Lab Solution Slides on Securing Force.com Application

Week 8

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SCHOOL OF SOFTWARE

Steps involved in the solution

- <u>Step 1</u>: Create an <u>employee</u> object. This object should have the following attributes: First Name (Text), Last Name (Text), Employee ID (Number), Department ID (Picklist), Email Address (Email), Date of Birth (Date), Salary (Currency), Qualification (Text), and CEO (Checkbox)?
 - (Step 1.1) Create five instances of the employee objects

- **Step 2**: Create two separate profile one for the CEO and another one for the employees.
 - (Step 2.1) Create a new user and assign it to the employee profile. Check whether this new user can only see the required field
 - <u>Note</u>: Due to time constraints in the lab, you have been asked to create only two profiles. For this application, in reality, you are required to implement four different profiles, one for each of the four different types of users

Steps involved in the solution

Step 3:

- (<u>Step 3.1</u>) Determine and set the organization wide default for the employee object
- (Step 3.2) Determine and implement a role hierarchy for the case study.

Step 1: Create a new employee object

Custom Object Definition Edit		Save & New Cancel
Custom Object Information		
The singular and plural labels are used in tabs, page	layouts, and reports.	
Label	Employee	Example: Account
Plural Label	Employees	Example: Accounts
Starts with vowel sound		
The Object Name is used when referencing the object	t via the API.	
Object Name	Employee	Example: Account
Description		
Context-Sensitive Help Setting	Open the standard Sale Open a window using a	sforce.com Help & Training window Visualforce page
Content Name	None ▼	
Enter Record Name Label and Format		
The Record Name appears in page layouts, key lists,	related lists, lookups, and sea	arch results. For example, the Record Name for Account i
Record Name	Employee ID	Example: Account Name
Data Type	Auto Number ▼	
Display Format	E-{000}	Example: A-{0000} What Is This?
Starting Number	001	1
Optional Features		
✓ Allow Reports		

Figure 1: Creating a new employee object having the required fields

Step 1: Create the employee object

Custom fields in the employee Created By Farookh Hussain, 7/05/2013 4:48 PM Modified By Farookh Hussain, 7/0 object Standard Fields Data Type Field Name Action Field Label Controlling Field okup(Us Created By CreatedBy Employee ID Name Auto Number Last Modified By LastModifiedBy ookup(User) Owner Lookup(User,Queue) Owner **Custom Fields & Relationships** New ield Dependencies Set History Tracking Name Action Field Label Data Type Controlling Field Modified By CEO4 CEO c Checkbox Farookh Hussain, 7/05/2013 4:57 PM Edit | Del Date of Birth c Date Date of Birth Farookh Hussain, 7/05/2013 4:55 PM Edit | Del Department 10 Department ID c Picklist Farookh Hussain, 7/05/2013 4:51 PM Edit | Del | Replace Email Address c Email Email Address" Farookh Hussain, 7/05/2013 4:54 PM Edit | Del First Name First Name c Text(50) Farookh Hussain, 7/05/2013 4:49 PM Edit | Del Last Name c Text(50) Farookh Hussain, 7/05/2013 4:50 PM Last Name Edit | Del Qualification c Qualification Edit | Del Text(50) Farookh Hussain, 7/05/2013 4:56 PM Salar Salary_c Currency(10, 4) Farookh Hussain, 7/05/2013 4:55 PM Edit | Del

Figure 2: Define the required custom fields within the employee object

Polated Lookup Eiltera

Step 1: Create employee object



- (a) Define and associate a tab for the employee object.
- (b) Create five new instances of employees

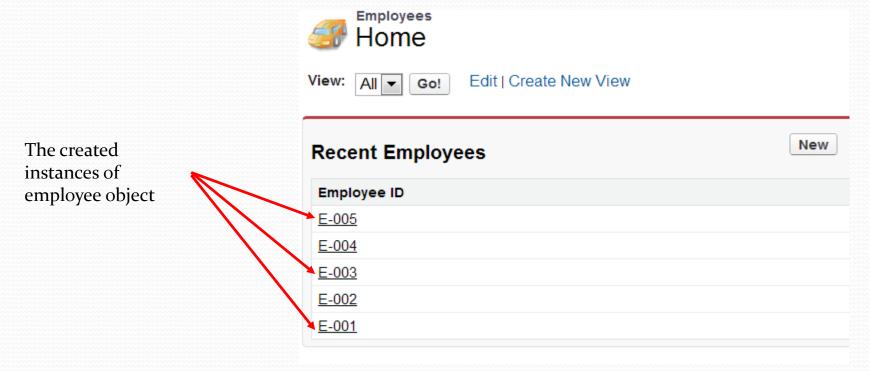
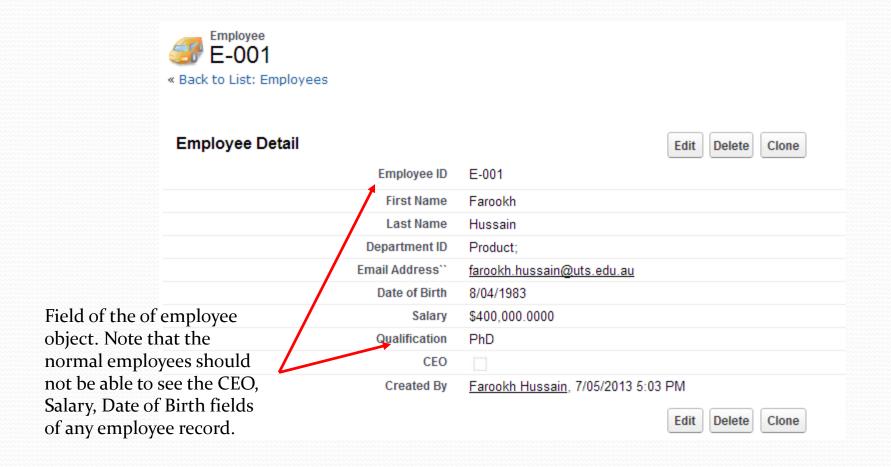


Figure 3: Create new instances of employee object

Step 1: Example employee object details



<u>Figure 4</u>: Example employee object

Employee profile vs. CEO profile

Permission Table for users with "CEO"

Employee Object (in the HRM application)

• Create, Read, Edit, and Delete <u>all</u> employee instances

Permission Table for User with "Employee"

Employee Object (in the HRM application)

- Only Read <u>all</u> employee instances. Should not be able to create, edit or delete them
- Should only be able to see the First Name, Last Name, Qualification, Department ID, and Email Address of employee object instances.

Step 2: Create a profile for CEOs (1/4)

• To create a new profile:

Profile Edit ● Administration Setup → Manage Users → Profiles

Set the permissions and page layouts for this pr	rofile.					
Profile Edit		Save	Cancel			
Name User License Description	CEO Salesforce		ź	Custom Profile	✓	
Custom App Settings						
Call Cantan	Visible Default			Calaa	Visible	Default
Call Center		ð		Sales	✓	•
Community	₹ (ð		Salesforce Chatter	~	0
Company ABC HRM Application	v	0		Sample Console		0
Content	Company ABC HR	RM Applica	ation Visible	Site.com	✓	0
Marketing	₹ (٥				
Tab Settings						
Overwrite users' personal tab customizations						
Standard Tab Settings Home	Default On			Forecasts	Default Off ▼	
Accounts	Default On ▼			Groups	Default On ▼	
Campaigns	Default On ▼			Ideas	Default On ▼	
Cases	Default On ▼			Leads	Default On ▼	
Chatter	Default On ▼			Libraries	Default On ▼	
Figure 5: Create a me	w profile for th	e CEC	O –	Opportunities	Default On ▼	
Configuring tab and a	application acc	ess fo	or users of CEO profile			9

Step 2: Create a profile for CEO (2/4)

Standard Object Permissions

Custom Object Permissions

Basic Access

Create

1

Read

1

Employees

Edit

1

Delete

1

The permissions defined here control access at the object level. Access to individual records within that object type is controlled by the sharing model. Set access levels based on the functional requirements for the profile. For example, create different groups of permissions for individual contributors, managers, and administrators. How do I choose? **Basic Access** Data Administration **Basic Access Data Administration** View All View All Read Create Edit Delete Modify All ; Read Create Edit Delete Modify All Accounts Ideas 1 1 1 1 1 1 1 1 Assets Leads 1 1 1 1 1 1 1 1 Opportunities Campaigns 1 1 1 1 1 1 1 1 Price Books Cases 1 1 1 1 1 1 1 1 Contacts **Products** 1 1 1 1 1 1 1 1 Contracts **Push Topics** 1 1 1 1 1 1 1 1 Documents Solutions 1 1 1 1 1 1

Figure 6: Configuring access to custom and standard objects for users of CEO profile

Modify All

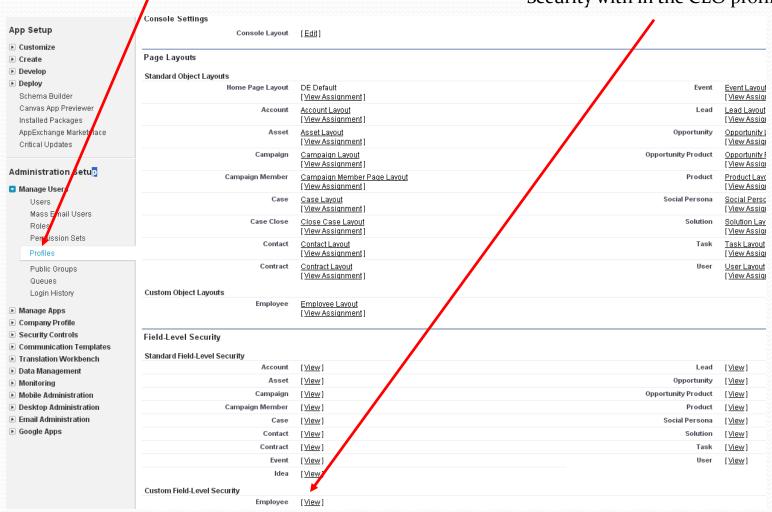
Data Administration

View All

Configure Field-Level Security for CEO profile

Step 1: Select Profiles under Manage Users

Step 2: Select Custom Field-Level Security with in the CEO profile



Step 2: Create a profile for CEO (3/4)

Employee Field-Level Security for profile CEO

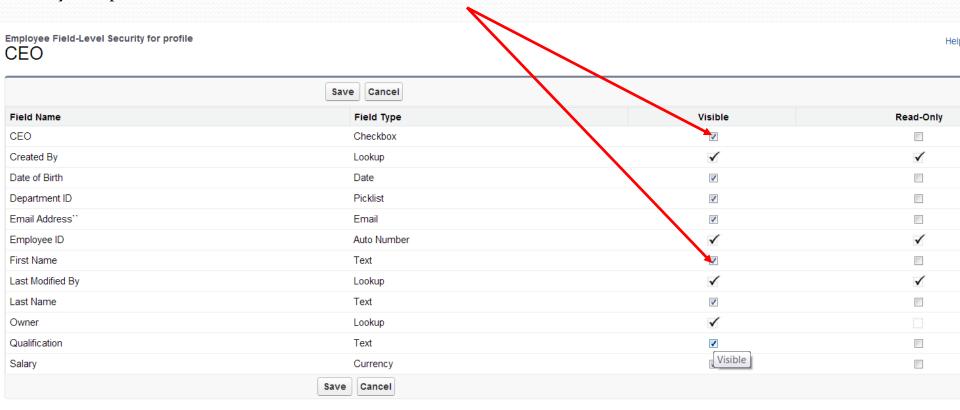
Click on Edit to configure field level access of employee fields for the users of CEO profile

	Edit Back to Profile		
Field Name	Edit Type	Visible	Read-Only
CEO	Checkbox	\checkmark	
Created By	Lookup	\checkmark	✓
Date of Birth	Date	\checkmark	
Department ID	Picklist	\checkmark	
Email Address``	Email	\checkmark	
Employee ID	Auto Number	\checkmark	\checkmark
First Name	Text	\checkmark	
Last Modified By	Lookup	\checkmark	\checkmark
Last Name	Text	\checkmark	
Owner	Lookup	\checkmark	
Qualification	Text	\checkmark	
Salary	Currency	\checkmark	
	Edit Back to Profile		

<u>Figure 7</u>: Configuring field level access to the employee object for users of CEO profile

Step 2: Create a profile for CEO (4/4)

- Since the CEO should be able to view and edit all the fields on the Employee object only "Visible" should be selected and "Read-Only" should not be selected.
- For standard fields such as "Created By", "Last Modified By", and "Employee ID", it is not possible to give write any user permission to edit these fields



<u>Figure 8</u>: Create a new profile for the CEO – Configuring field level access to the employee object

Step 2: Create a profile for Employees (1/3)

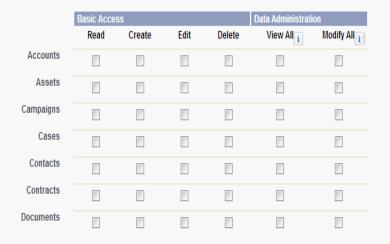
Name User License	ABC Employee Profile Salesforce		Custom Profile	✓	
Description					
Custom App Settings					
Call Center Community Company ABC HRM Application Content	Visible	Default	Sales Salesforce Chatter Sample Console Site.com	Visible Def	fault (((
Marketing		0			
Tab Soffings					
Tab Settings Overwrite users' personal tab customizations					
Standard Tab Settings					
Home	Default On		Forecasts	Tab Hidden 💌	
Accounts	Tab Hidden ▼		Groups	Tab Hidden 🔻	
Campaigns	Tab Hidden		Ideas	Tab Hidden 🔻	
Cases	Tab Hidden ▼		Leads	Tab Hidden ▼	
Chatter	Tab Hidden ▼		Libraries	Tab Hidden ▼	
Console	Tab Hidden		Opportunities	Tab Hidden ▼	
Contacts	Tab Hidden ▼		People	Tab Hidden 💌	
Content	Tab Hidden 💌		Products	Tab Hidden ▼	
Contracts	Tab Hidden ▼		Profile	Tab Hidden ▼	
Dashboards	Tab Hidden ▼		Reports	Tab Hidden ▼	
Data.com	Tab Hidden ▼		Site.com	Tab Hidden ▼	
Documents Files	Tab Hidden ▼ Tab Hidden ▼		Solutions Subscriptions	Tab Hidden ▼	
Custom Tab Settings Employees	Default On ▼				

Figure 9: Create a new profile for the Employees – Configuring tab and application access for user of Employees' profile

Step 2: Create a profile for Employees (2/3)

Standard Object Permissions

The permissions defined here control access at the object level. Access to individual records within that object type is controlled by the sharing model. Set access levels based on the functional requirements for the profile. For example, create different groups of permissions for individual contributors, managers, and administrators. How do I choose?



	Basic Acces	SS			Data Administrati	on
	Read	Create	Edit	Delete	View All	Modify All
Ideas						
Leads						
Opportunities						
Price Books						
Products						
Push Topics						
Solutions						

Custom Object Permissions

	Basic Acce	SS			Data Administrati	ion
	Read	Create	Edit	Delete	View All	Modify All
Employees	✓					

<u>Figure 10</u>: Create a new profile for the Employees – Configuring permissions on custom and standard objects for user of Employee profile

Step 2: Create a profile for Employees (3/3)

Employee Field-Level Security for profile ABC Employee Profile

V			
	Save Cancel		
Field Name	Field Type	Visible	Read-On
CEO	Checkbox		
Created By	Lookup	✓	✓
Date of Birth	Date		
Department ID	Picklist	₹	V
Email Address``	Email	₹	V
Employee ID	Auto Number	∀	✓
First Name	Text	V	V
Last Modified By	Lookup	∀	✓
Last Name	Text	V	✓
Owner	Lookup	∀	
Qualification	Text	₹	V
Salary	Currency		
	Save Cancel		

<u>Figure 11</u>: Create a new profile for the Employees – Configuring field level access to the employee object

Step 2: Assign a user to the profile

Create a new user
 Administration Setup → Manage Users → Users

User Edit		Save Save & New Cancel		
General Information				
First Name	Anhar	Role	<none specified=""></none>	▼ i
Last Name	Fazal	User License	Salesforce	•
Alias	Anhar	Profile	ABC Employee Profile	▼ i
Email	anhar.fazal@gmail.com	Active	✓	
Username	anhar.fazal@gmail.com	Marketing User		
Community Nickname	Anhar	i Offline User	7	
Title	Dr	Knowledge User		
Company	University of Technology	Force.com Flow User	/	
Department	School of Software	Service Cloud User		
Division		Site.com Contributor User	₹	
		Site.com Publisher User	V	
		Mobile User	V	
		Mobile Configuration		<u> </u>
		Accessibility Mode	i	
		Color-Blind Palette on Charts Force.com Quick Access Menu	i	
		Forecastin quick Addeds mond	•	
		Salesforce CRM Content User	✓	
		Receive Salesforce CRM Content Email Alerts	7	
		Receive Salesforce CRM Content Alerts as Daily Digest	₹	
		Allow Forecasting		
		Call Center		Q
		Phone	95141856	

Figure 12: Create and assign a new user to the employee profile

Step 2: Log in using the different user account

Create New ▼	All Clone Create New View
Recent Items	O
<u>₹ E-001</u>	Employee ID ↑
	<u>E-001</u>
	<u>E-002</u>
Recycle Bin	E-003
	<u>E-004</u>
	E-005

Figure 13: View the employee objects after logging in with different credentials – The credentials of a user assigned to the Employee profile

Step 2: View employee records

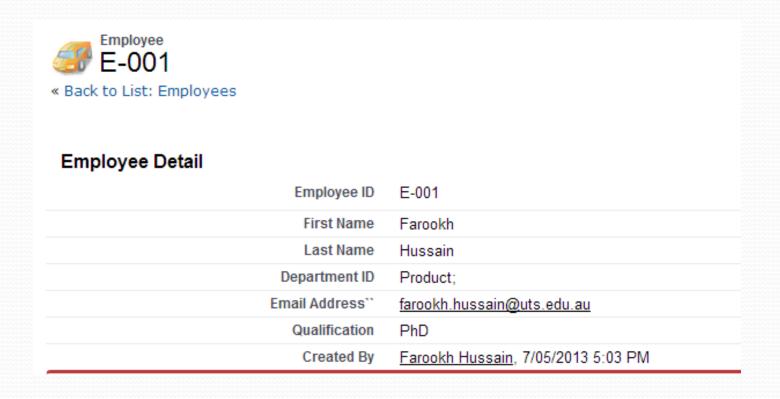
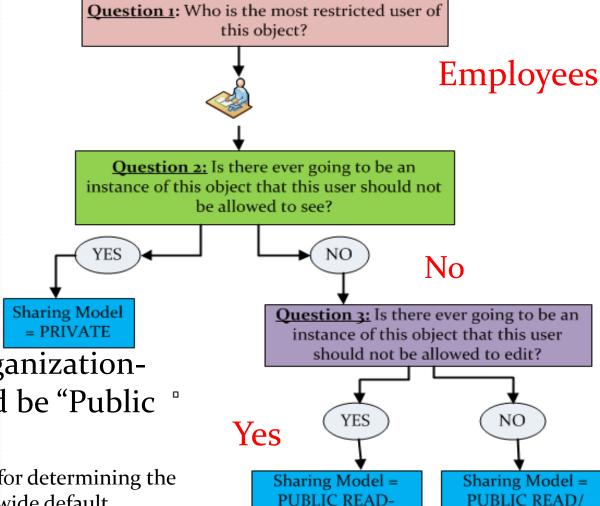


Figure 14: Different view of the employee object for users of employee profile

Step 3:Organization wide default for the employee object

• Determine the organization wide default for the employee

object



ONLY

WRITE

 In this case the Organizationwide default should be "Public " Read-Only"

Figure 15: Flow chart for determining the organization-wide default

Specifying Organization-Wide defaults on the Force.com platform

- In order to specify Organization-Wide defaults on the Force.com platform select
 - Administration Setup → Security Controls → Sharing Settings
 - In the Organization Wide Defaults area select "Edit"
 - Specify the organization wide default for the employee object.

Specifying Organization-Wide default

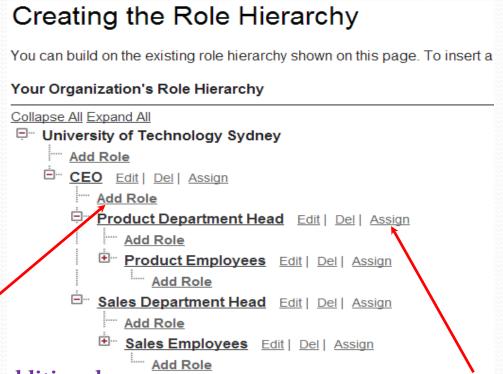
Organization-Wide Sharing Defaults Edit

Edit your organization-wide sharing defaults below. Changing these defaults will cause all sharing rules an object to Private makes records visible to record owners and those above them in the role hierarchy



Specifying Role Hierarchies on Force.com

- In order to specify role hierarchy on the Force.com platform select
- Administration Setup → Manage Users → Roles



You can then define additional roles below the role of the Chief Executive Officer Fig.

You can then assign actual users to this role

Figure 17: Role Hierarchy for the Company ABC

Role Edit	
Label	Product Department Head
Role Name	Product_Department_He
This role reports to	CEO S
Role Name as displayed on reports	Product Department Head

Figure 18: Defining the Product Department Head Role

Role Edit	
Label	Sales Department Head
Role Name	Sales_Department_Hea
This role reports to	CEO S
Role Name as displayed on reports	Sales Department Head

Figure 19: Defining the Sales
Department Head Role

New Role	
Role Edit	
Label	Product Employees
Role Name	Product_Employees i
This role reports to	Product Department Head 🕙
Role Name as displayed on reports	Product Employees
	Save & New Cancel

Figure 20: Defining the role of Employees working in the Product Department Role

New Role		
Role Edit		
Label	Sales Employees	
Role Name	Sales_Employees i	
This role reports to	Sales Department Head	
Role Name as displayed on reports	Sales Employees	
	Save Save & New Canc	el

Figure 21: Defining the role of Employees working in the Sales Department Role

Role Hierarchy of Company ABC

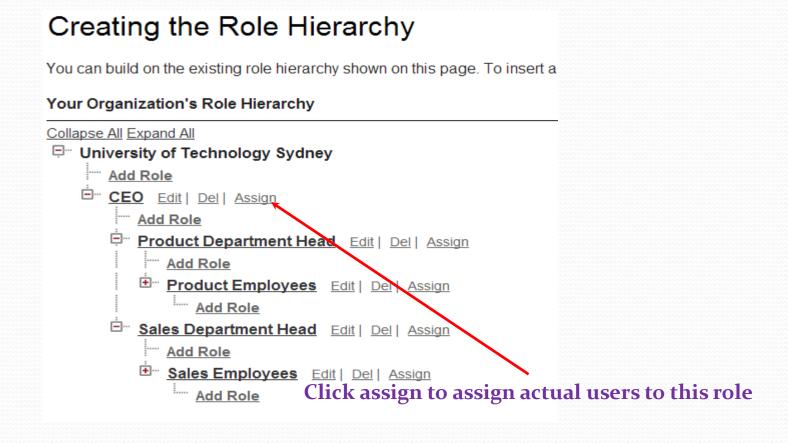


Figure 22: Role Hierarchy for the Company ABC

Assigning users to roles

Step 1: This is the role under consideration

The users shown in the **Selected Users** list are currently assigned to the role **CEO**.

To assign other users to this role:

Roles ÆEO

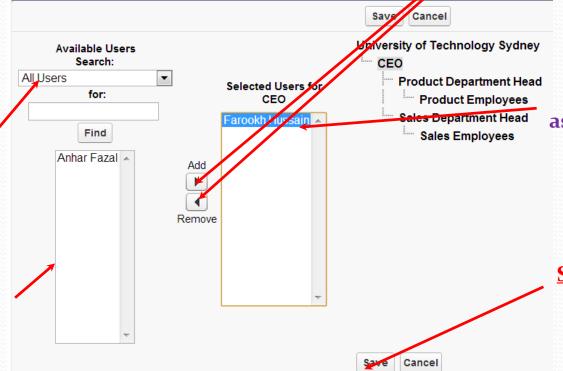
- · Make a selection from the drop-down list to show available users.
- . Choose a user on the left and add them to the Selected Users list.

Removing a user from the **Selected Users** list deletes the role assignment for that use

Step 4: Add or remove users assigned to the CEO role using these buttons

Step 2: Search for users that you wish assigned to this role

> Step 3: Select users that you wish assigned to this role



Step 5: List of current users assigned to the CEO role

Step 6: Save the role assignment

Figure 23: Assigning users to role

Enable sharing using role hierarchy

- In order to enable sharing is records based on the specified role hierarchy, go to
 - Administration Setup → Security Controls → Sharing Settings
- Ensure that the checkbox against "Employee" corresponding to "Grant Access using hierarchies" is selected.

Enable sharing using role hierarchy

Organization-Wide Sharing Defaults Edit

Ensure that this checkbox has been selected

Edit your organization-wide sharing defaults below. Changing these defaults will cause all sharing rules to be recalculated. This could require significant system resource your organization. Setting an object to Private makes records visible to record owners and those above them in the role hierarchy, and access can be extended using sharing these defaults will cause all sharing rules to be recalculated. This could require significant system resource your organization. Setting an object to Private makes records visible to record owners and those above them in the role hierarchy, and access can be extended using sharing rules to be recalculated.

Object	Default Access	Grant Access Using Hierarchies
Lead	Public Read/Write/Transfer ▼	₹
Account, Contract and Asset	Public Read/Write ▼	₹
Contact	Controlled by Parent ▼	₹
Opportunity	Public Read/Write ▼	₹
Case	Public Read/Write/Transfer ▼	₹
Campaign	Public Full Access ▼	₹
Activity	Private	₹
Calendar	Hide Details and Add Events ▼	₹
Price Book	Use ▼	<u>u</u>
Employee	Public Read/Write ▼	Ž

Figure 24: Enabling sharing using role hierarchies