Lecture 2 – Salesforce Configuration & Custom Objects

Introduction to Salesforce

Introduction

- What is Salesforce Standard & Custom Objects?
- How does Salesforce Security Work?
- Learn about Salesforce Communication methods.
- Learn about Salesforce Lightning Knowledge.

- Lab Session: Basic Data Models and Data Validation

Salesforce Editions

EDITION	WHAT'S GREAT ABOUT IT
Essentials	Designed for small businesses getting started with CRM to boost sales or service productivity. It includes a setup assistant and administration tools to customize your deployment as you grow.
Starter	Want to get started with sales, service, and marketing functionality all in one? With out-of-the-box tools and built-in guidance, Salesforce Starter is the fastest way to get started with the Salesforce CRM suite. It's perfect if you're a first-time user who wants to find, win, and keep customers and build stronger relationships from day one.
Professional	Designed for businesses requiring full-featured CRM functionality. It includes straightforward and easy-to-use customization, integration, and administration tools to facilitate any small to midsize deployment.
Enterprise	Meets the needs of large and complex businesses. It gives you advanced customization and administration tools, in addition to all the functionality available in Professional Edition, that can support large-scale deployments. Enterprise Edition also includes access to Salesforce APIs, so you can easily integrate with back-office systems.
Unlimited	Maximizes your success and extends it across the entire enterprise through the Lightning Platform. It gives you new levels of platform flexibility for managing and sharing all your information on demand. Includes all Enterprise Edition functionality, Premier Support, full mobile access, unlimited custom apps, increased storage limits, and other features.
Developer	Provides access to the Lightning Platform and APIs. It lets developers extend Salesforce, integrate with other applications, and develop new tools and applications. Developer Edition also provides access to many of the features available in Enterprise Edition. Salesforce doesn't provide technical support for Developer Edition. But you can ask for help from developer community message boards after you register for the Lightning Platform developer website: developer.salesforce.com.

Salesforce Objects

- Standard & Custom Objects
- Custom Fields
- Page Layouts
- Compact Layouts
- Search Layouts
- Record Types
- Validation Rules
- Object Limits
- Reports

Standard Objects vs Custom Objects

Standard Objects:

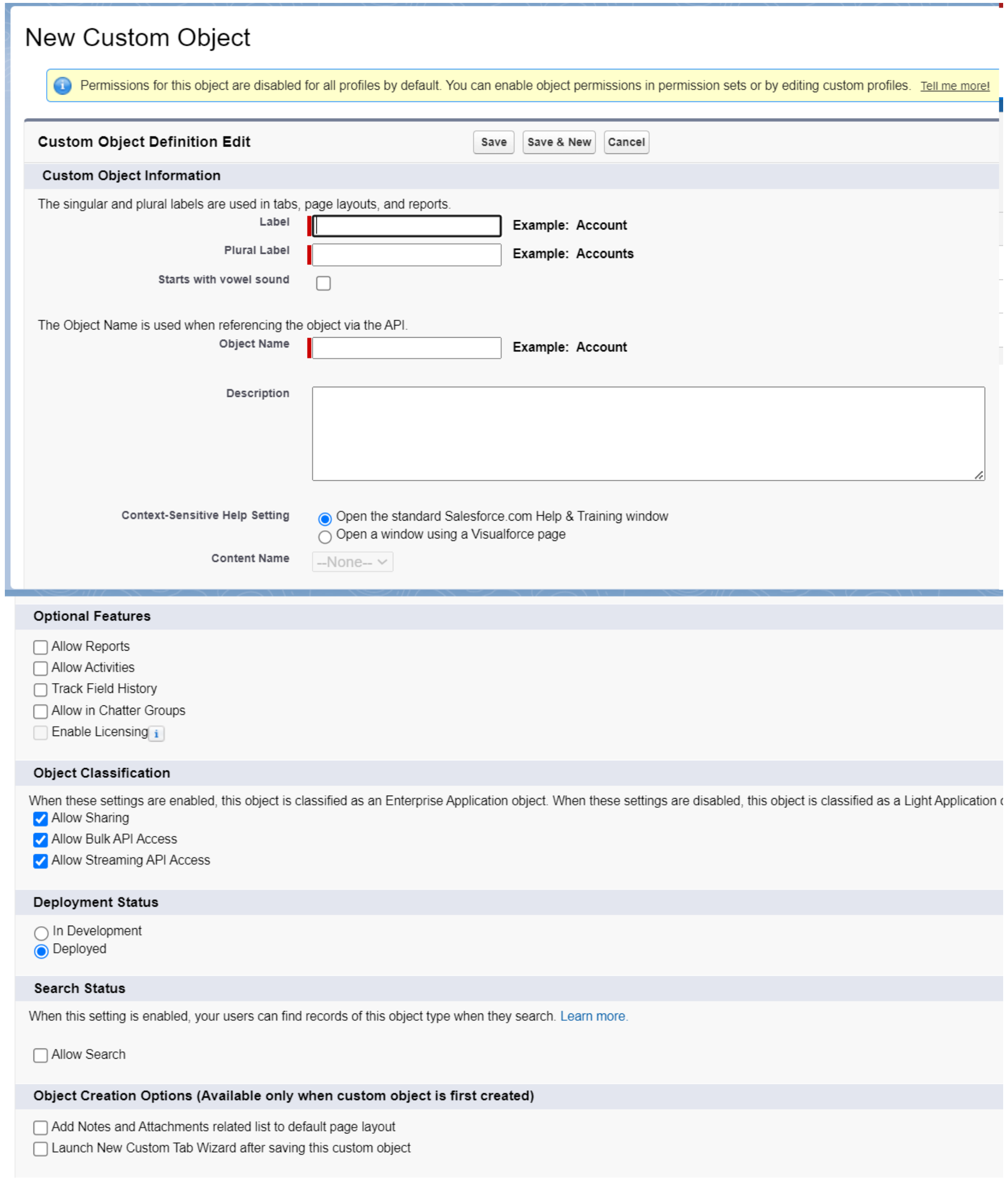
- Objects provided by default
- Examples Account, Contact, Case

Custom Objects:

- The objects created by an organization
- Store information that is unique and important to the organization.

Creating a Custom Object

- Setup -> Object Manager -> Create -> Create Object



Allow Reports:

- If we want to allow users to create reports of the data.

Allow Activities:

- If we want to allow users to create events and tasks related to the records.

Custom Fields

Custom Fields can be created by administrators on both Standard and Custom Objects

Field Types

- Lots of data types
- This defines the type of data stored in the Custom Field

History Tracking

- Track and display the history of the field value
- You can track the field history of Custom Objects and limited Standard Objects

Custom Field Types

- Address
  - Let's users enter a street, city, state or province, zip or postal code, and country, or to search for an address
- Auto Number
  - Automatically assigns a unique number to each record.
- Checkbox
  - Let's users check a box, indicating a true or false attribute of a record
- Currency
  - Let's users enter a currency amount. Date : Lets users enter a date or pick a date from a popup calendar.
- Date/Time
  - Let's users enter a date or pick a date from a popup calendar and enter a time of day.
- Email
  - Let's users enter an email address of up to 80 characters, which is validated to ensure proper format.
- External Lookup Relationship
  - When you create an external lookup relationship field, the standard External ID field on the parent external object is matched against the values of the child's external lookup relationship field.

Custom Field Types

- Formula
  - Let's users automatically calculate values based on other values or fields such as merge fields. Not available for external objects.
- Geolocation
  - Let's users specify a location by its latitude and longitude.
- Hierarchical Relationship
  - Creates a hierarchical lookup relationship between users. Let's users use a lookup field to associate one user with another that doesn’t directly or indirectly refers to itself.
- Indirect Lookup Relationship
  - An indirect lookup relationship links a child external object to a parent standard or custom object.
- Lookup Relationship
  - Creates a relationship between two records so you can associate them with each other. For example, opportunities have a lookup relationship with cases that lets you associate a particular case with an opportunity.
- Master-Detail Relationship
  - Creates a relationship between records where the main record controls certain behaviors of the detail record such as record deletion and security.

Custom Field Types

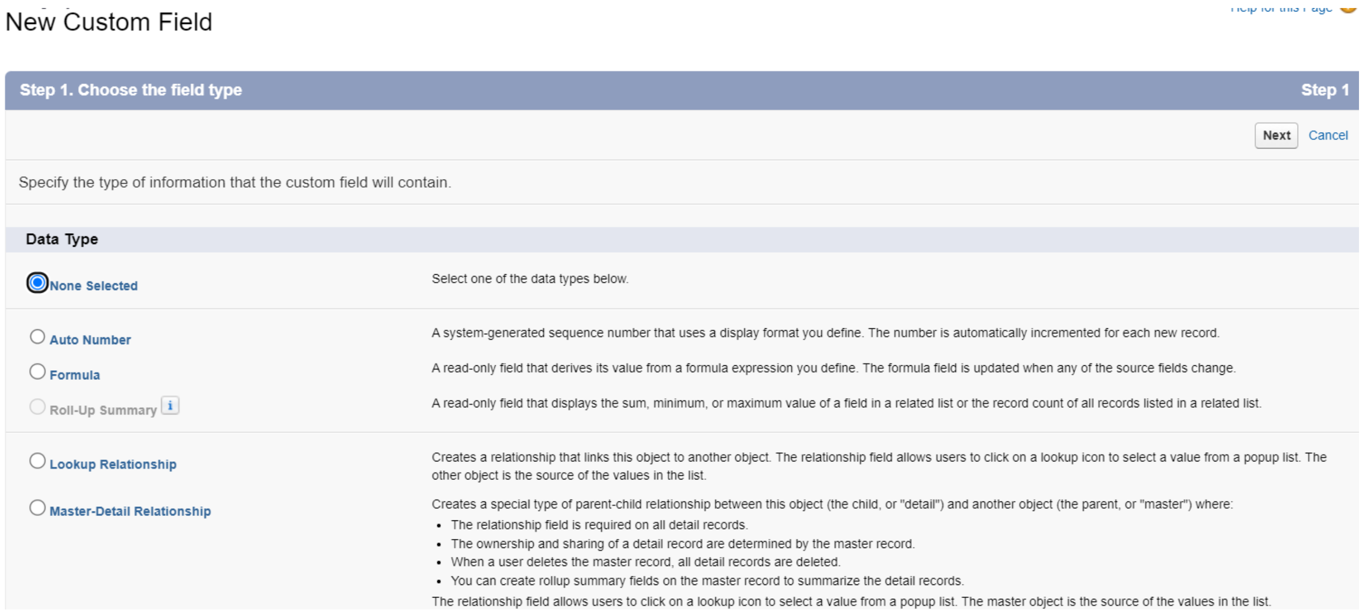
- Number
  - This number is treated as a real number and any leading zeros are removed.
- Percent
  - Enter a percentage number as a decimal—for example, 0.10. The system automatically converts the decimal to a percentage—for example, 10%
- Phone
  - Character limit is 40. Salesforce automatically formats it as a phone number.
- Picklist
  - Let's users select a single value from a list that you define.
- Picklist (Multi-select)
  - Let's users select more than one picklist value from a list that you define. These fields display each value separated by a semicolon.
- Roll-Up Summary
  - Automatically displays the record count of related records or calculates the sum, minimum, or maximum value of related records. The records must be directly related to the selected record and on the detail side of a custom master-detail relationship with the object that contains the roll-up summary field.

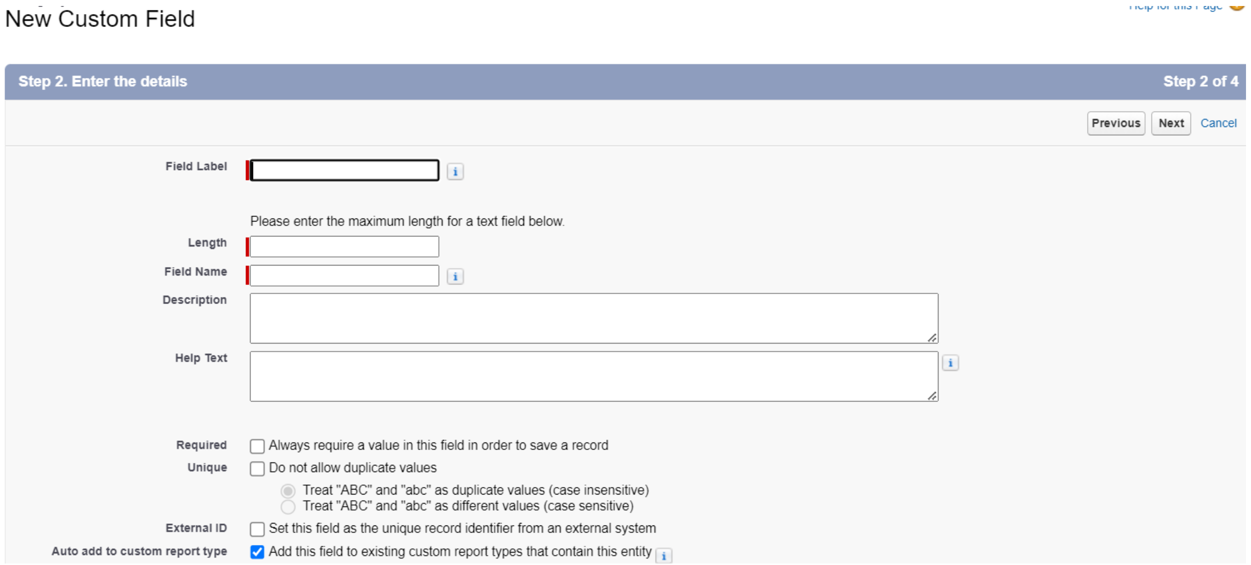
Custom Field Types

- Text
  - Let's users enter any combination of letters, numbers, or symbols. You can set a maximum length, up to 255 characters.
- Text Area (Long)
  - Let's users enter up to 131,072 characters that display on separate lines similar to a Description field. You can set the length of this field type to a lower limit, if desired. Any length from 256 to 131,072 characters is allowed.
- Text Area (Rich)
  - With the use of a toolbar, users can format the field content and add images and hyperlinks. The toolbar allows the user to undo, redo, bold, italicize, underline, strike-out, add a hyperlink, upload or link to an image, modify alignment, add a numbered or non-numbered list, indent, and outdent. The maximum field size is 131,072 characters, inclusive of all the formatting and HTML tags.
- Time
  - Let's users enter a time of day, including hours, minutes, seconds, and milliseconds.
- URL :
  - Let's users enter up to 255 characters of any valid website address.

Creating Custom Fields

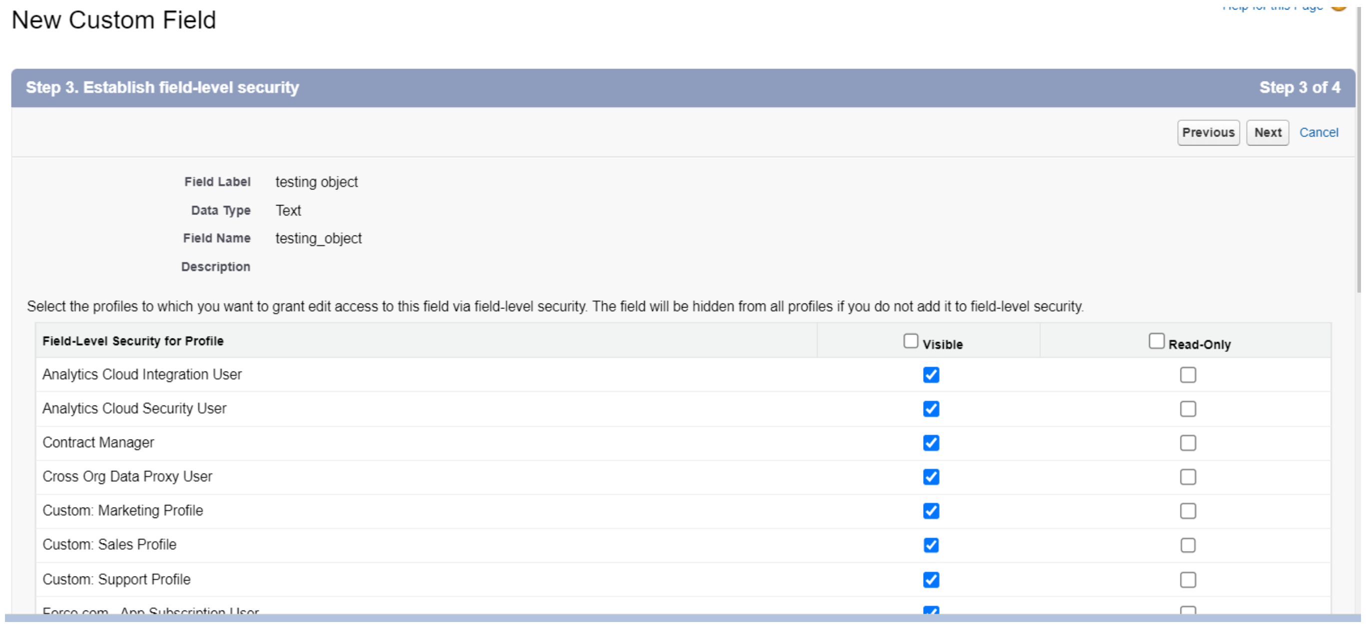
- Setup -> Object Manager ->[Object Name] -> Fields & Relationship -> New
- Step 1: Choose the Field Type
- Step 2: Enter Field Details





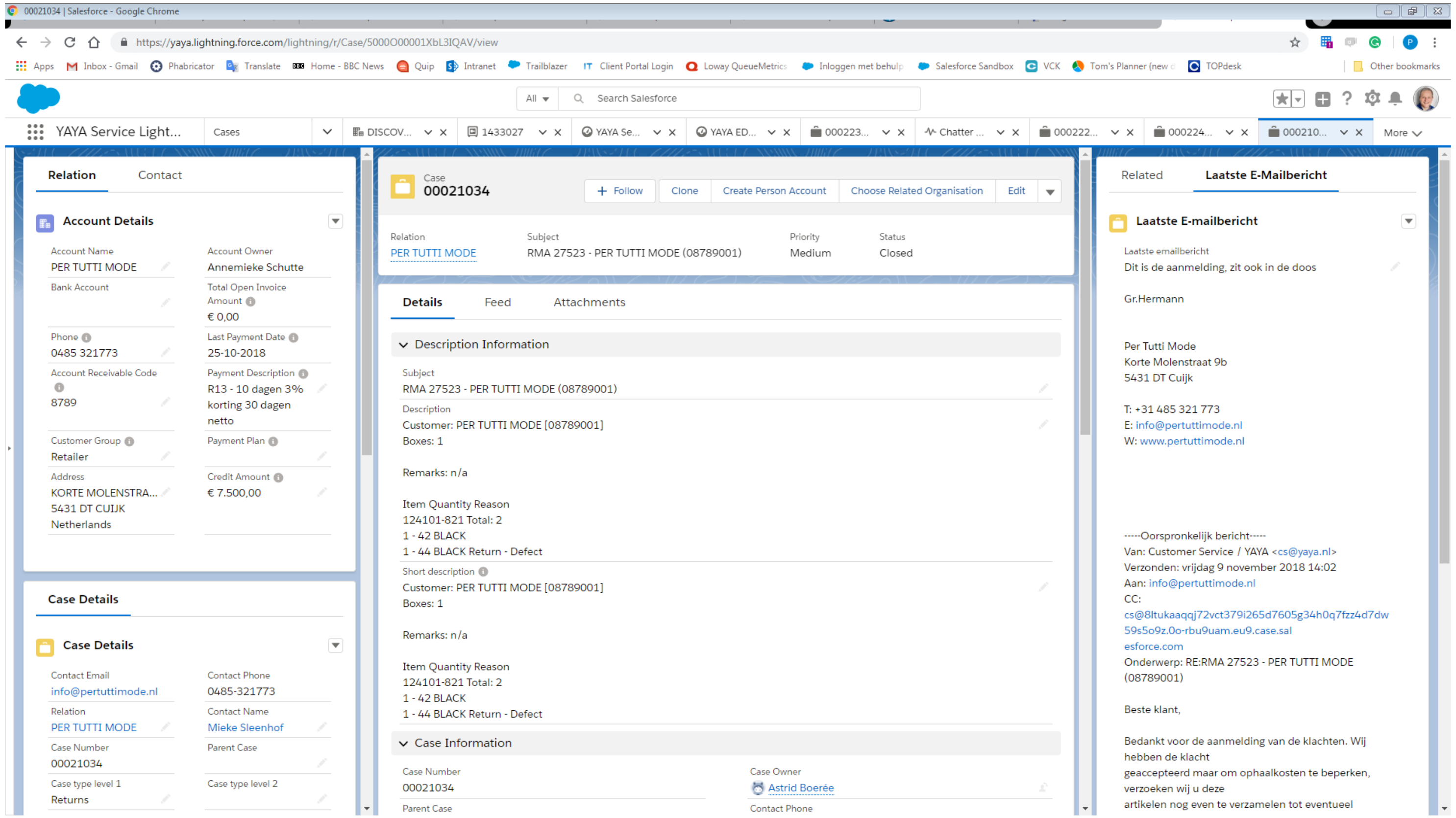
Creating Custom Fields

- Step 3. Establish field-level security
- Step 4: Add to page layouts



Page Layout

- Control the layout and organization of buttons, fields, etc., on object record pages.
- Determine which fields are visible, read only, and required.
- Customize the content of record pages for your users.



Other Types of Layouts

- Compact
- Search

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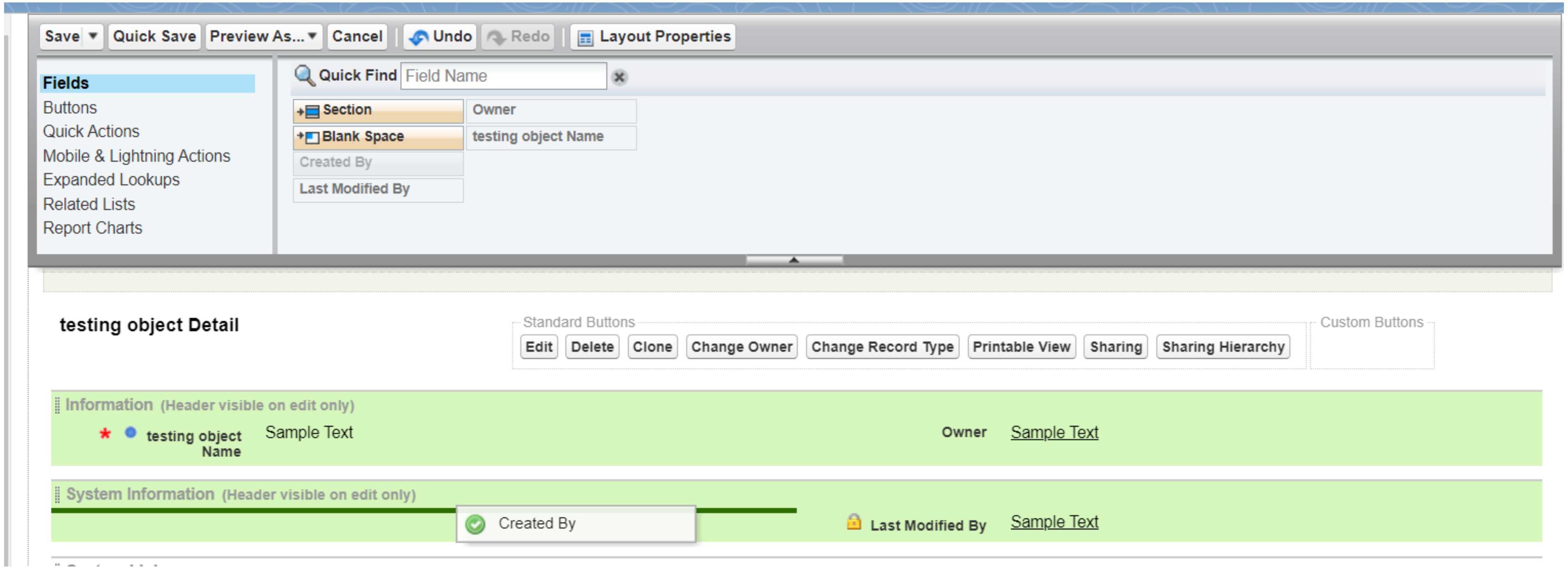
Edit Page layout

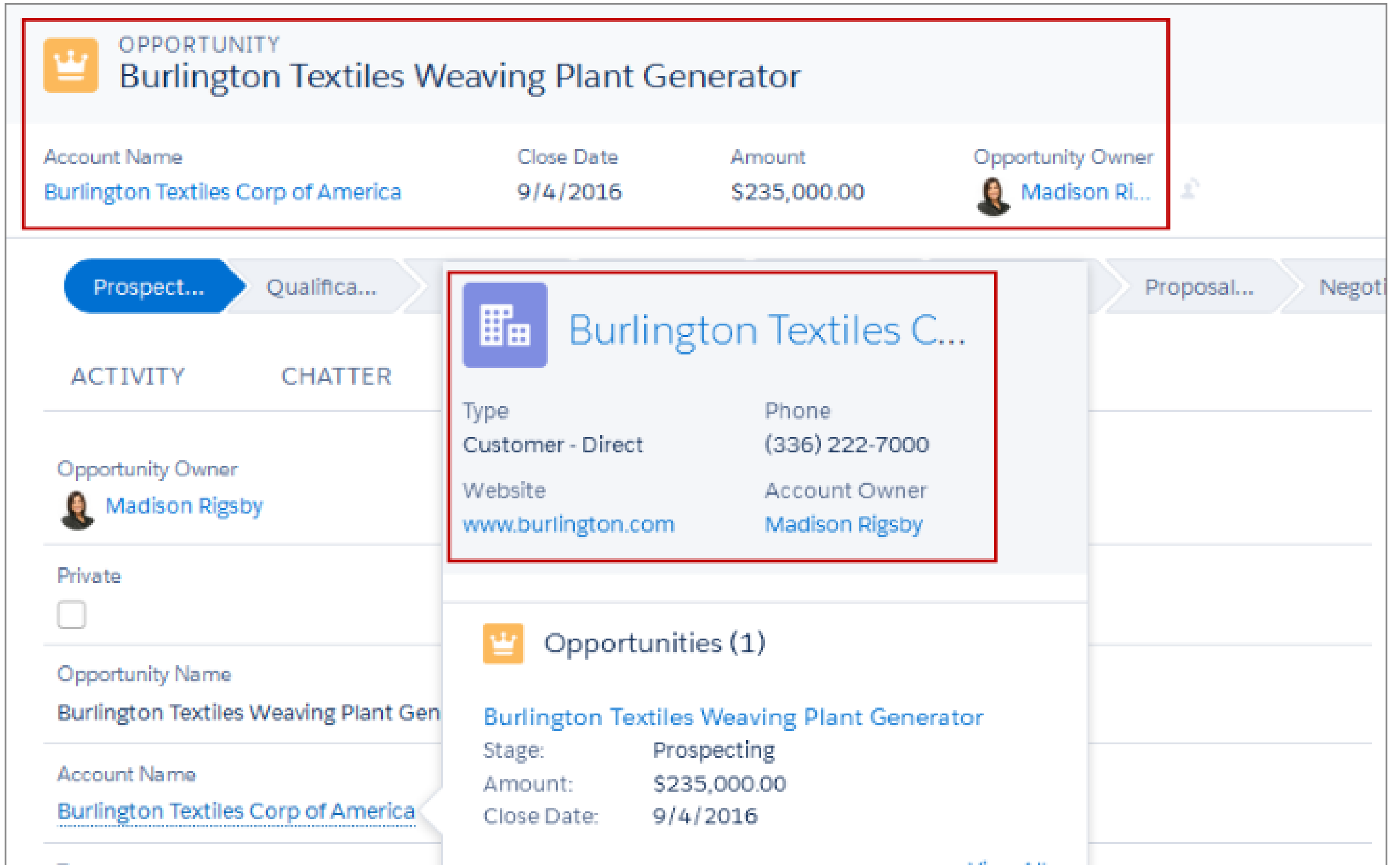
- Setup -> Object Manager ->[Object Name] -> Page Layout -> [Page Layout Name]
- Drag and Drop Item to the section of the layout



Compact Layouts

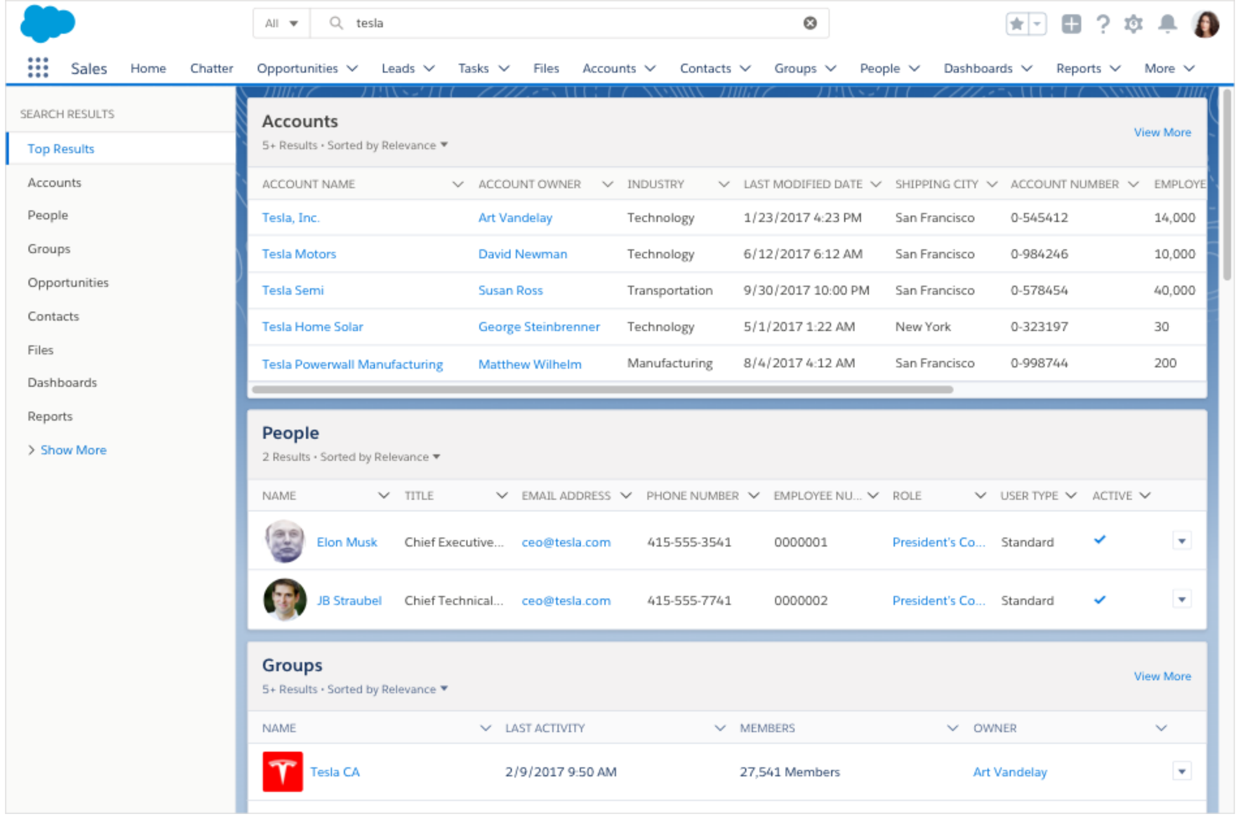
Displays key fields for a record at a glance when hovering over a record link.

Also shows in the ribbon at the top of a layout record.



Search Layouts

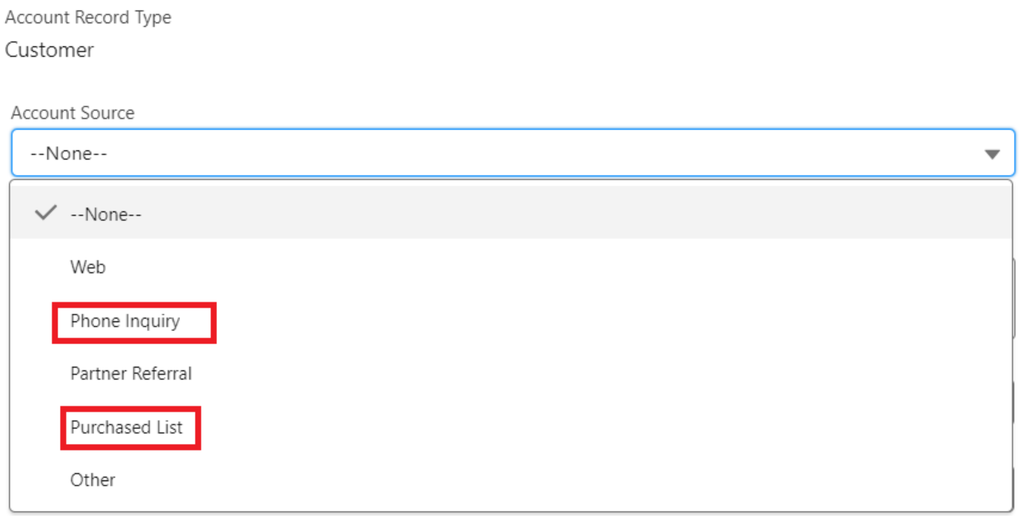
- Determine what users see when Einstein Search returns results.
- Can be unique per user profile, ensuring the layout shows users what's most relevant to them.
- Can create search layouts for standard and custom objects.
- The search layout that you configure applies to **global** and **lookup** searches.

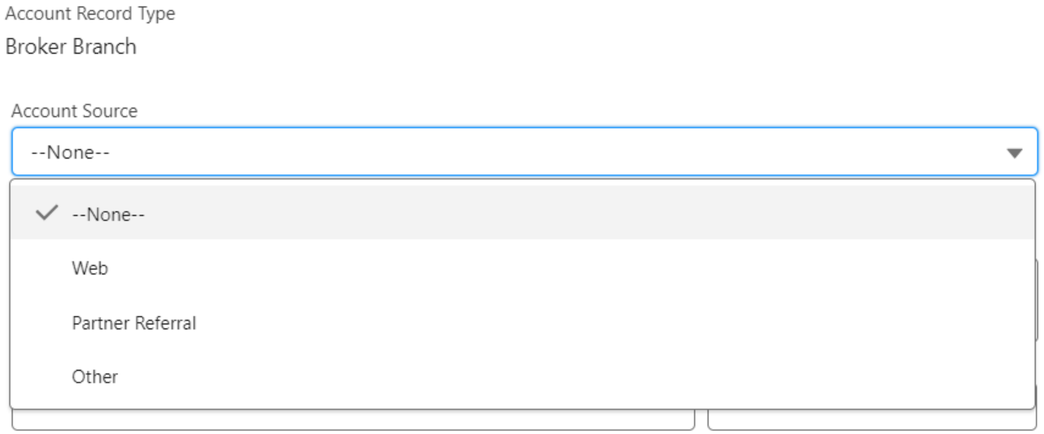


Record Types

Ability to classify data in an Object so

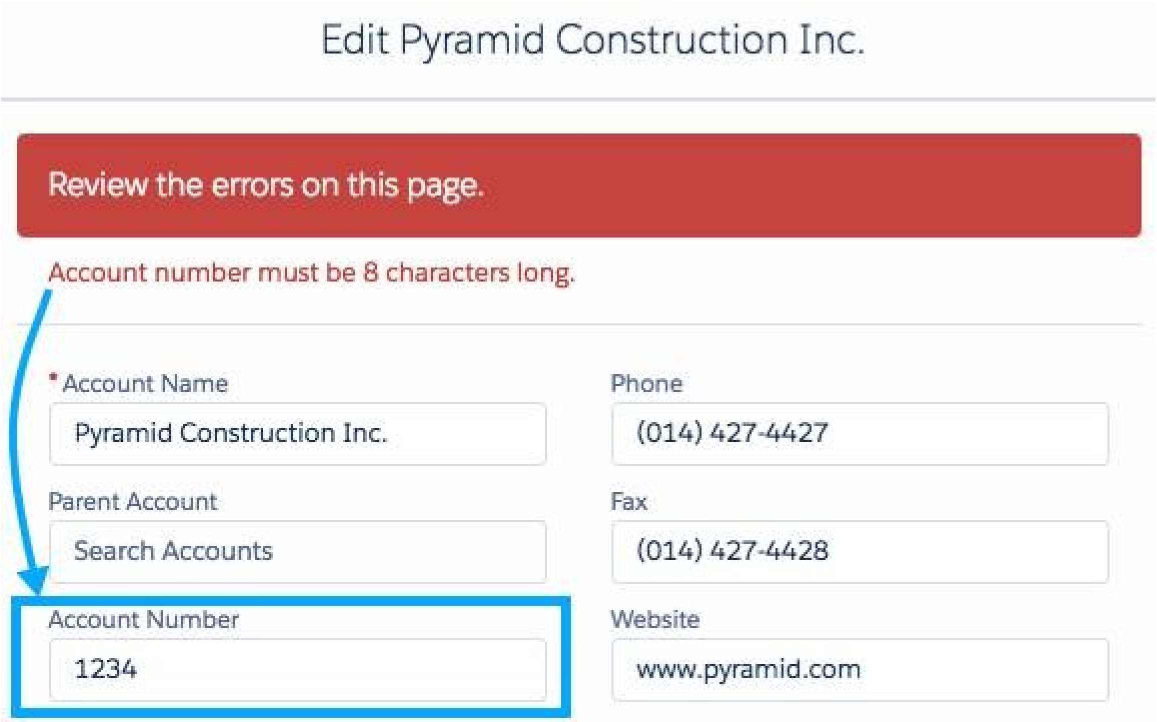
- Different types of the same record can be tracked e.g., Customer & Broker Branch Accounts
- Users from different roles can consume and update data different ways.





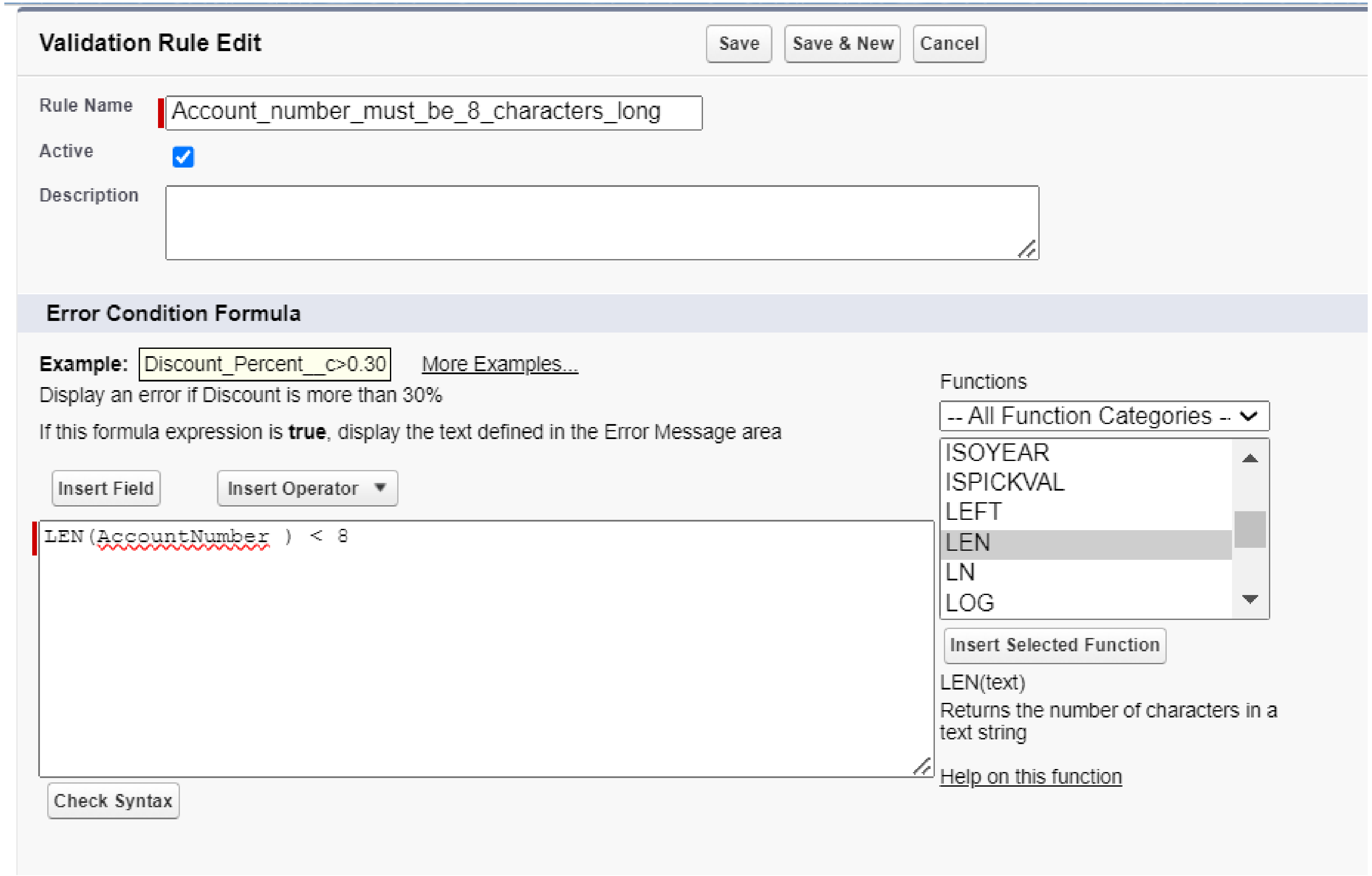
Validation Rules

- Custom Defined Rule that verify the data a user enters in a record meets the standards you specify
- Expression that evaluates the data in one or more fields and returns a value of “True” or “False”.
- Validation rules also include an error message to display to the user.



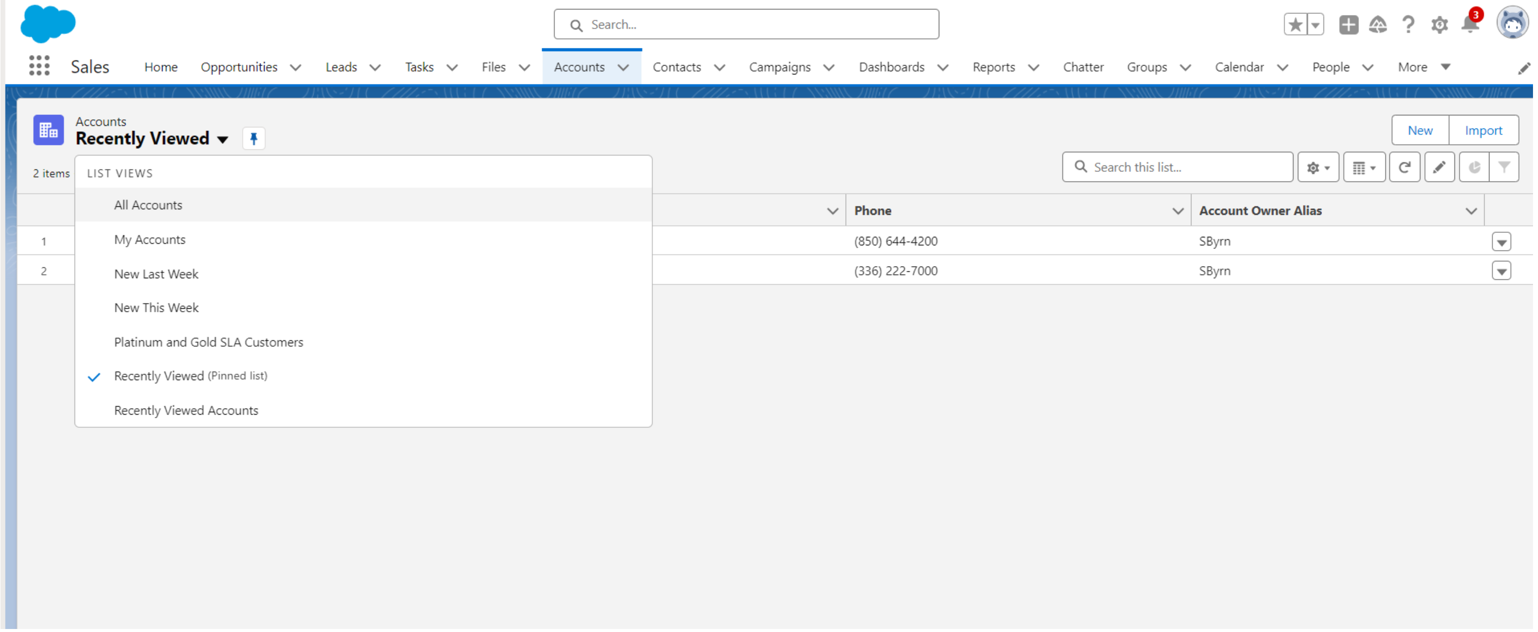
How to create a validation rule

- Setup -> Object Manager -> [Object Name] -> Validation Rules -> New



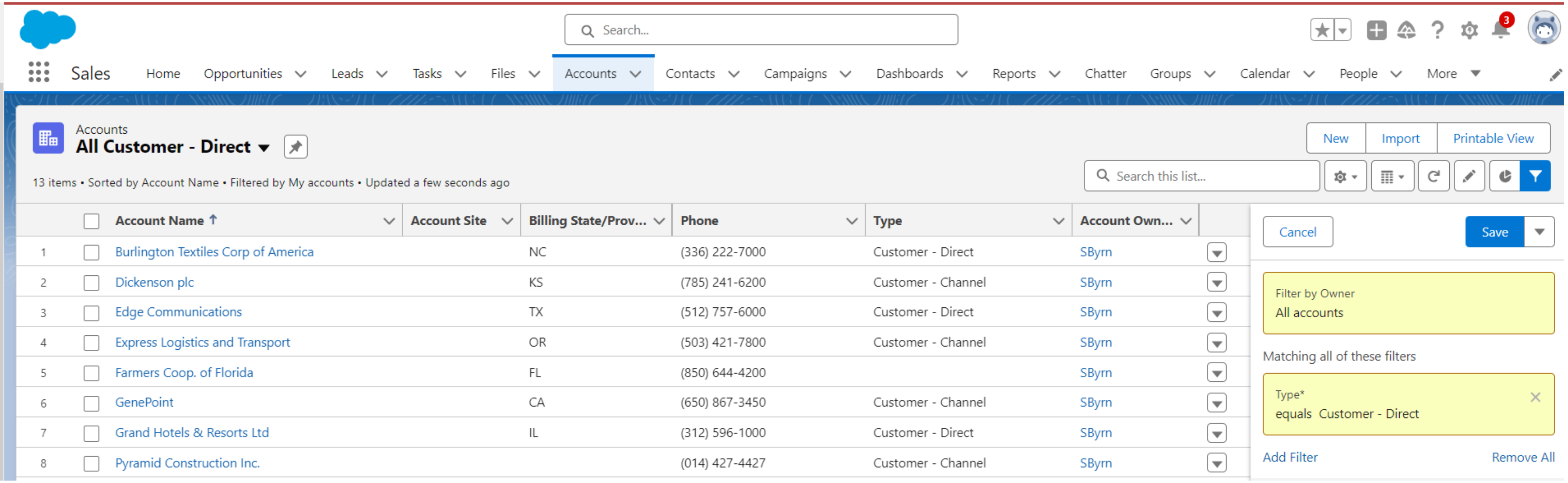
List Views

- A list view is a filtered list of records where you can view records for one object at a time. For example, a list of Contacts, Accounts, or Opportunities.
- Default list views for each object, but you can also create custom list views based on your user needs.



Creating a List Views

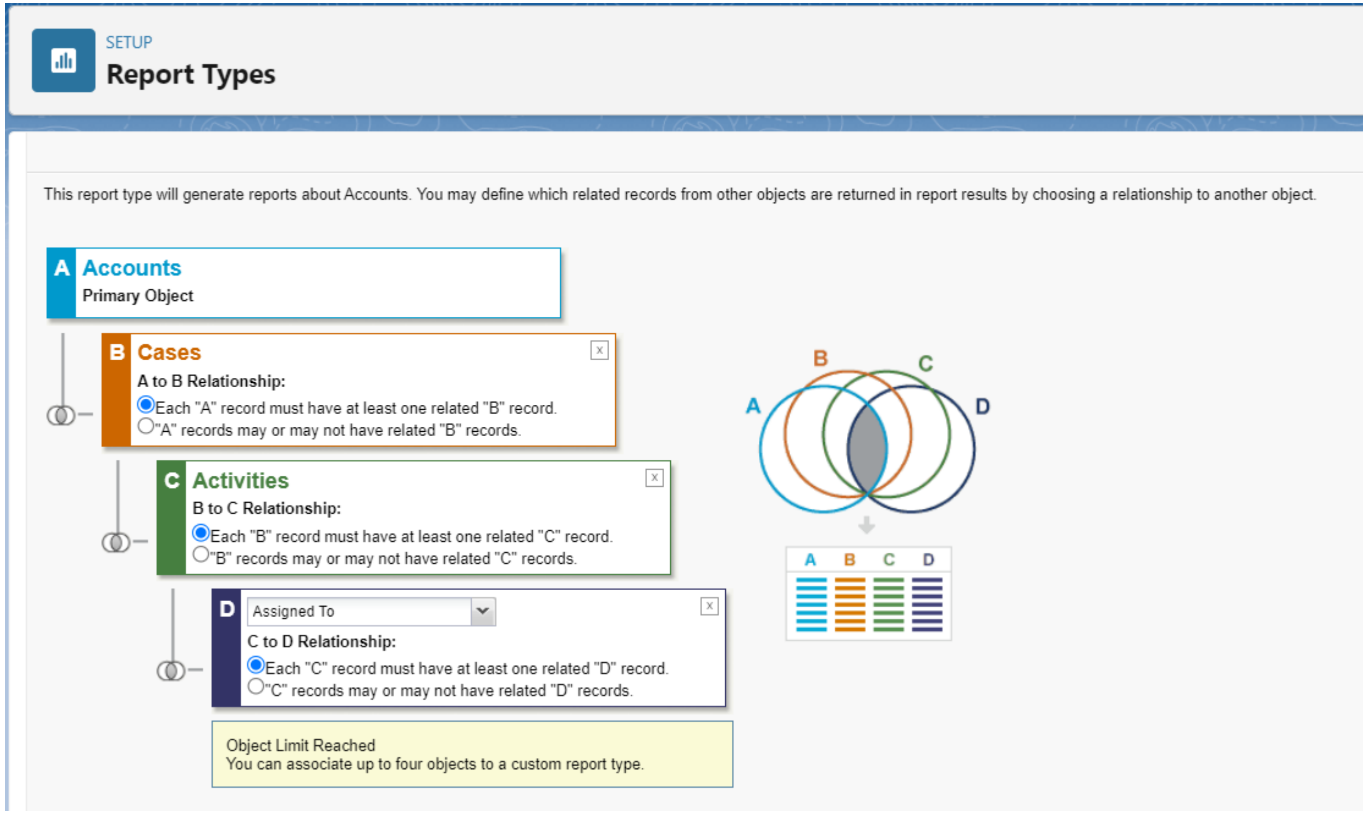
- [Object Tab] -> List View Controls -> New
- Ability to share the list view with all users or a subset group
- Create filters to display the record that match the criteria



Report Types

- Salesforce comes with report types out-of-the-box for all standard objects and standard object relationships
  - e.g. “Contacts & Accounts” or “Opportunities with Products”.

- Custom report types enable you to create complex reports that go beyond the standard Salesforce report types.

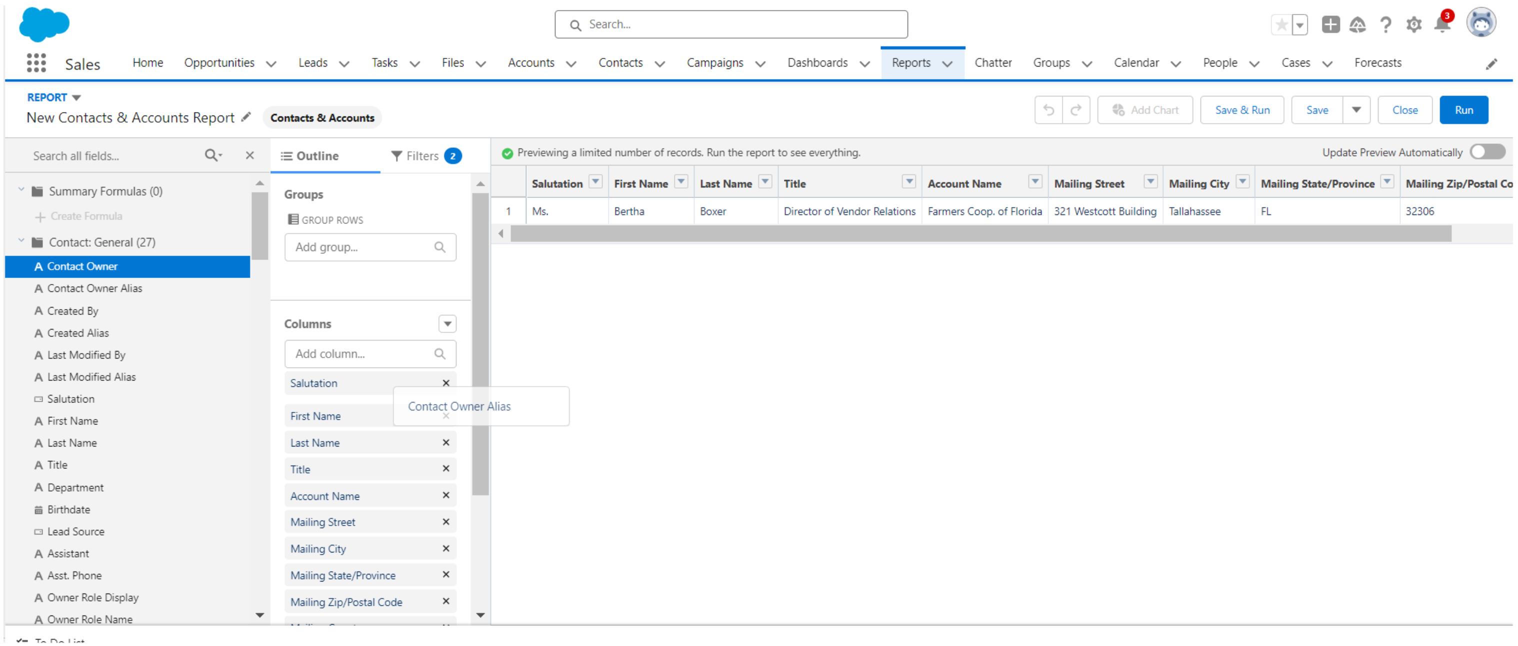


Creating a Report & Dashboard

- Report Tab -> New Report -> Select Report Type -> Start Report

- Drag & Drop required Field

- Create filters to display the record that match the criteria



Object Limits

- 3,000 total custom objects per Organization
- 800 Custom fields per object
- 5 Active lookup filters per object
- 500 Active validation rules per object
- 20 maximum standard or custom fields tracked for standard or custom objects
- 15 Unique Formula Relationships per object
- 300 Sharing Rules Per Object
  - 50 criteria-based Rules

Object Limits

11 Items, Sorted by Item

ITEM	USAGE	LIMIT	% USED
Active Lookup Filters	0	15	0%
Active Validation Rules	0	500	0%
Active Workflow Rules	4	50	8%
Approval Processes	0	500	0%
Custom Fields	138	800	17%
Custom Relationship Fields	2	50	4%
Rollup Summary Fields	4	40	10%
Sharing Rules (Both Owner- and Criteria-based)	0	300	0%
Sharing Rules (Criteria-based Only)	0	50	0%
Total Workflow Rules	4	500	1%

* Depending on Salesforce Edition, the above is based on the Salesforce Unlimited Edition Allocations

Salesforce Security Model

Introduction to Salesforce

Security

- 1 – Object-Level Security
- 2 – Record-Level Security
- 3 – Field-Level Security

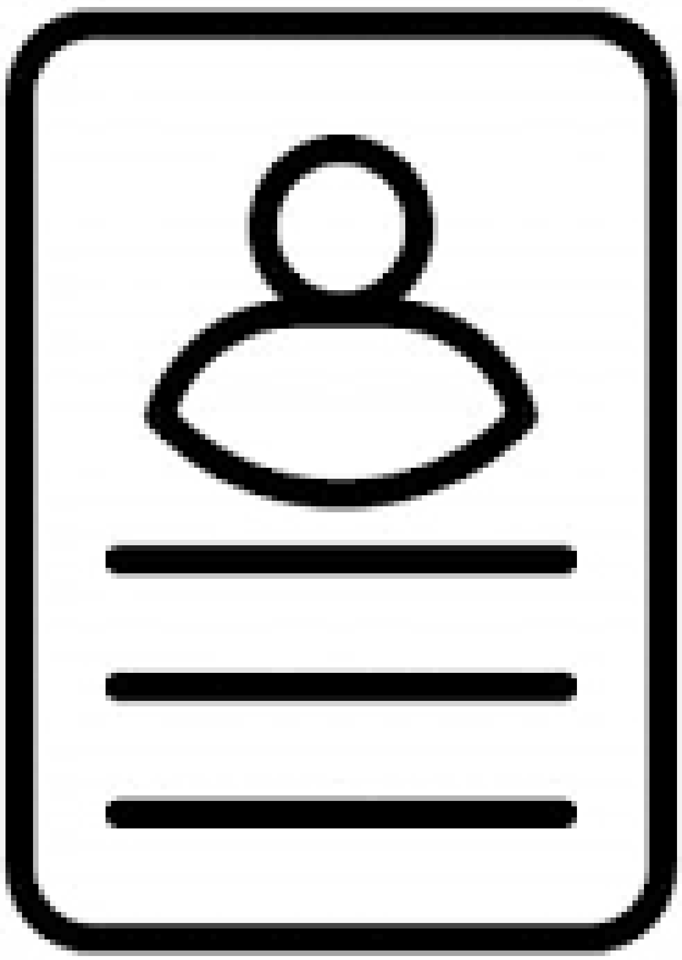
1 – Object-Level Security

- Users
- Profiles
- Permission Sets and Permission Sets Groups
- CRUD permissions

User

Represent an individual

- Provide authentication, authorization and license information.
- It’s the master object on the Salesforce Security model



Profile

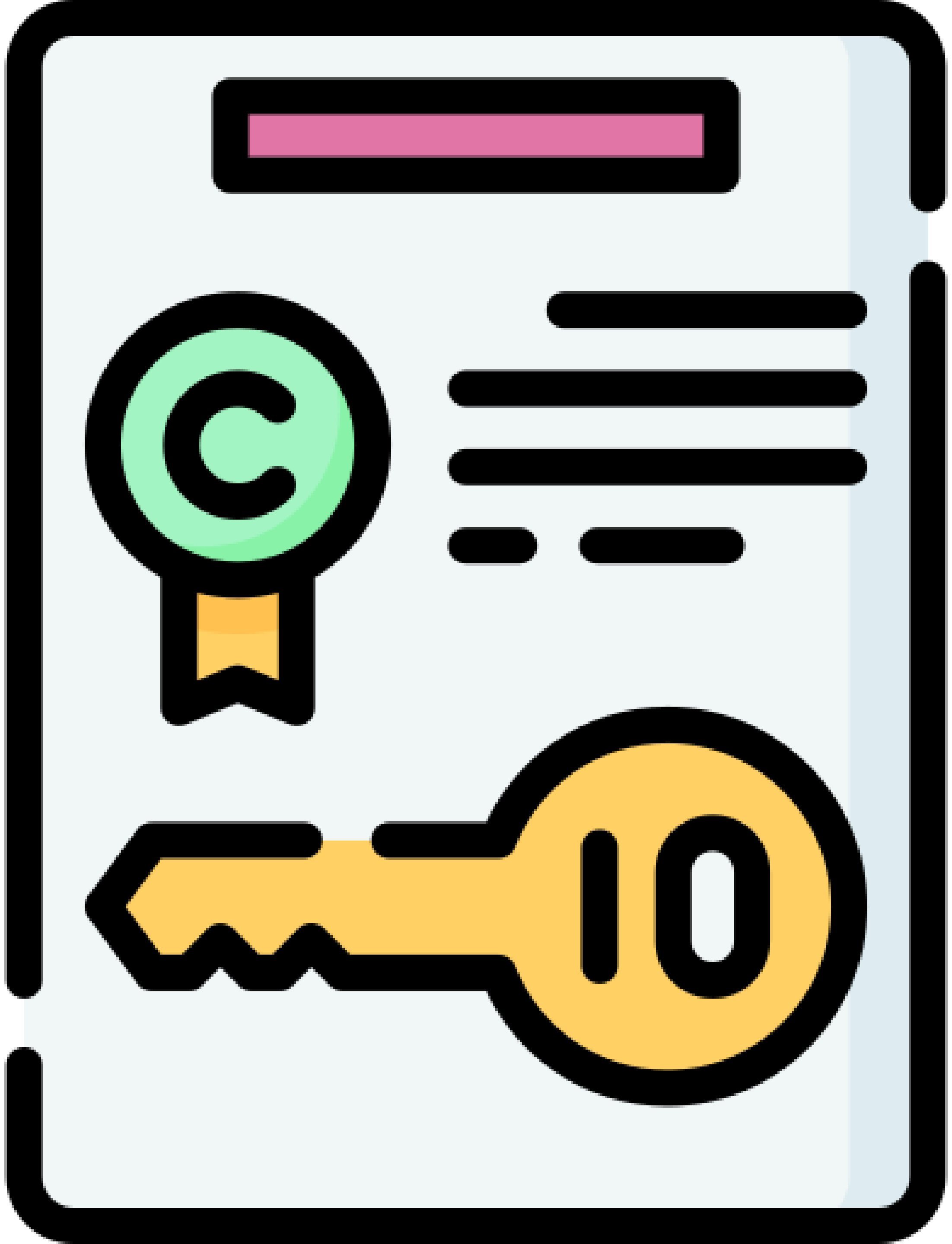
Represent a persona

Define a set **of permissions to perform different operations.**

Operations can include a **variety of privileges** in the platform. Settings, configuration, login Urls, working hours, API access, high- level privileges.

Salesforce **recommends to maintain profiles with minimum global platform permissions**.

Examples; system administrators, sales representative, API only users…

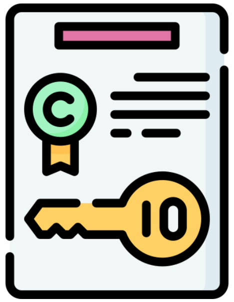


Permission Set

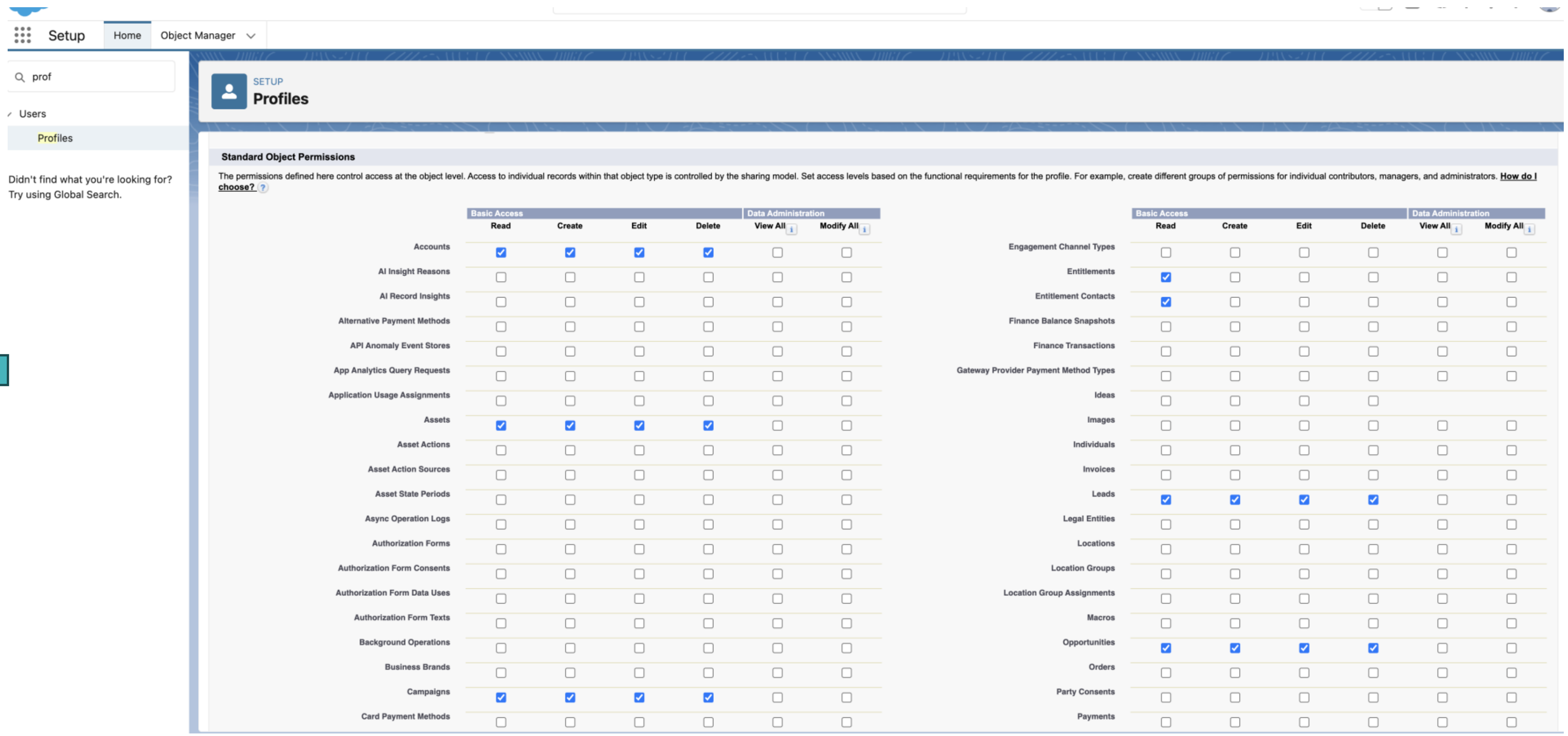
- **Define permissions to grant access** to users on different aspect in the platform.
- Permission sets can be grouped on **Permission set group** to maintain a cohesive sets of permissions for a given user.

CRUD operations

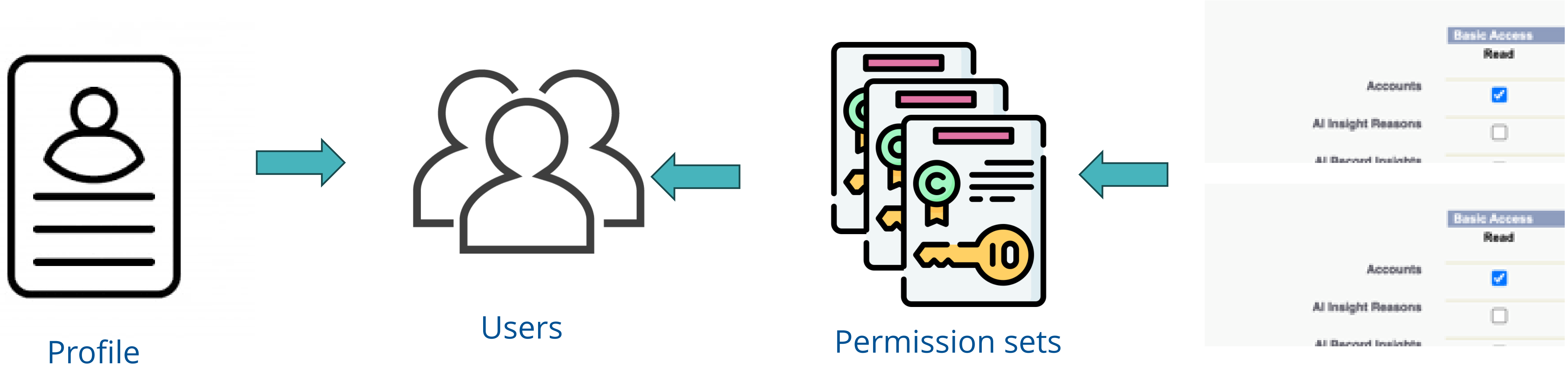
- Profiles and permissions set are ready to define CRUD operations on different objects
- Salesforce recommend to use permission sets and maintain profiles with minimum access.



Permission sets



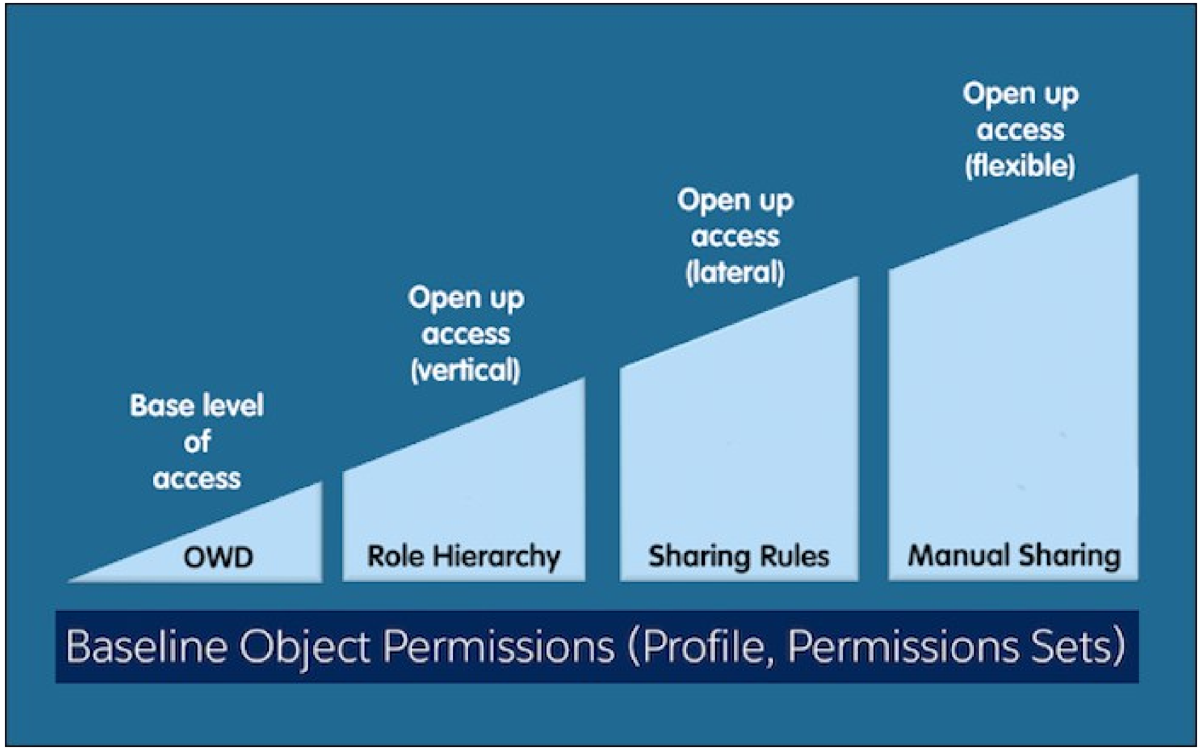
Security Model Schema



Level 2 – Record Access Security

- OWD – Org-wide defaults
- Hierarchy
- Sharing rules

Organization Wide Sharing Defaults

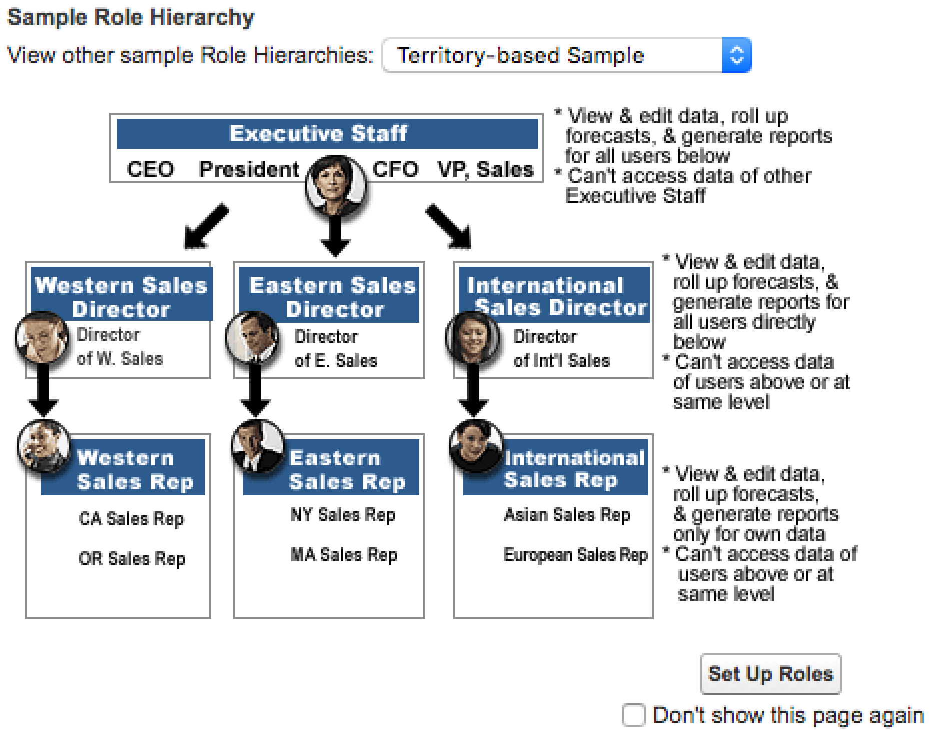


- Set the baseline access for your users for your records.
- Minimum Access Privilege (private)
- General types of access:
  - Private: Only users who are granted access by ownership.
  - Read only: All users can view all records for the object.
  - Public read/Write: All users can view and edit all records for the object.
- Each object has a separate default
- Set different levels of access for internal, external, and guest users

Salesforce sharing settings

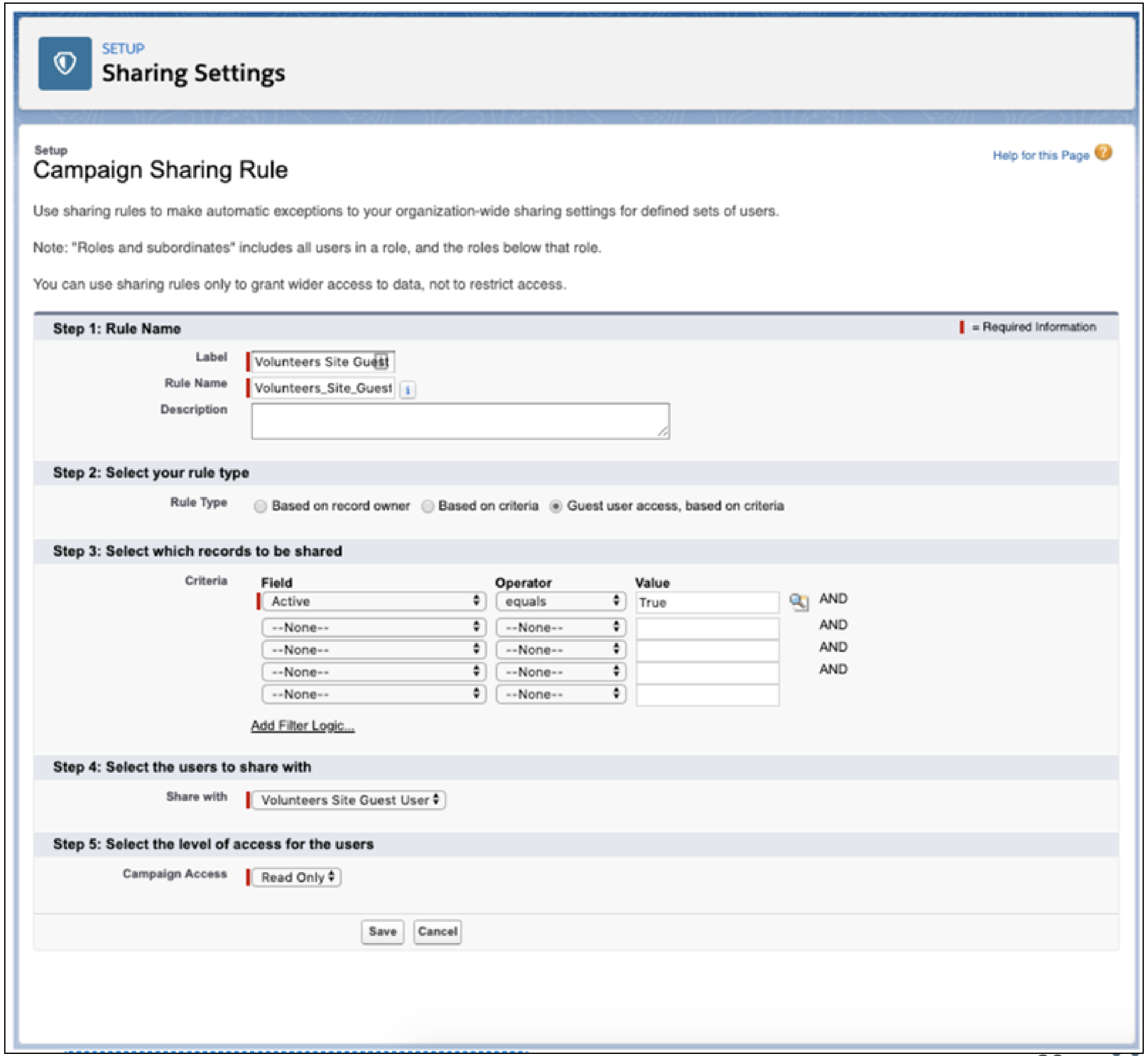
User Role Hierarchy

- One of the ways you can control access to records.
- Come into play if your security model (OWDs) are set to private.
- Assigned at the Users Record Level



Sharing Rules

- Rules used to extend sharing access to users in public groups, roles, or territories
- Gives users greater access by making automatic exceptions to your org-wide sharing settings.
- Based on ownership or criteria.



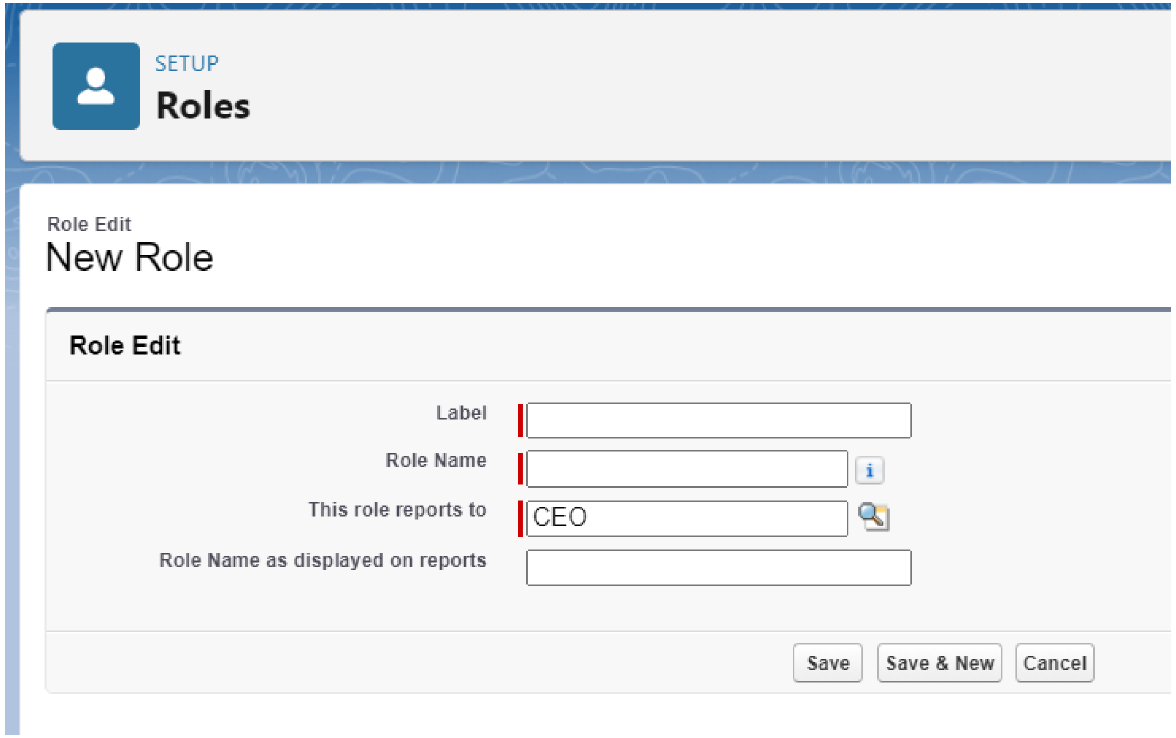
Sharing rules

Role Hierarchy

Account

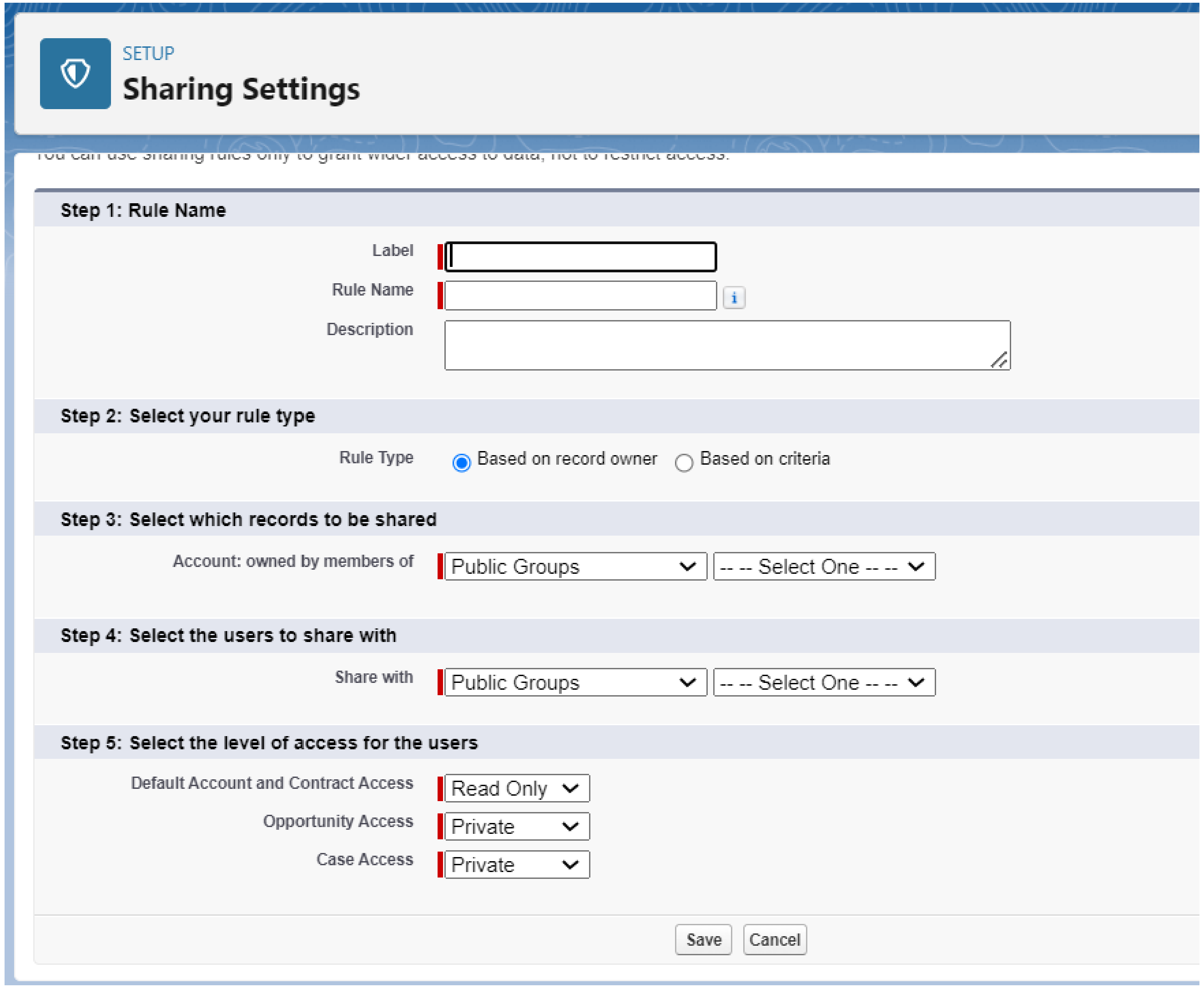
Creating a Role

- **Setup-> User -> Roles - > Add Role**
- Select who the new role reports to creating a Hierarchy
- When we create a new user, we assign a role to them.



Creating a Sharing Rule

- **Setup -> Security-> Sharing Settings -> [Object] Sharing Rules**
- Can create rules base on Owner or on Criteria
  - e.g. is owner in x Role or is Account x Type
- Control who the record should be shared with
  - e.g. Public Group, Roles etc.
- Control what level of Access they should have

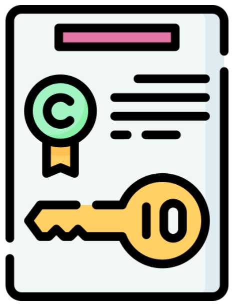


Level 3 – Field Access Security

- Permissions

Field-Level Security

- Let's you specify whether users can view or edit each field for an object.
- Salesforce recommend to use permission sets and maintain profiles with minimum access.



Permission sets

Field Permissions

Field Name	Read Access	Edit Access
Approval Status	☐	☐
Created By	☑	☐
Department	☐	☐
Education	☐	☐
Hiring Manager	☐	☐
Job Description	☐	☐
Last Modified By	☑	☐
Legacy Position Number	☐	☐
Location	☐	☐
Operating Systems	☐	☐
Owner	☑	☑
Pay Grade	☐	☐
Programming Languages	☐	☐
Record Type	☑	☑
Related Position	☐	☐
Salary Range	☑	☑
Skills Required	☐	☐
Status	☐	☐
Title	☑	☑

Q&A

Exercises

Go to https://trailhead.salesforce.com/ and login to your account.

- Continue the Admin Beginner Trail and complete the following
  - Data Modeling
  - Lightning Experience Customization
  - Reports & Dashboards for Lightning Experience
- Continue the Developer Beginner Trail and complete the following
  - Formulas and Validations
- Complete the Following Project
  - Knowledge Basics (Lightning)

References

- Salesforce Standard Objects
- Extend Salesforce with Clicks, Not Code
- Salesforce Chatter