

Importing & Securing Data in ServiceNow

Project Documentation Format

1. Introduction

- **Project Name :** Importing & Securing Data in ServiceNow
- **Team ID :** LTVIP2026TMIDS65579
- **Team Leader :** Gadiga Urukundu
- **Team Members :** Modagala Jayasri , Koratam Nikitha , Kudeti Navya

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**

The screenshot shows the ServiceNow interface with the 'Tables' module selected in the sidebar. The main area displays a list of tables, with one row highlighted. The columns in the table are: Label, Name, Extends table, Extensible, and Updated. The table contains 10 rows of data.

Label	Name	Extends table	Extensible	Updated
Search	Search	Search	Search	Search
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	alsa_rp_config	Application File	false	2025-01-07 23:57:04
Search Actions	alsa_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

The screenshot shows the 'Table - New Record' form. The top section has fields for 'Label' (employee training records), 'Name' (u_employee_training_records), and 'Extends table' (left empty). The right side shows application settings: Global (selected), Create module (checked), Create mobile module (checked), Add module to menu (set to '-- Create new --'), and New menu name (employee training records).

The bottom section shows the 'Table Columns' configuration with tabs for 'Columns', 'Controls', and 'Application Access'. The 'Columns' tab lists 'Type' and 'Search' fields. The 'Dictionary Entries' table has columns: Column label, Type, Reference, Max length, Default value, and Display. A note says '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)

The screenshot shows the 'Table - Employee Training Records' configuration page in ServiceNow. The top navigation bar includes 'All', 'Favorites', 'History', 'Admin', and a search bar. Below the header, there's a toolbar with 'Delete', 'Update', and 'Delete All Records' buttons. The main area displays a table of columns:

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

At the bottom, there are buttons for 'Show all' and a close icon.

- 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(choicess)**

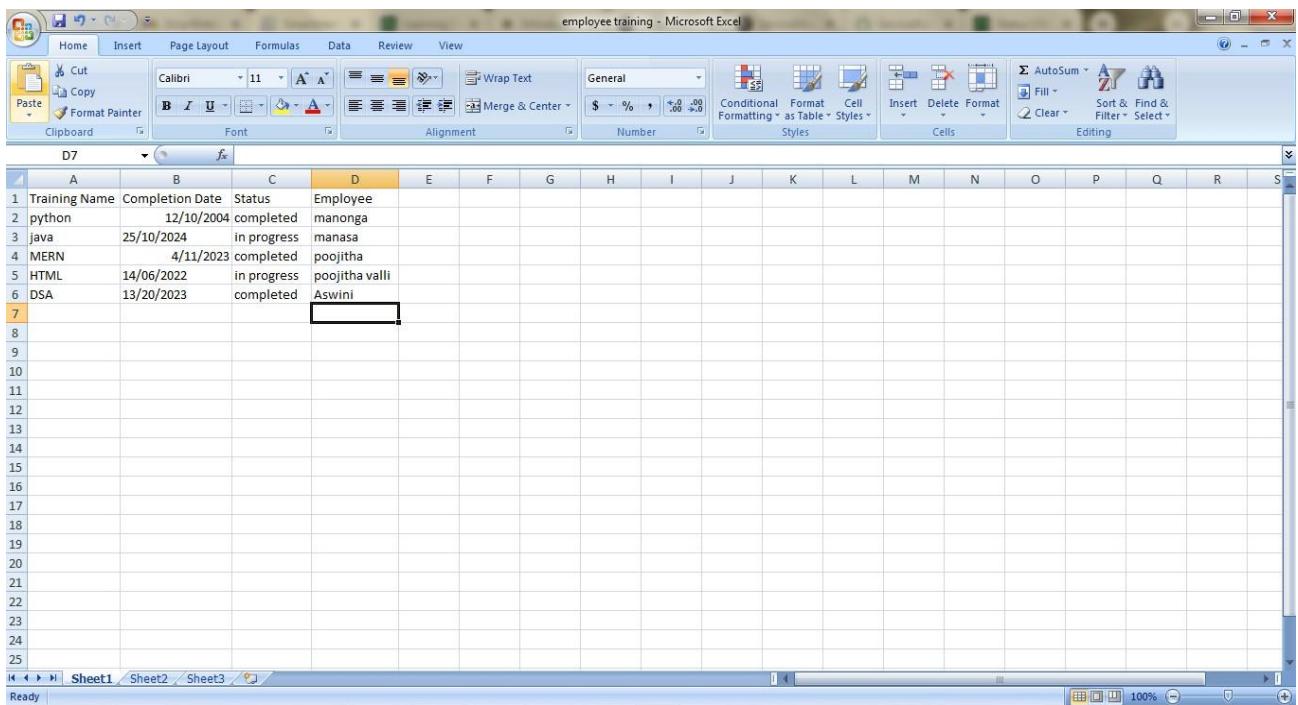
The screenshot shows the 'Dictionary Entry - Status' configuration page in ServiceNow. The top navigation bar includes 'All', 'Favorites', 'History', 'Admin', and a search bar. Below the header, there's a toolbar with 'Create Choice List', 'Delete Column', and 'Update' buttons. The main area displays a table of 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...					

At the bottom, there are buttons for 'Actions on selected rows...' and a close icon.

2. Create Data

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



	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															
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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/nav/ui/classic/params/target/create_import_set.do

The screenshot shows the ServiceNow interface for creating a new import set. The left sidebar has a search bar for 'system i' and a 'System Import Sets' section with various options like Load Data, Create Transform Map, Run Transform, etc. The main area is titled 'Load Data' and contains fields for 'Import set table' (radio buttons for 'Create table' or 'Existing table', selected 'Create table'), 'Label' (text input 'employee training'), 'Name' (text input 'u_employee_training'), 'Source of the import' (radio buttons for 'File' or 'Data source', selected 'File'), 'File' (button 'Choose File' with path 'employee...ning.xlsx'), 'Sheet number' (text input '1'), and 'Header row' (text input '1'). A 'Submit' button is at the bottom.

- Click on **Submit**.

The screenshot shows the ServiceNow progress screen after the import was submitted. It displays a green progress bar with the following details: 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). Below the progress bar, there's a 'Next steps...' section with links: Import sets, Loaded data, Create transform map, and Import log.

- Click on **Create Transform Map**

Table Transform Map - New Record

Name	<input type="text"/>	Application	Global
* Source table	employees training [u_employee...]	Created	
Active	<input checked="" type="checkbox"/>	* Target table	-- None --
Run business rules	<input checked="" type="checkbox"/>	Order	100
Enforce mandatory fields	No	Run script	<input type="checkbox"/>
Copy empty fields	<input type="checkbox"/>	Create new record on empty coalesce fields	
<input type="button" value="Submit"/> Related Links Auto Map Matching Fields Mapping Assist			

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

Field Maps (4)			
	Source field	Target field	Coalesce
<input type="checkbox"/>	u_training_name	u_training_name	false
<input type="checkbox"/>	u_status	u_status	false
<input type="checkbox"/>	u_employee	u_employee	false
<input type="checkbox"/>	u_completion_date	u_completion_date	false

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

The screenshot shows the ServiceNow Import Set configuration interface. On the left, a sidebar lists various self-service categories like Business Applications, Dashboards, and Service Catalog. The main area is titled "Specify Import set and Transform map". It shows an "Import set" dropdown set to "ISET0010004 - u_employees_training (202...)" and an "Available maps" section which is currently empty. To the right, a "Selected maps, run in order" section contains a single item: "employees training - u_employee_training_records". Below these sections is a "Transform" button.

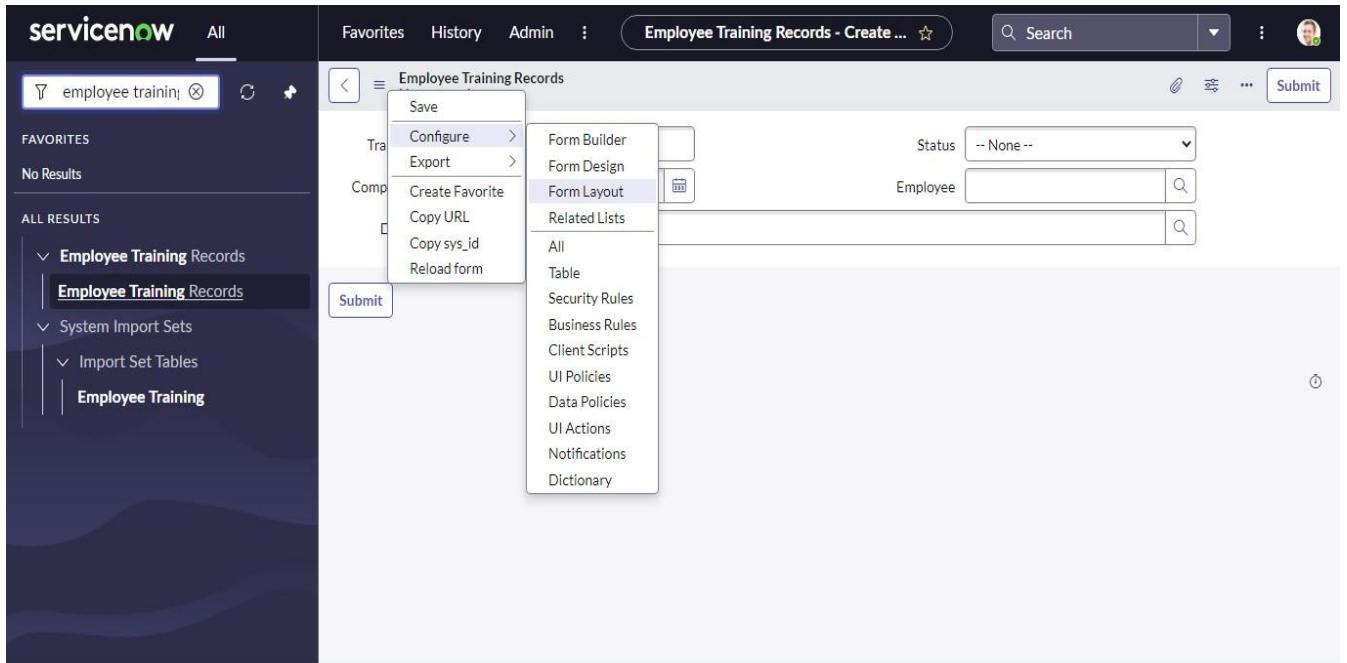
- Click on **Transform**

4. Dot-Walking

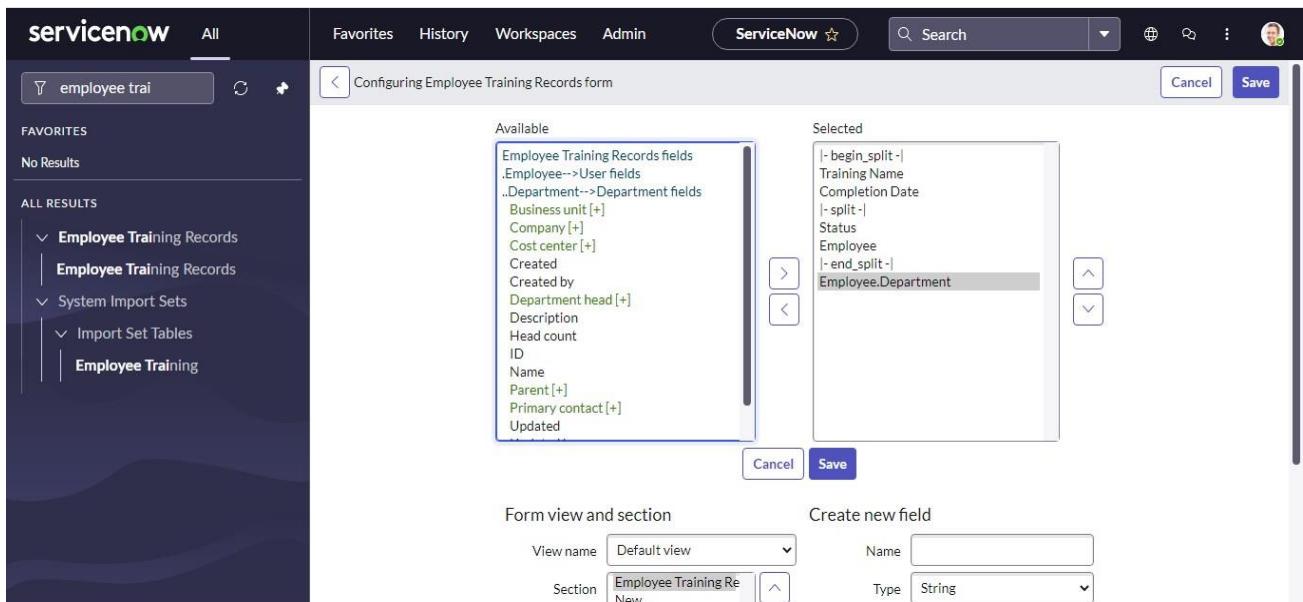
- Using “**Dot Walking**” To Access Employee Department Information.
- Click on **All** >> **Search the employee training records table**.
- Click on **New**, the form will open

The screenshot shows the ServiceNow Employee Training Records search results page. The left sidebar has a search bar for "employee training" and a tree view under "ALL RESULTS" showing categories like "Employee Training Records" and "System Import Sets". The main area displays a table for "Employee Training Records" with columns: Employee, Completion Date, Status, and Training Name. Two rows are listed: one for Abel Tuter with completion dates 2025-06-20 and 2025-06-21, both marked as "Inprogress", and another row for "Full Stack Java" and "python". Navigation controls at the bottom show "1 to 2 of 2".

- 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 Employee Training Record. The main area displays a form with the following fields:

- Training Name:** A text input field.
- Status:** A dropdown menu showing "-- None --".
- Completion Date:** A date input field with a calendar icon.
- Employee:** A dropdown menu with a search icon.
- Department:** A dropdown menu with a search icon.

Below the form is a "Submit" button. On the left side of the screen is a sidebar containing a navigation tree with various service catalog items like Self-Service, Business Applications, Dashboards, etc.

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 managing access control rules. The current view is for the ACL rule named "Access Control - u_employee_training_records". The configuration includes:

- Type:** record
- Operation:** read (selected from a dropdown)
- Decision Type:** Allow If
- Active:** checked
- Admin overrides:** checked
- Protection policy:** Employee Training Records [u_employee_training_r...]
- Description:** Allow read for records in u_employee_training_records, for users with role admin.

Below this, under "Applies To", it says "No. of records matching the condition: 2" with options to "Add Filter Condition" or "Add 'OR' Clause". There are also dropdowns for "choose field", "oper", and "value".

6. Roles

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

The screenshot shows the ServiceNow interface for creating a new role. The left sidebar has a search bar with 'roles' and a tree view under 'ALL RESULTS' with 'Roles' selected. The main panel shows a form for 'Role - Hr Manager'. The 'Name' field is set to 'Hr Manager', 'Application' is 'Global', and 'Elevated privilege' is unchecked. A large text area for 'Description' is empty. Below the form are 'Update' and 'Delete' buttons. A 'Related Links' section includes a 'Run Point Scan' button and tabs for 'Contains Roles', 'Applications with Role (1)', 'Modules with Role (2)', and 'Custom Tables'. A search bar and 'New'/'Edit...' buttons are at the bottom of this section.

- Add that Role in the sys_user(User) table

The screenshot shows the ServiceNow interface for managing users. The left sidebar has a search bar with 'user' and a tree view under 'ALL RESULTS' with 'Users' selected. The main panel shows a form for 'Module - Users'. The 'Title' is 'Users', 'Application menu' is 'System Security', 'Order' is 410, and 'Display name' is 'Users'. In the 'Visibility' tab, the 'Roles' field contains 'Hr Manager' and has a checked 'Active' checkbox. An 'Override application menu roles' checkbox is unchecked. Below the form are 'Update' and 'Delete' buttons. A 'Related Links' section is at the bottom.

- Add this Role to the Tables Application and Module

The screenshot shows the ServiceNow interface for editing an application menu. The left sidebar is titled 'tables' and lists various system categories. The main area is titled 'Application Menu - Employee Traini...' and contains fields for 'Title' (Employee Training Records), 'Category' (Custom Applications), and 'Hint' and 'Description' fields. A 'Roles' configuration dialog is open over the main form. The 'Available' list contains roles like 'ts_admin', 'u_activity_user', etc. The 'Selected' list contains 'Hr Manager' and 'u_employee_training_records_user'. A 'Done' button is visible at the bottom right of the dialog.

The screenshot shows the ServiceNow interface for editing a module. The left sidebar is titled 'employee' and lists various employee-related configurations. The main area is titled 'Module - Employee Training Records' and contains fields for 'Title' (Employee Training Records), 'Order', 'Hint', 'Display name', and tabs for 'Visibility' and 'Link Type'. A 'Roles' configuration dialog is open over the main form. The 'Available' list contains roles like 'u_department_user', 'u_faculty_user', etc. The 'Selected' list contains 'Hr Manager' and 'u_employee_training_records_user'. A 'Done' button is visible at the bottom right of the dialog. There is also an 'Override application menu roles' checkbox at the bottom of the main module configuration area.

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

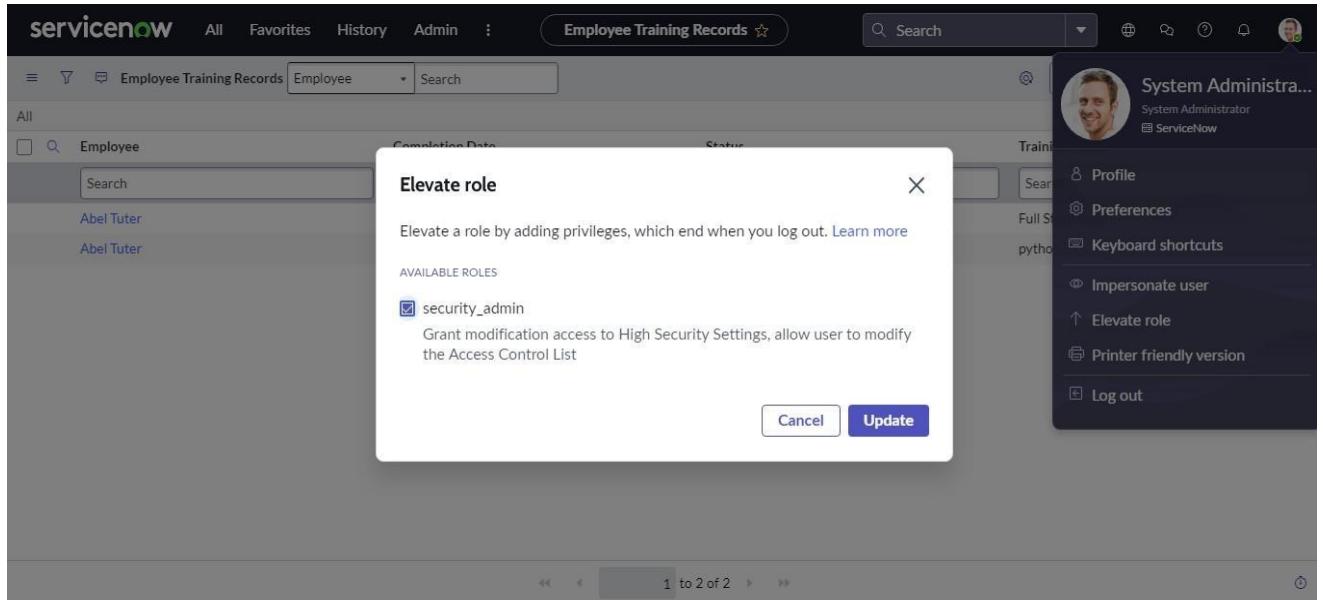
The screenshot shows the ServiceNow interface for managing users. On the left, the navigation bar has a search bar with 'user' typed in. The main panel is titled 'Module - Users' and shows a form for creating a new user. The 'Title' field is set to 'Users', 'Application' is 'Global', and 'Order' is 410. Under the 'Roles' section, 'Hr Manager' is selected. The 'Active' checkbox is checked. At the bottom right of the form are 'Update' and 'Delete' buttons.

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

The screenshot shows the 'Employee Training Records' list view. The left sidebar has a search bar with 'employee trainin' and a 'FAVORITES' section showing 'No Results'. The main area displays a table with two rows of training records. The columns are 'Employee', 'Completion Date', 'Status', and 'Training Name'. The first row shows Abel Tuter with completion dates of 2025-06-20 and 2025-06-21, both in 'Inprogress' status under 'Full Stack Java'. The second row shows Abel Tuter with completion date 2025-06-21, in 'Inprogress' status under 'python'.

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



The screenshot shows the ServiceNow interface with the 'Access Control - u_employee_training_records' configuration page. The 'Conditions' section is expanded, explaining that Access Control Rules have two decision types: Allow Access (which allows access if all conditions are met) and Deny Access (which denies access unless all conditions are met). Below this, the 'Requires role' section is shown, listing the 'u_employee_training_records_user' role and the 'Hr Manager' role, with the 'Hr Manager' role currently selected.

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

The screenshot shows the ServiceNow Access Control interface for the record type **u_employee_training_records**. In the 'Conditions' section, it states: "Access Control Rules have two decision types, and these types will behave differently depending on conditions." It lists two types: 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, there is a table titled "Requires role" with one row selected: **Hr Manager**.

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

The screenshot shows the ServiceNow Access Control interface for the record type **u_employee_training_records**. The configuration includes the following fields:

- * Type:** record
- * Operation:** write
- Decision Type:** Allow If
- Active:** checked
- Advanced:** unchecked
- Admin overrides:** checked
- 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 (with options to Add Filter Condition or Add "OR" Clause)

7. Performance's Functional Testing Phase

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

This screenshot shows the ServiceNow interface for the Employee Training Records module. The left sidebar displays a navigation tree under 'Employee Training'. The main area shows a search results table for 'Employee Training Records' with two entries:

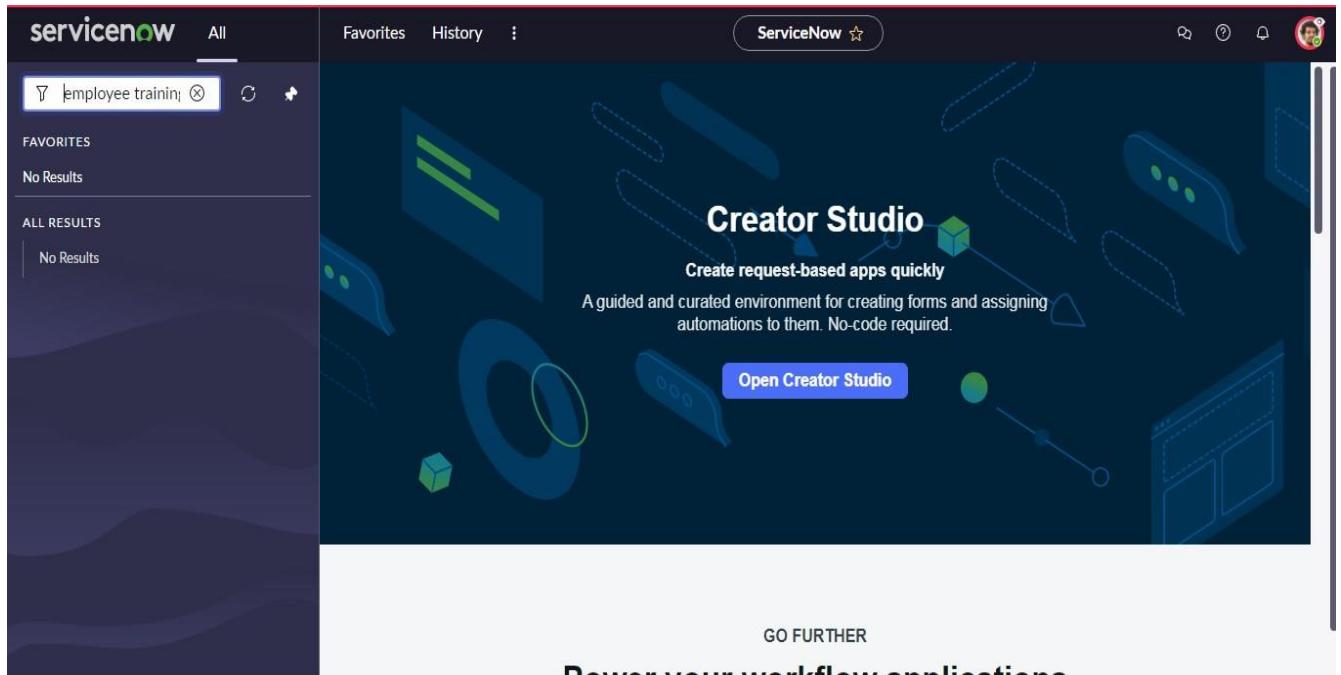
Employee	Completion Date	Status	Training Name
Abel Tuter	2025-06-20	Inprogress	Full Stack Java
Abel Tuter	2025-06-21	Inprogress	python

This screenshot shows the ServiceNow interface for creating a new Employee Training Record. The left sidebar displays a navigation tree under 'Employee Training'. The main area is a 'New record' form for 'Employee Training Records' with fields for:

- Training Name (input field)
- Status (dropdown menu: -- None --)
- Completion Date (input field with calendar icon)
- Employee (input field with search icon)
- Department (input field with search icon)

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

- 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.