

Certification Management App

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Course:

Salesforce Admin and Developer

Abstract – The Intro

The Certification Management Application is a Salesforce-based certification manager. The basis of the project is to help keep track of the Employees' who have completed their certification. Also, here the app allows only 2 types of profile in this whole system, which includes the "App User" and the "App Admin". The App admin is the one who produces the Certifications and the Vouchers for them. The role of the App User is to add Employees and create Certification Request for these employees, which is further reviewed by the App Admin. The application also gives us information about the results of the Certification Exam for each Employee. Apart from this, the app includes Reports and Dashboards which helps us in compiling information more easily.

Scope – Features of the System

The Following is the functionality which is provided by the system. Over here, there are 2 categories of people using this system. Each of them has their pros in the app.

1. App Admin

- 1.1. Create, Edit, Update and Delete Certifications.
- 1.2. Create, Edit, Update and Delete Vouchers.
- 1.3. Approve or Reject the Certification Requests.
- 1.4. View and Edit the Reports and Dashboard.
- 1.5. View the Employees in the System

2. App User

- 2.1. Create, Edit, Update and Delete Employees
- 2.2. Create, Edit, Update and Delete Certification Request
- 2.3. Update the Pass and Fail Status of the Employee.
- 2.4. View and Edit the Reports and Dashboards
- 2.5. View the Certifications and Vouchers in the System.

Now as we have discussed about the in scopes of the app, let's go and review the out bounds of the app. The Out Scope of the app include

1. The application does not include the Employee login
2. The employee can only share his details and see his status on the page
3. The employee certification registration page is not autonomous.
4. Third Party integrations are not yet included, except for Emails.

Class & Methods - Objects

Employee Object

The Employee Object in Salesforce is used to Store the necessary details about the Employee.

Fields

- Employee ID
- Employee Name
- Employee Email
- Primary Skill
- Secondary Skill
- Experience
- Comments

Certification Object

The Certification Object in Salesforce is used to store the details related to the certification

Fields

- Certification ID
- Certification Name
- Comments

Certification Request Object

The Certification Request Object Aka Request Object in Salesforce is used to store the vital relationships of the Certification, Voucher, and Employee that is assigned by the App User.

Fields

- Certification Object (Master Detail)
- Employee Object (Master Detail)
- Voucher Object (Look Up)
- Due Date
- Status
 - o Draft
 - o Approved
 - o Rejected
 - o Passed
 - o Failed
- Comments

Voucher Object

The Voucher Object in Salesforce is used to store the Voucher codes and the voucher related information.

Field

- Voucher ID
- Voucher Name
- Voucher Cost
- Certification Object (Look Up)
- Validity
- Active
 - o True
 - o False
- Comments

Routing – Process & Approval

Process Builder

There are 2 Process builders which have been utilized over here. The 2 Process Builders include “Approval Caller” & “Voucher Inactivator”. These 2 vouchers have their own use which is provided below

Approval Caller

The “Approval Caller” Process builder is used to perform the initial operations once a record is created in the Request Object. Once the Request record is created this process is invoked and the Employee Email is copied for Reference, to send mails and the Approval Process which is used to Approve or Reject the Employees’ Certification is called after that which is reviewed by the App Admin.

Voucher Inactivator

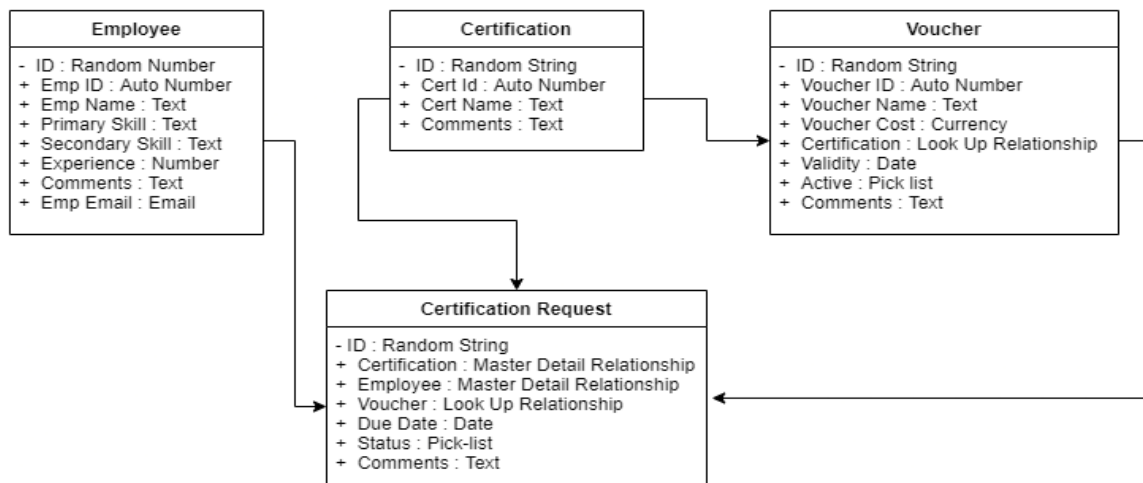
The “Voucher Inactivator” Process builder is utilized once the 1st approval process builder has completed its work. After the approval process ends and the Status is set to Approved, then if a voucher is applied, then that voucher is Deactivated. If the Status is set to rejected, then the Voucher is activated and left as is. Now if there is no Voucher applied but Status is set to approved, and a Voucher is available, then that voucher is automatically applied with the help of an aid (Trigger). Now the second approval process is called to set the status of the certification to either pass or failed depending upon the results which are provided by the Employee to the App User.

Approval Process

There are 2 approval process in total in this Salesforce application. The Approval processes include “Certification Request Approval” & “Passed or Fail”. The Certification Request Approval is handled by the App Admin and he sets the Request Status to either Approved or Rejected accordingly. The Second approval process is handled by the App User, who on after being notified by the Employee, Updates the Status to either Passed or Failed based upon the Results received from the Employee via Email.

Simplifiers – UML Diagrams

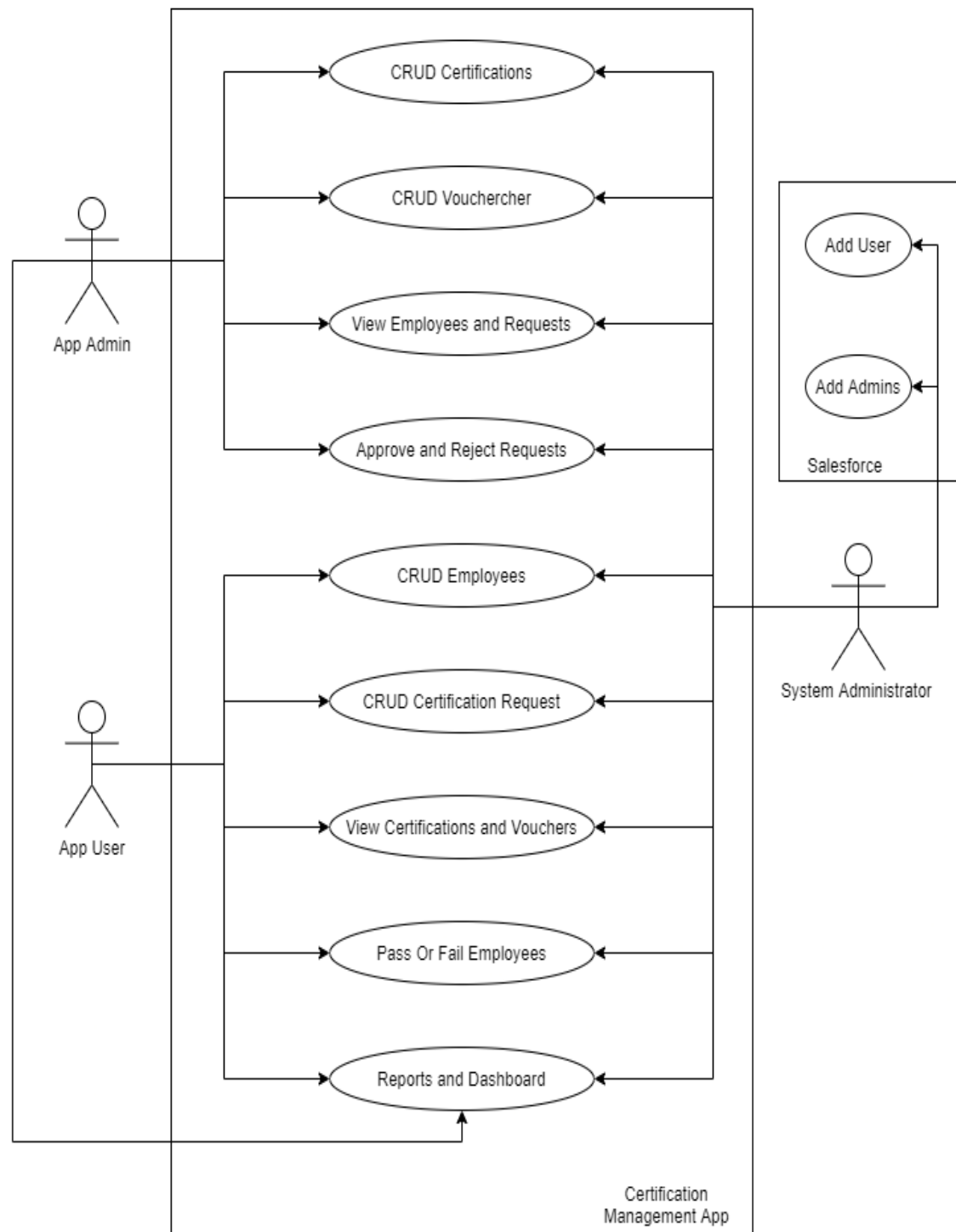
Class Diagram



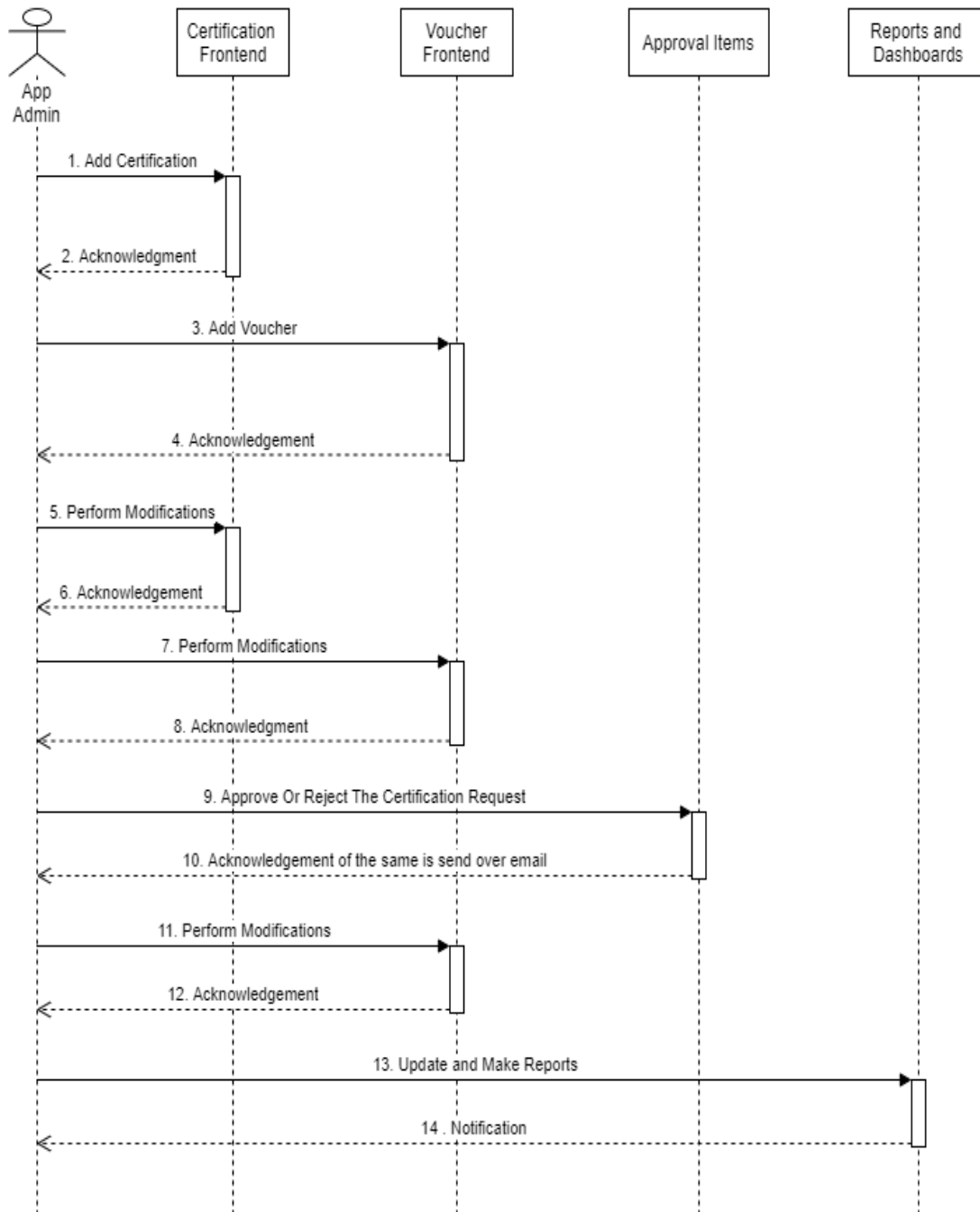
Entity Relation Diagram



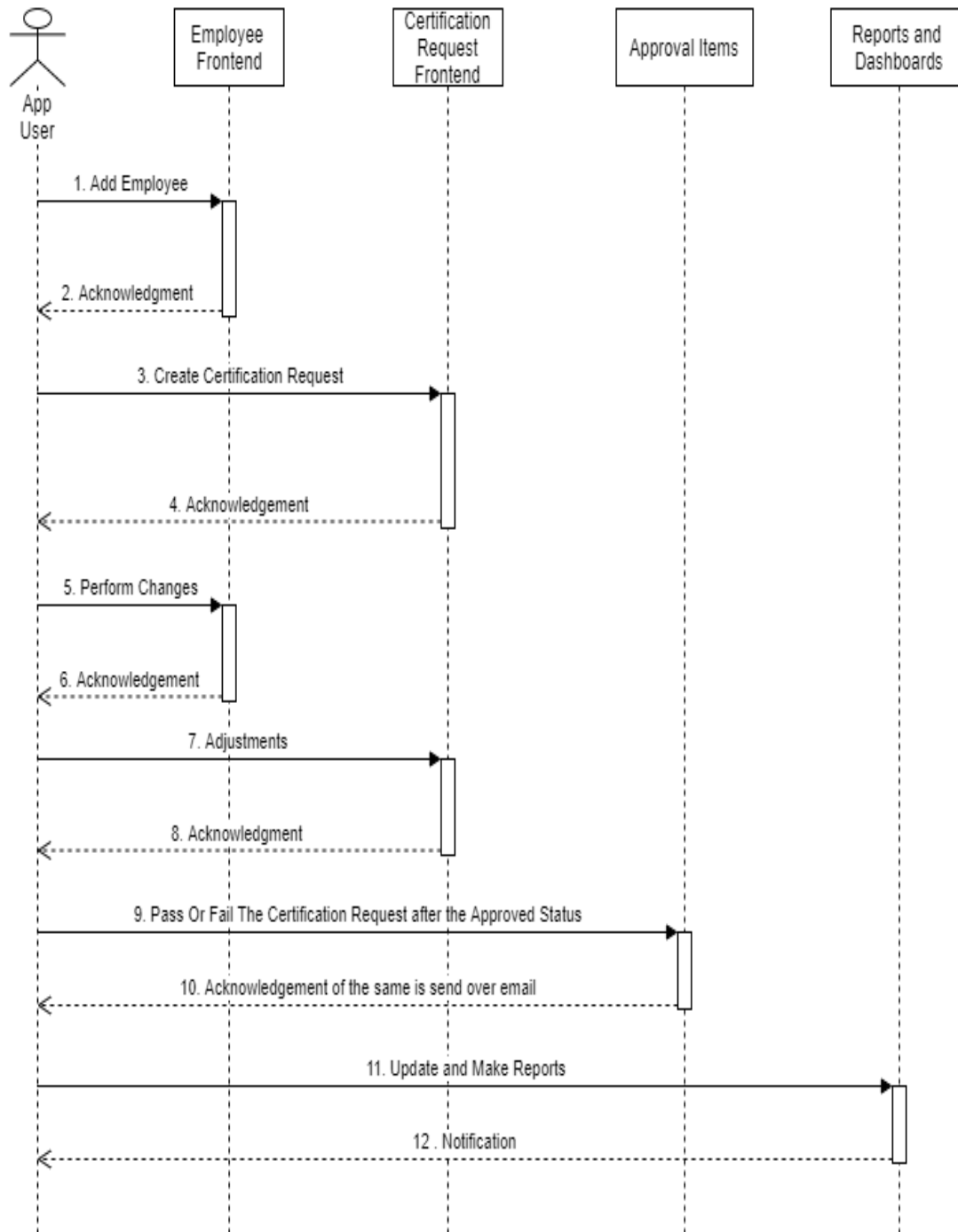
Use Case Diagram



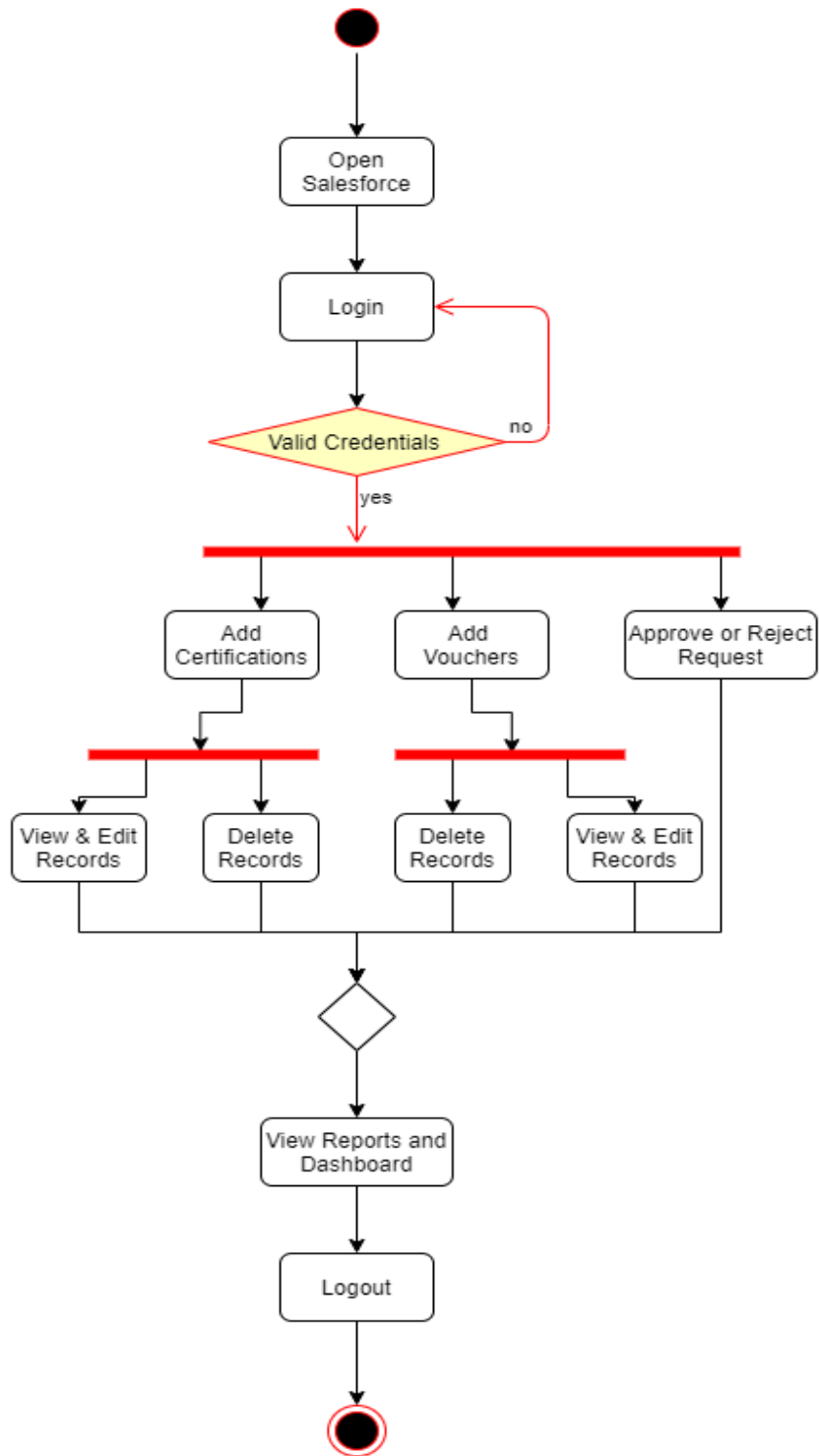
Sequence Diagram (Admin)



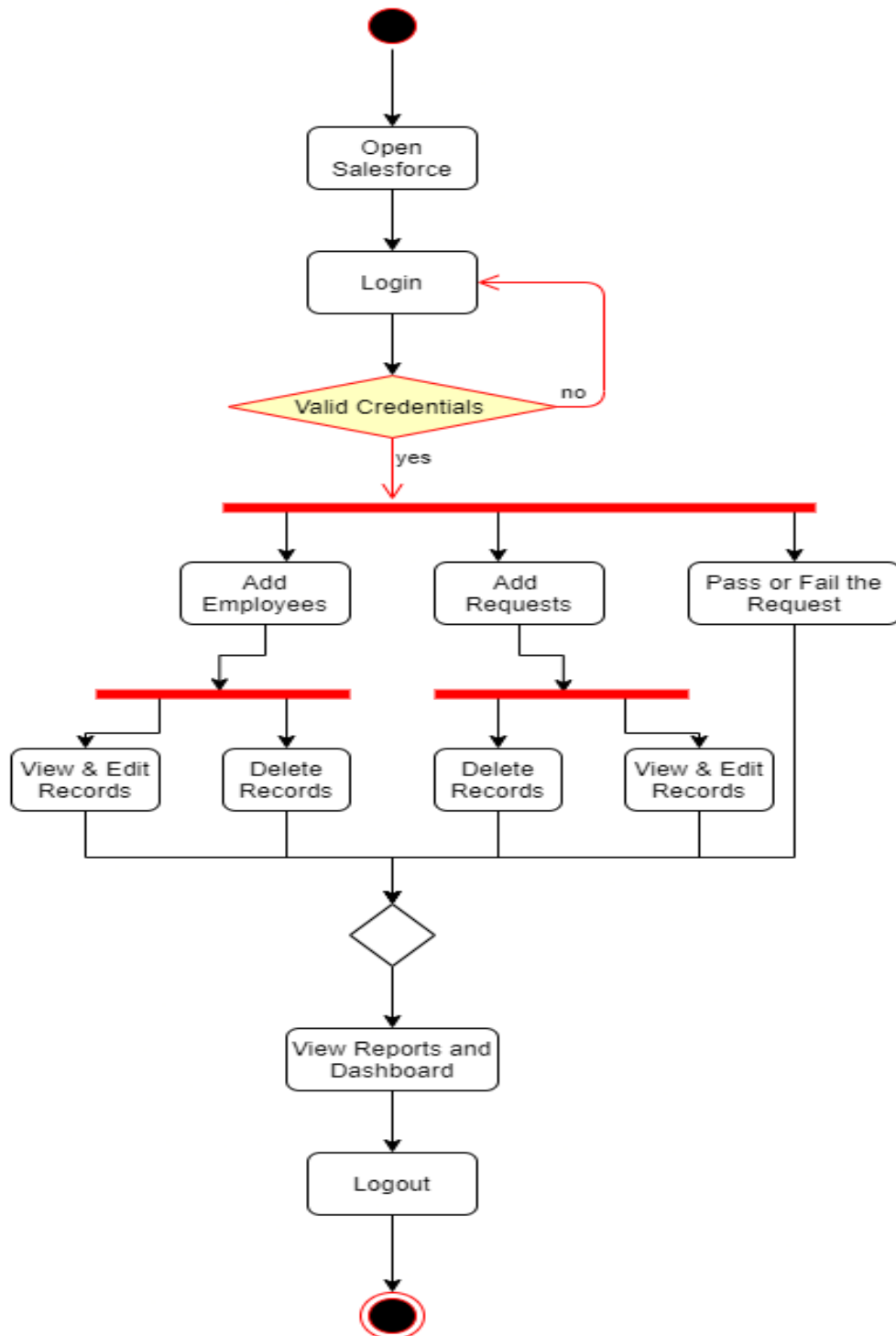
Sequence Diagram (User)



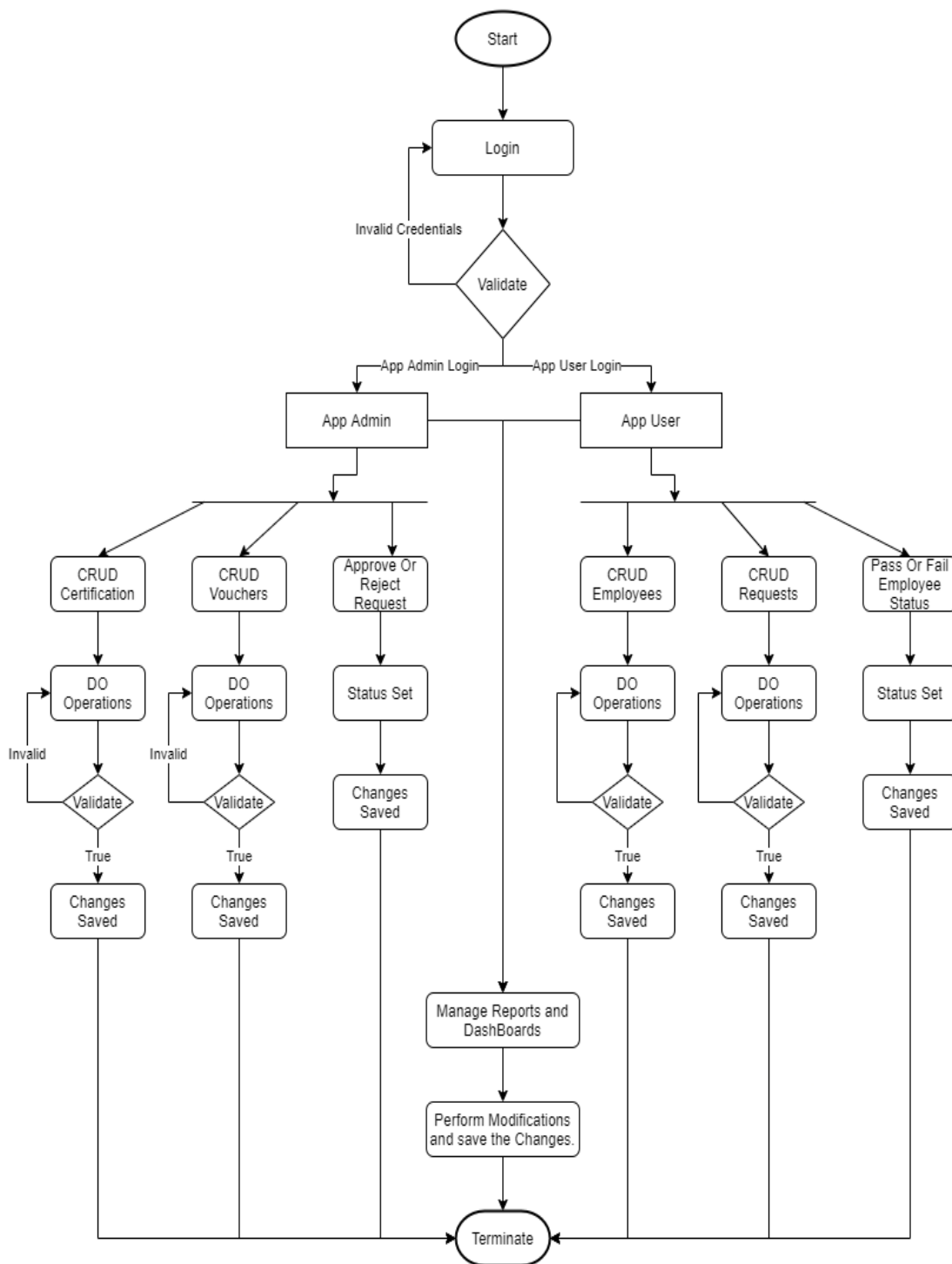
Activity Diagram (Admin)



Activity Diagram (User)



Flow Chart



Validations – Triggers & Rules

Rules

The rules over here represent the Validations that the input and other details follow in order for the App to work in an Organized Manner. The rules that were used here include

- Employee Name must be Unique.
- Experience should be in Months
- Certification Name must be Unique.
- Due date should not be less than Today.
- Status should always be Draft at the beginning.
- Once an employee has requested for certification, he cannot make any more requests
- Same certification and Voucher cannot be used over again, if already used.
- Voucher Name must be unique and 10 chars long.
- Validity should be greater than today.
- A Voucher should be Active for it to be applied.
- If a request has been approved and has no voucher, but a voucher is available, then it should be automatically applied.

Triggers

The triggers are nothing but the Apex Triggers which have helped us in maintaining the Proper flow of the Application and aiding us in performing some vital validations which were necessary and important. There are 3 triggers in total, which are –

[Checking Duplicates \(Certification Request\)](#)

This trigger helps us in checking if a Certification request is not being made with the same set of Certification and Voucher details, which were used previously (if any).

Employee Duplicate (Certification Request)

This trigger helps us in checking if a Certification request is being made with an Employee who already has a request pending or approved.

Auto Voucher (Certification Request)

This trigger comes into run only when a Request Status has been set to Approved without any voucher for that Request. If a voucher is available in the Voucher object for that certification (unused), then only this trigger will help in applying that voucher to the appropriate Request and deactivate that voucher.

Beliefs – Assumptions

The things that are presumed by this Application encompass a variety of features, some of which are

- The Employee mails for a Request
- The Employee is not a type of user on salesforce.
- The Employee can only see his details but cannot edit them.
- The App Admin cannot add App users.
- Employee results are passed over by mail
- Certification request is assigned to approved by the Approval Process, but not when a voucher has been applied.
- CC to other users is done by the Roles accordingly. (Out of the Salesforce Domain)
- Reports and Dashboards have the time frequency set to the Current Financial Year, and this can be changed by the viewer accordingly, to fit his timeline.

Path – Application Flow

- The App Admin creates a Certification for the Employees to be performed.
- Now an Employee who has to perform the Certification, mails the App User regarding the Certification he wants to apply for.
- Now the App User, creates that Employee in the Application and raises the Certification Request for the Employee taking in the Certification he wants to apply for.
- Now in this process is a voucher was available, the app user would have pre-assumably applied for the same to the Request.
- Now the App admin can either create Certifications, vouchers as he could do before.
- Now the App Admin performs reviews over the records of the Certification Request, to check the Approval items in the records which are send to him by default.
- Now, if the App Admin, Approved the Request, then the Employee can write the exam.
- Else, if Status is et to Rejected, then the Employee cannot appear for the Certification exam.
- Once, the Employee has been approved to write the Exam, if he has no voucher applied at that moment, and there is a voucher available in the Vouchers, then it is automatically applied, in that case.
- Now after the Employee has appeared for the Examination, he passes on the details to the App User about his results.
- Now the App User updates the results accordingly in the Application.
- So, this Is the whole process and this repeats over and over again.

Figures – App Snippets

Employee

Add Employee

The screenshot shows the 'Add Employee' form in a Salesforce application. The form is titled 'Add an Employee' and contains several input fields for employee information. The fields are: Name, Email, Primary Skill, Secondary Skill, Experience, and Comments. Each field has a placeholder text indicating what to enter. At the bottom of the form, there is a red 'Add Employee' button. The browser address bar shows the URL: resourceful-badger-37nejl-dev-ed.lightning.force.com/lightning/ui/Employee. The Salesforce navigation bar at the top includes links for Certification Manager, Home, Employee, Certification, Voucher, Request, Approval Requests, and Report and Dashboards.

Employee

Add Employee Employee List

Add an Employee

Name
Enter your Name

Email
Enter your Email

Primary Skill
Enter your main Skill here

Secondary Skill
Enter additional skills here, csv

Experience
Enter Experience in months

Comments
Enter any comments you have here !

Add Employee

View Employee Table

The screenshot shows the 'View Employee Table' in a Salesforce application. The table displays a list of employees with columns for Emp No, Name, Email, Primary Skill, Secondary Skill, Experience, and Comments. A dropdown menu is visible next to the first row, showing options for Record Details, Edit, and Delete. The browser address bar shows the URL: resourceful-badger-37nejl-dev-ed.lightning.force.com/lightning/ui/Employee. The Salesforce navigation bar at the top includes links for Certification Manager, Home, Employee, Certification, Voucher, Request, Approval Requests, and Report and Dashboards.

Employee

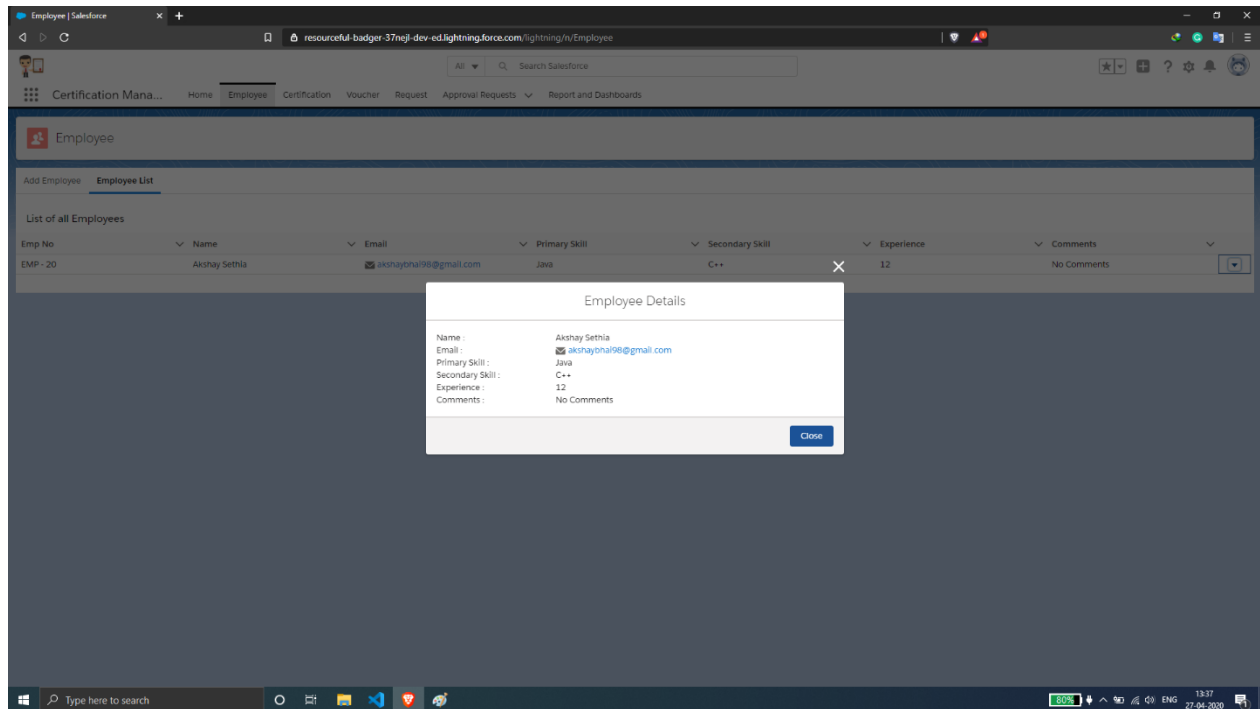
Add Employee Employee List

List of all Employees

Emp No	Name	Email	Primary Skill	Secondary Skill	Experience	Comments
EMP - 20	Akshay Sethia	akshaysethi98@gmail.com	Java	C++	12	No Comments

Record Details
Edit
Delete

View Employee Detail



The screenshot shows the Salesforce interface for viewing employee details. The top navigation bar includes 'Certification Mana...', 'Home', 'Employee', 'Certification', 'Voucher', 'Request', 'Approval Requests', and 'Report and Dashboards'. The 'Employee' tab is active. Below the navigation bar, there's a section titled 'Employee' with a sub-tab 'Employee List'. A table titled 'List of all Employees' displays the following data:

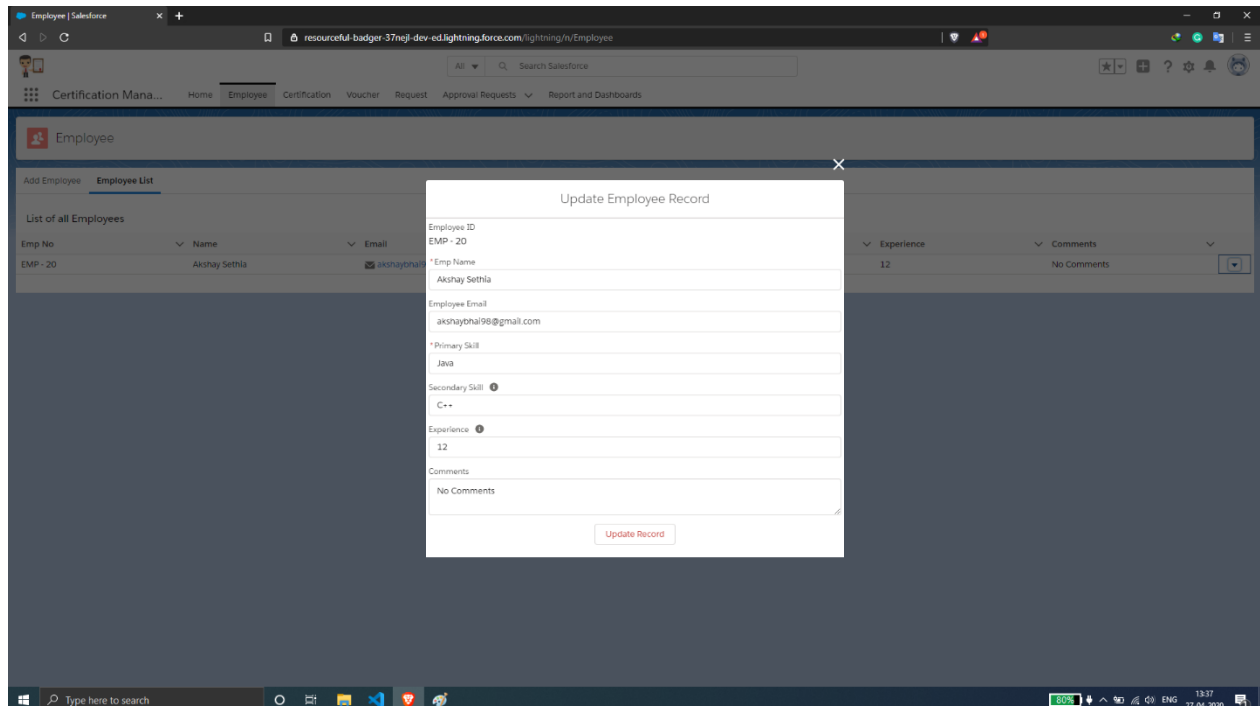
Emp No	Name	Email	Primary Skill	Secondary Skill	Experience	Comments
EMP - 20	Akshay Sethia	akshaybhal98@gmail.com	Java	C++	12	No Comments

An 'Employee Details' modal window is open, displaying the following information:

- Name : Akshay Sethia
- Email : akshaybhal98@gmail.com
- Primary Skill : Java
- Secondary Skill : C++
- Experience : 12
- Comments : No Comments

A 'Close' button is located at the bottom right of the modal.

Employee Edit



The screenshot shows the Salesforce interface for editing an employee record. The top navigation bar is the same as in the previous screenshot. The 'Employee' tab is active, and the 'Employee List' sub-tab is selected. The 'List of all Employees' table is visible in the background. An 'Update Employee Record' modal window is open, displaying the following fields:

- Employee ID: EMP - 20
- *Emp Name: Akshay Sethia
- Employee Email: akshaybhal98@gmail.com
- *Primary Skill: Java
- Secondary Skill: C++
- Experience: 12
- Comments: No Comments

An 'Update Record' button is located at the bottom right of the modal.

Certification

Add Certification

The screenshot shows the Salesforce 'Add Certification' form. The browser address bar displays 'resourceful-badger-37nej-dev-ed.lightning.force.com/lightning/n/Certification'. The navigation bar includes 'Certification Mana...', 'Home', 'Employee', 'Certification', 'Voucher', 'Request', 'Approval Requests', and 'Report and Dashboards'. The main content area has a 'Certification' header and two tabs: 'Add Certification' (active) and 'Certification List'. The 'Add Certification' form contains a 'Name' field with the placeholder 'Enter Certification Name', a 'Comments' field with the placeholder 'Enter any comments you have here !', and an 'Add Certification' button at the bottom.

View Certification Table

The screenshot shows the Salesforce 'View Certification Table'. The browser address bar displays 'resourceful-badger-37nej-dev-ed.lightning.force.com/lightning/n/Certification'. The navigation bar is the same as the previous screenshot. The main content area has a 'Certification' header and two tabs: 'Add Certification' and 'Certification List' (active). Below the tabs is the text 'List of all Certifications'. A table displays the following data:

Cert No	Certification Name	Comments
CERT - 11	Python Certification	Hello

A context menu is open over the first row, showing options: 'Record Details', 'Edit', and 'Delete'.

View Certification Record

The screenshot shows the Salesforce Certification Manager interface. The top navigation bar includes links for Home, Employee, Certification, Voucher, Request, Approval Requests, and Report and Dashboards. The main content area displays a table titled "List of all Certifications" with columns for Cert No, Certification Name, and Comments. A single record is shown: CERT - 11, Python Certification, Hello. A modal window titled "Certification Details" is open, displaying the details for the selected record: Certification Name: Python Certification, Comments: Hello. The modal has a "Close" button.

Cert No	Certification Name	Comments
CERT - 11	Python Certification	Hello

Certification Details

Certification Name : Python Certification
Comments : Hello

Close

Edit Certification Details

The screenshot shows the same Salesforce Certification Manager interface as before. The modal window titled "Update Certification Record" is open, allowing editing of the certification details. The modal contains fields for Cert ID (CERT - 11), Cert Name (Python Certification), and Comments (Hello). An "Update Record" button is at the bottom.

Update Certification Record

Cert ID
CERT - 11

* Cert Name
Python Certification

Comments
Hello

Update Record

Certification Request

Add Certification Request

The screenshot shows the 'Add Certification Request' form in the Salesforce Lightning interface. The form is titled 'Add an Certification Request' and includes several input fields: 'Certification' (with a search bar), 'Employee' (with a search bar), 'Due Date' (with a calendar icon), 'Status' (a dropdown menu currently showing '--None--'), 'Comments' (a text area), and 'Voucher' (with a search bar). At the bottom of the form are 'Cancel' and 'Save' buttons. The top navigation bar shows the 'Request' tab is active, and the breadcrumb trail is 'Certification Request List'.

View Certification Request Table

The screenshot shows the 'View Certification Request Table' in the Salesforce Lightning interface. The table is titled 'List of all Requests' and has the following columns: Request Id, Certification Name, Employee Name, Due Date, Status, Voucher Name, and Request Comments. A single record is displayed with the following data:

Request Id	Certification Name	Employee Name	Due Date	Status	Voucher Name	Request Comments
REQ - 33	a012x000002u7MhAAI	a002x0000038tcnAAA	2020-04-30	Draft	a032x0000001ANhGA4W	

A context menu is open over the first row, showing options: 'Record Details', 'Edit', and 'Delete'. The top navigation bar shows the 'Request' tab is active, and the breadcrumb trail is 'Certification Request List'.

View Request Record

The screenshot shows the Salesforce Lightning interface for the 'Request' app. The 'Certification Request List' is displayed with columns for Request Id, Certification Name, Employee Name, Due Date, Status, Voucher Name, and Request Comments. A modal dialog titled 'Certification Request Details' is open, showing the following information:

Field	Value
Certification Name	Python Certification
Voucher Name	Python Cer
Employee Name	Aishay Sethia
Due Date	2020-04-30
Status	Draft
Comments	

The dialog has a 'Close' button at the bottom right.

Edit Request Record

The screenshot shows the Salesforce Lightning interface for the 'Request' app. The 'Certification Request List' is displayed. A modal dialog titled 'Update Certification Request' is open, showing the following information:

Field	Value
Request ID	REQ - 33
* Certification	CERT - 11
* Employee	EMP - 22
* Due Date	Apr 30, 2020
Status	Draft
Voucher	VOU - 33
Comments	

The dialog has an 'Update Certification Request' button at the bottom right.

Voucher Object

Add Voucher

The screenshot shows the 'Add Voucher' form in the Salesforce interface. The form is titled 'Add an Voucher' and contains several input fields: 'Voucher Name', '* Voucher Cost', '* Validity', '* Active' (a dropdown menu currently showing 'True'), and '* Certification' (a search field labeled 'Search Certifications...'). There is also a 'Comments' text area at the bottom. At the bottom right of the form, there are 'Cancel' and 'Save' buttons. The top navigation bar includes 'Certification Mana...', 'Home', 'Employee', 'Certification', 'Voucher', 'Request', 'Approval Requests', and 'Report and Dashboards'. The browser address bar shows 'resourceful-badger-37nej-dev-ed.lightning.force.com/lightning/n/Voucher'.

View Voucher Table

The screenshot shows the 'View Voucher Table' in the Salesforce interface. The table is titled 'List of all Vouchers' and has the following columns: 'Voucher Id', 'Voucher Name', 'Voucher Cost', 'Voucher Validity', 'Active', and 'Voucher Comments'. There is one row of data with the following values: 'VOU - 33', 'Python Cer', '₹1,522.00', '2020-04-30', 'True', and an empty comments field. A context menu is open over the first row, showing options: 'Record Details', 'Edit', and 'Delete'. The top navigation bar is the same as in the previous screenshot. The browser address bar shows the same URL.

Voucher Id	Voucher Name	Voucher Cost	Voucher Validity	Active	Voucher Comments
VOU - 33	Python Cer	₹1,522.00	2020-04-30	True	

View Voucher Details

The screenshot shows the Salesforce 'Voucher' page. The 'Voucher List' tab is active, displaying a table of vouchers. A modal window titled 'Voucher Details' is open, showing the following information:

Voucher Details	
Voucher Name :	Python Cer
Voucher Cost :	1,532
Voucher Validity :	2020-04-30
Active :	True
Certification :	Python Certification
Comments :	

The modal has a 'Close' button at the bottom right.

Edit Voucher Details

The screenshot shows the Salesforce 'Voucher' page with the 'Update Voucher Record' modal open. The modal contains the following fields:

- Voucher ID: VOU - 33
- Voucher Name: Python Cer
- * Voucher Cost: \$1,532.00
- * Validity: Apr 30, 2020
- * Active: True
- * Certification: CERT - 11
- Comments: (empty text area)

An 'Update Voucher' button is located at the bottom of the modal.

Home & Others

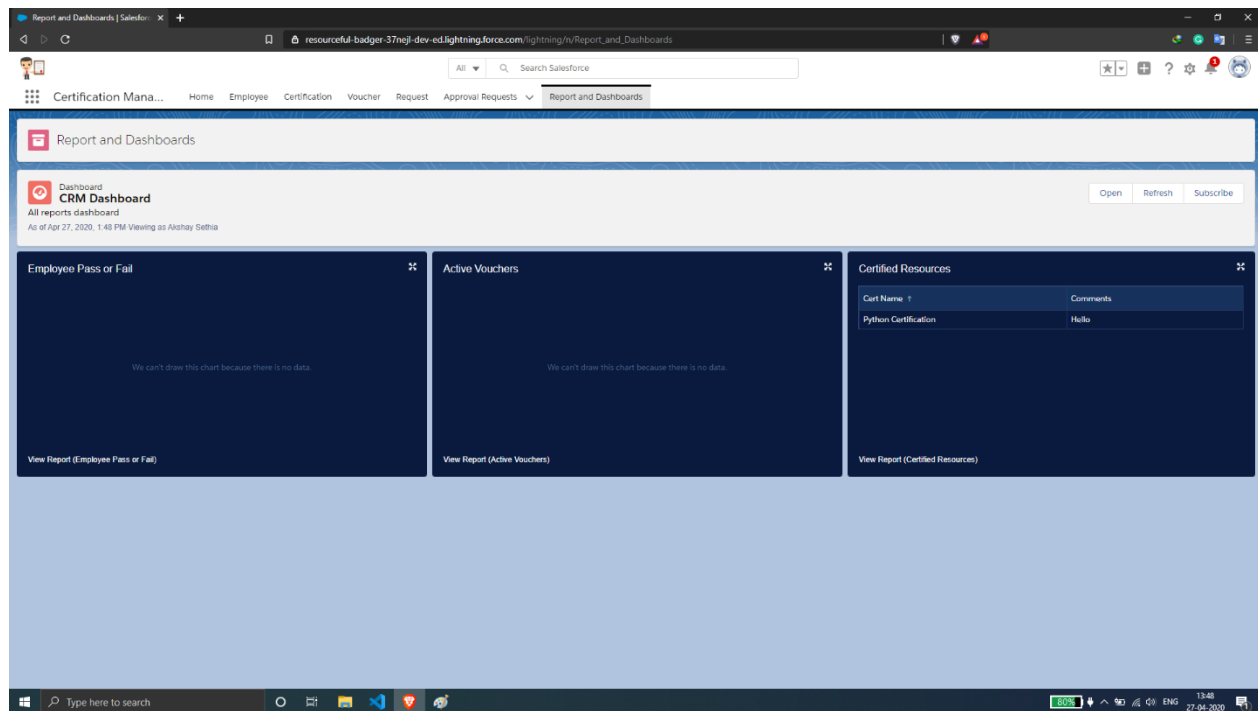
Home

The screenshot shows the Salesforce Lightning Home page for the Certification Management App. The page has a navigation bar with tabs: Home, Employee, Certification, Voucher, Request, Approval Requests, and Report and Dashboards. The main content area is titled "Welcome To Certification Management App" and lists four sections: Employee, Certification, Voucher, and Request, each with a brief description of their functions. Below these sections are two "All" list views: "All 0 items, sorted by Employee ID" and "All 0 items, sorted by Cert ID". Both lists are empty and display a message: "There's nothing in All yet. When records are added to this list view, you'll see them here." On the right side, there is a "Items to Approve" section with the text: "No approval requests need your attention right now." The bottom of the page shows the Windows taskbar with the search bar and system tray.

Approval Records

The screenshot shows the Salesforce Lightning "Approval Requests" page. The page title is "Approval Requests" and the subtitle is "Items to Approve". Below the title, there is a message: "1 item - Sorted by Date Submitted - Filtered by requests assigned to me and my queues - Updated a few seconds ago". The page displays a table with the following columns: "Related To", "Type", "Most Recent Approver", and "Date Submitted". The table contains one row with the following data: "REQ - 33", "Certification Request", "Akshay Sethia", and "4/27/2020, 1:43 PM". A context menu is open over the first row, showing options: "Approve", "Reject", and "Reassign". The bottom of the page shows the Windows taskbar with the search bar and system tray.

Reports & Dashboards



Summarization – Result

So, with this it can be concluded that the Certification Management App, has been implemented with all the above features and works according to the use cases provided by the Problem Statement.