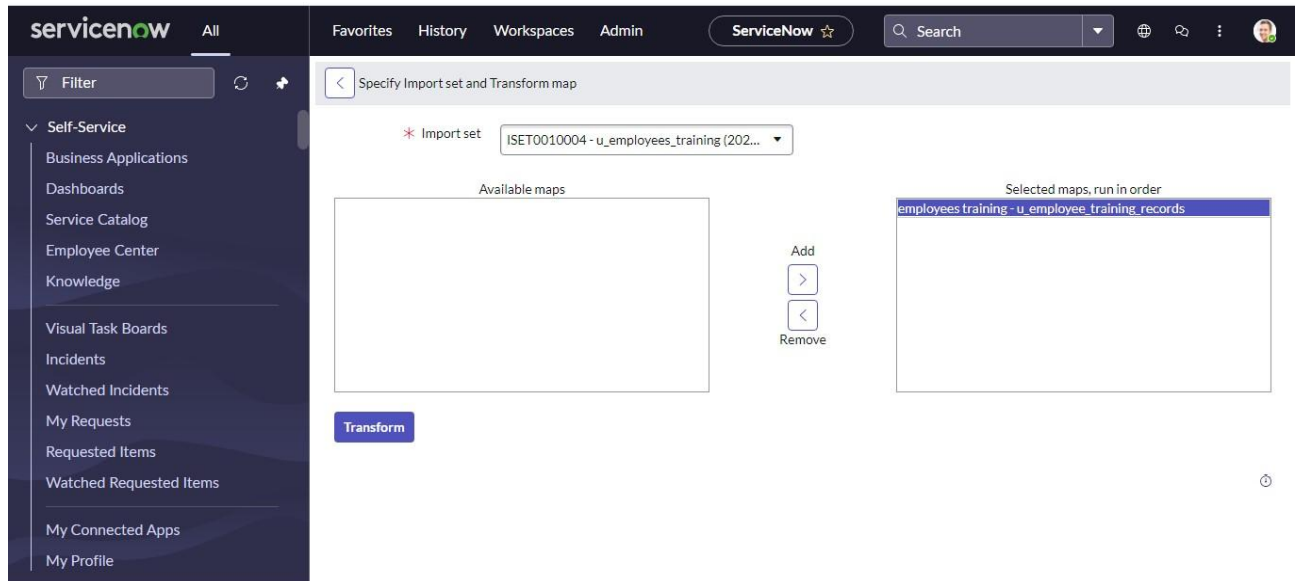
- [Auto Map Matching Fields](#)
- [Mapping Assist](#)
- [Validate Coalesce Fields](#)
- [Transform](#)
- [Index Coalesce Fields](#)
- [Run Point Scan](#)

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

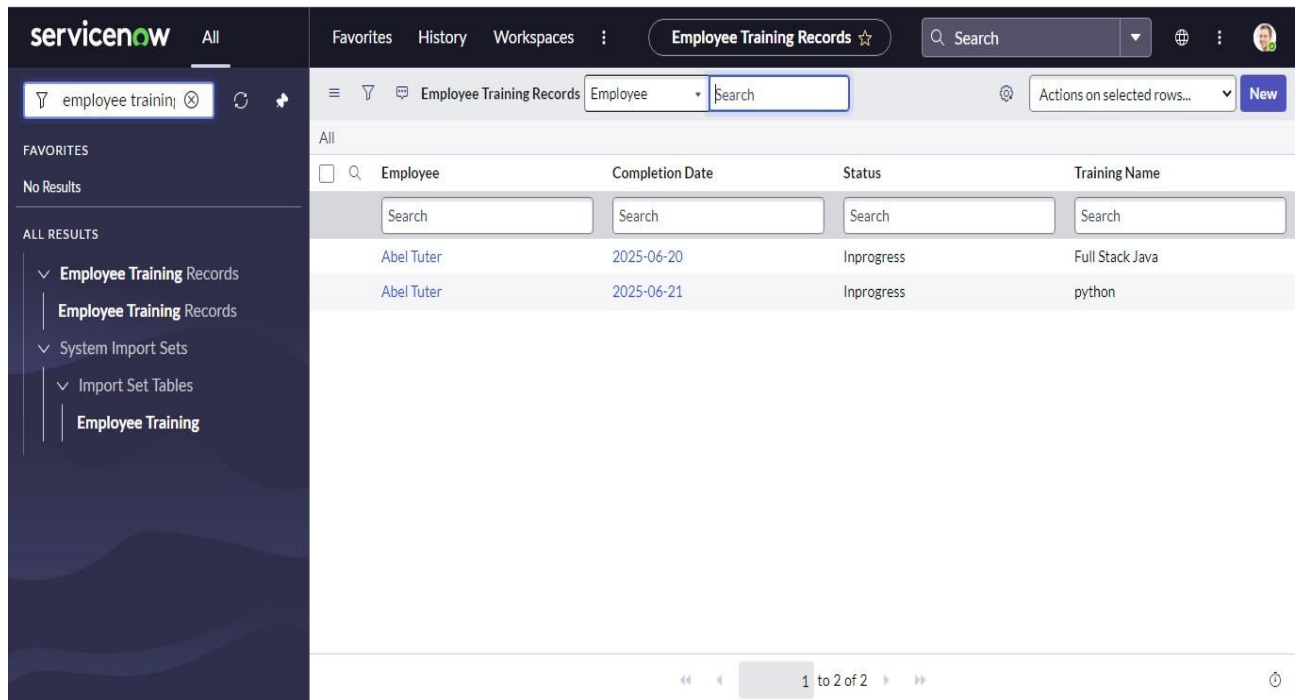
- Click On **Submit**
- Click on **Run Transform**



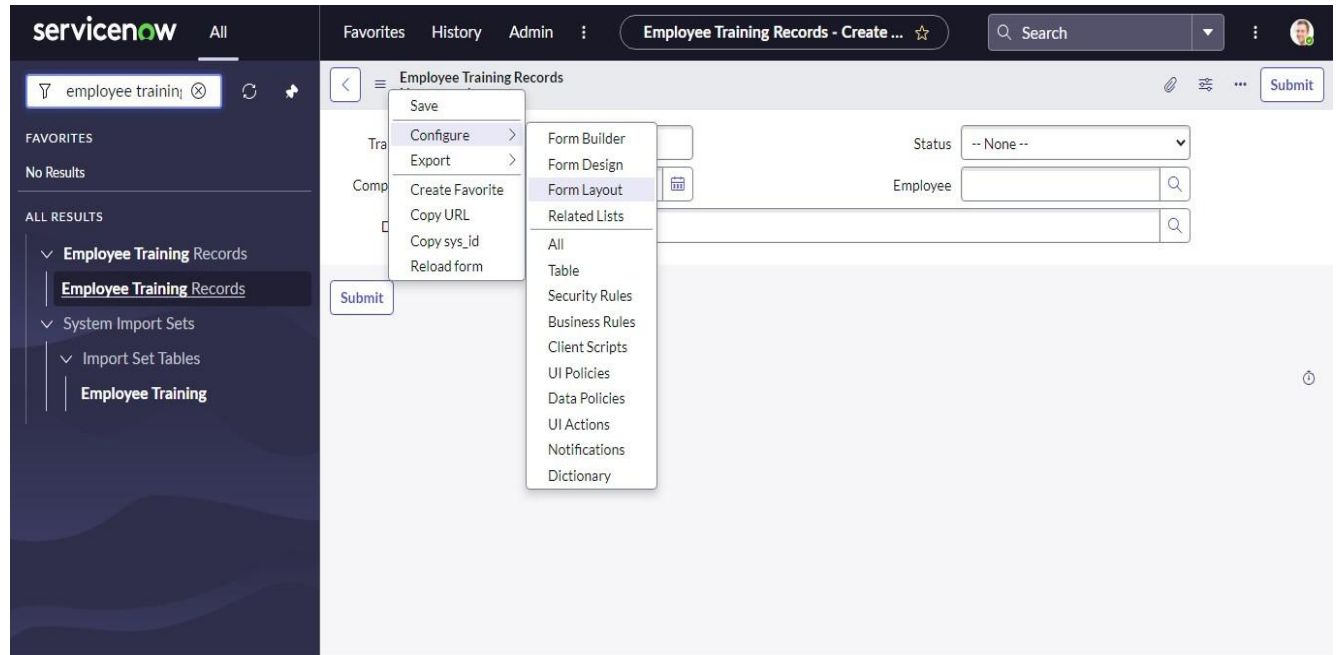
- Click on **Transform**

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

ServiceNow interface showing the configuration of Employee Training Records form. The 'Available' list on the left includes fields like 'Employee Training Records fields', 'Employee-->User fields', 'Department-->Department fields', 'Business unit [+]', 'Company [+]', 'Cost center [+]', 'Created by', 'Department head [+]', 'Description', 'Head count', 'ID', 'Name', 'Parent [+]', 'Primary contact [+]', and 'Updated'. The 'Selected' list on the right includes '|- begin_split -|', 'Training Name', 'Completion Date', '|- split -|', 'Status', 'Employee', '|- end_split -|', and 'Employee.Department'. The 'Form view and section' section shows 'View name' as 'Default view' and 'Section' as 'Employee Training Re New...'. The 'Create new field' section shows 'Name' and 'Type' as 'String'.

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

ServiceNow interface showing the 'Employee Training Records - Create ...' form. The form includes fields for 'Training Name', 'Completion Date', 'Department', 'Status' (set to '-- None --'), and 'Employee'. A 'Submit' button is visible at the bottom left.

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**

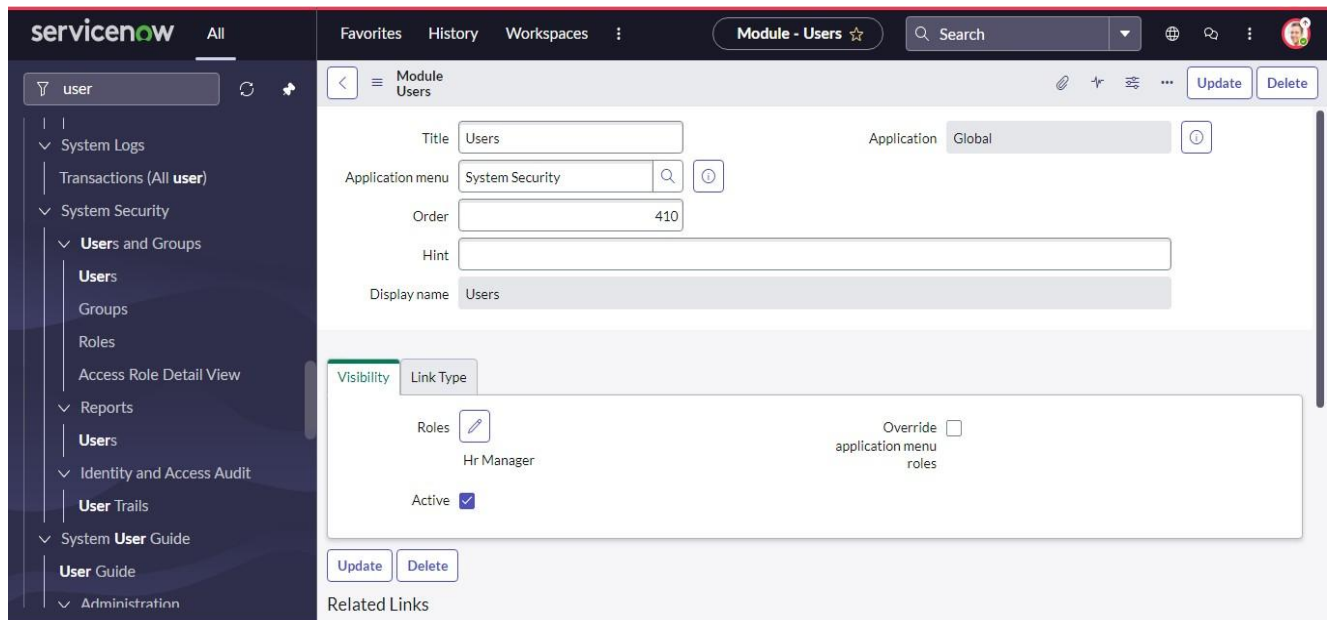
The screenshot shows the ServiceNow interface for configuring an Access Control rule. The left sidebar contains navigation links for Self-Service, Business Applications, Dashboards, Service Catalog, Employee Center, Knowledge, Visual Task Boards, Incidents, Watched Incidents, My Requests, Requested Items, Watched Requested Items, My Connected Apps, and My Profile. The main content area is titled 'Access Control - u_employee_training_records'. It includes fields for Type (record), Operation (read), Decision Type (Allow If), Application (Global), Active (checked), Admin overrides (checked), and Protection policy (None). The Name field is set to 'Employee Training Records [u_employee_training_r...]' and the Description is 'Allow read for records in u_employee_training_records, for users with role admin.' The Applies To section shows 'No. of records matching the condition: 2' and buttons for 'Add Filter Condition' and 'Add "OR" Clause'.

6. Roles

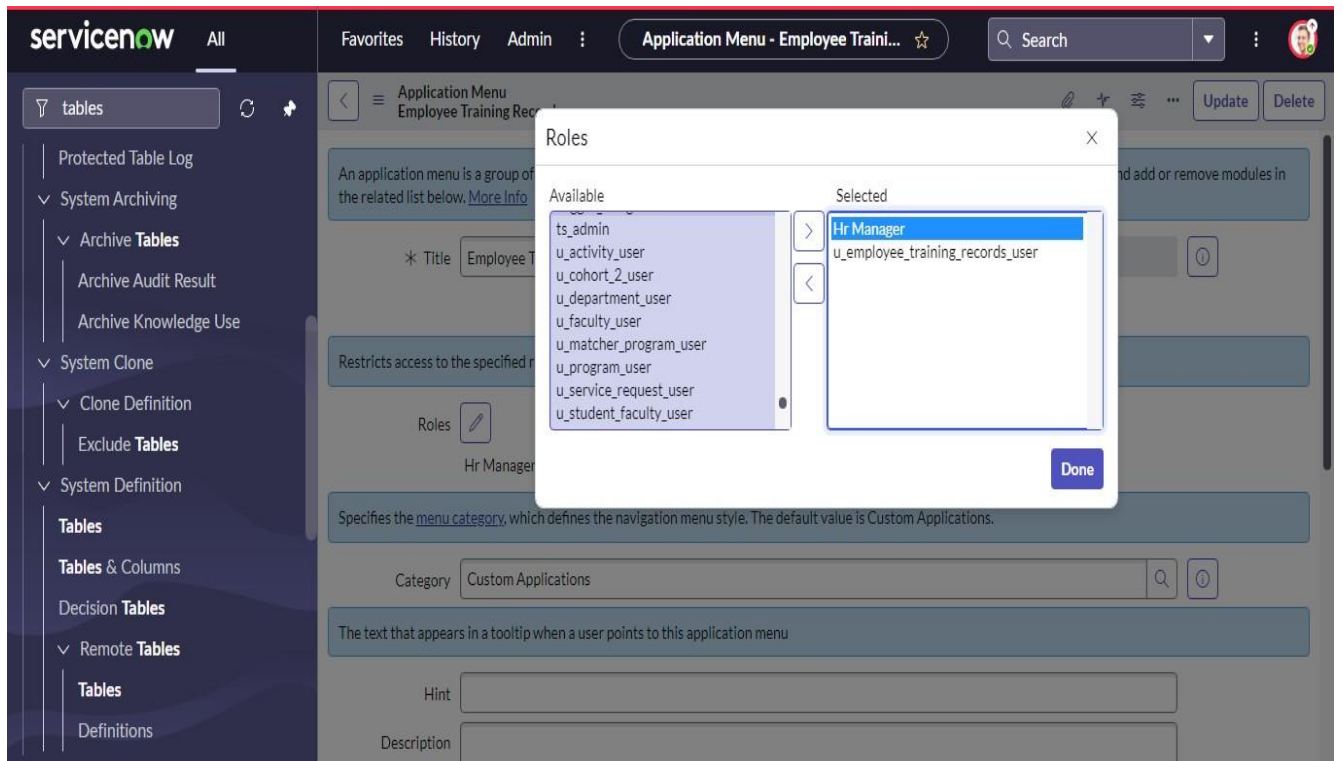
- Click on **All>>Roles>>** create a **New**
- **Role : HR Manager**

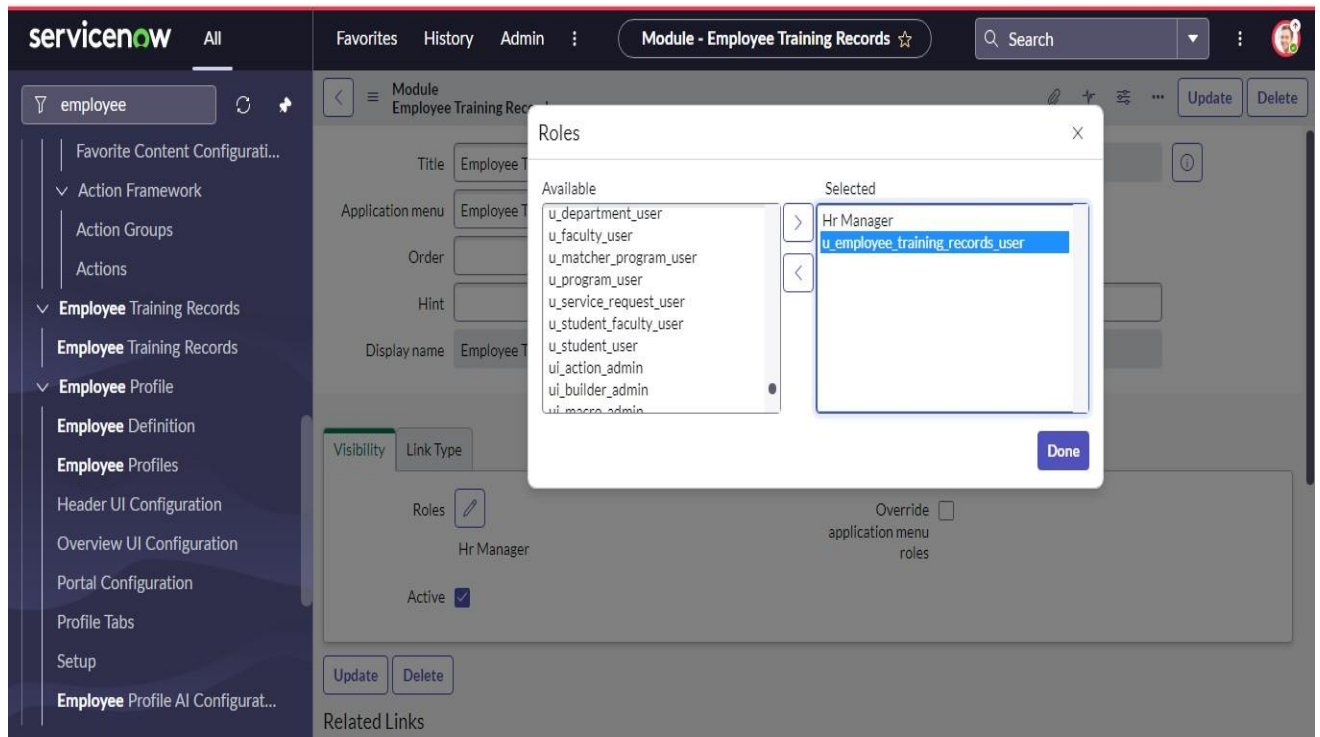
The screenshot shows the ServiceNow interface for configuring a Role. The left sidebar contains navigation links for System Security, Users and Groups, Roles, User Administration, Time-Limited User Roles, Role Delegation, Delegate Roles in Group, User Roles, and Group Roles. The main content area is titled 'Role - Hr Manager'. It includes fields for Name (Hr Manager), Application (Global), and Elevated privilege (unchecked). The Description field is empty. Below the Description field are buttons for 'Update' and 'Delete'. The Related Links section includes a link to 'Run Point Scan'. The Contains Roles section shows a table with columns for 'Contains Roles', 'Applications with Role (1)', 'Modules with Role (2)', and 'Custom Tables'. The table is currently empty, and there are buttons for 'New' and 'Edit...'.

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



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





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

servicenow All Favorites History Workspaces **Module - Users** Search

user

- System Logs
- Transactions (All user)
- System Security
 - Users and Groups**
 - Users**
 - Groups
 - Roles
 - Access Role Detail View
 - Reports
 - Identity and Access Audit
 - User Trails
- System User Guide
 - User Guide
 - Administration

Module Users

Title: Users Application: Global

Application menu: System Security

Order: 410

Hint:

Display name: Users

Visibility Link Type

Roles: Hr Manager

Active: ☒

Override application menu roles: ☐

Update Delete

Related Links

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

servicenow All Favorites History Workspaces **Employee Training Records** Search

employee training

FAVORITES

No Results

ALL RESULTS

- Employee Training** Records
- Employee Training Records
- System Import Sets
 - Import Set Tables
 - Employee Training**

Employee Training Records Employee Search

Actions on selected rows... New

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

1 to 2 of 2

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

servicenow All Favorites History Admin : Employee Training Records ☆ Search

Employee Training Records Employee Search

Abel Tutor

Abel Tutor

Elevate role

Elevate a role by adding privileges, which end when you log out. [Learn more](#)

AVAILABLE ROLES

- ☒ security_admin
Grant modification access to High Security Settings, allow user to modify the Access Control List

Cancel Update

System Administrator
System Administrator
ServiceNow

- Profile
- Preferences
- Keyboard shortcuts
- Impersonate user
- Elevate role
- Printer friendly version
- Log out

1 to 2 of 2

servicenow All Favorites History : Access Control - u_employee_trainin... ☆ Search

Access Control u_employee_training_records Update Delete

Applies To No. of records matching the condition: 2

Add Filter Condition Add "OR" Clause

-- choose field -- -- oper -- -- value --

Conditions

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.

[More Info](#)

Requires role 1 to 1 of 1

	Role
X	u_employee_training_records_user
X	Hr Manager
+	Insert a new row...

- 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".

Applies To: No. of records matching the condition: 2. Buttons: "Add Filter Condition", "Add 'OR' Clause". Fields: "-- choose field --", "-- oper --", "-- value --".

Conditions: 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.
[More Info](#)

Requires role: 1 to 1 of 1. Table with columns: Role. Rows: u_employee_training_records_user, Hr Manager (highlighted), Insert a new row...

- 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".

*** Type:** record. **Application:** Global. *** Operation:** write. **Active:** ☒. **Decision Type:** Allow If. **Advanced:** ☐.

Admin overrides: ☒. **Protection policy:** -- None --.

*** Name:** Employee Training Records [u_employee_training_records]. **Description:** Default access control on u_employee_training_records.

Applies To: No. of records matching the condition: 2. Buttons: "Add Filter Condition", "Add 'OR' Clause". Fields: "-- choose field --", "-- oper --", "-- value --".

Conditions:

7. Performance & Functional Testing Phase

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

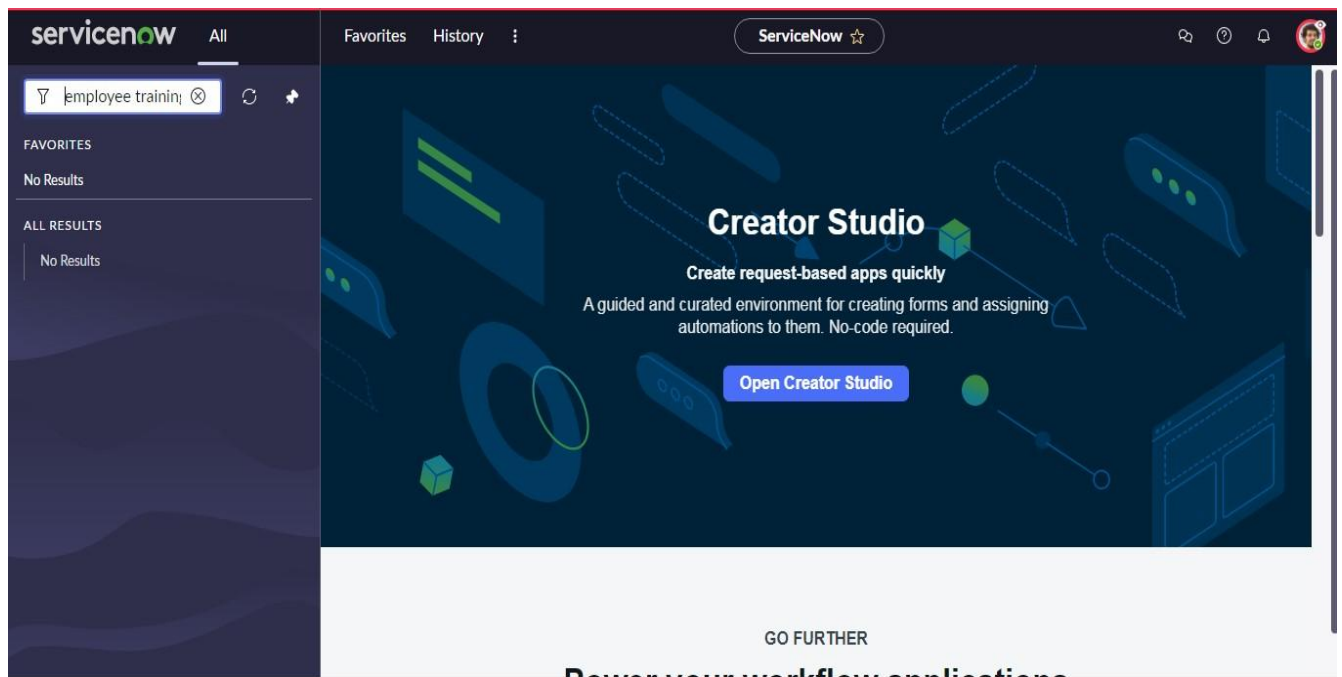
The screenshot shows the ServiceNow interface for the 'Employee Training Records' table. The left sidebar contains a navigation menu with 'employee training' selected. The main area displays a list of records with columns: Employee, Completion Date, Status, and Training Name. Two records are visible, both 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

At the bottom, a status bar indicates '1 to 2 of 2' records.

The screenshot shows the 'Employee Training Records - Create New record' form. The form includes fields for Training Name, Status (set to '-- None --'), Completion Date, Employee, and Department. A 'Submit' button is located at the bottom left of the form area.

- **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.