

Phase 6 - 9 Documentation

Phase 6: User Interface Development

Lightning App Builder -> Record Pages

Setup → Lightning App Builder → New → Record Page → Object: Assignment_c → Add Highlights Panel, Related Lists (Submissions, Grades).

The screenshot shows the Lightning App Builder interface for the 'Assignment_Record_Page'. The left sidebar contains a navigation menu with categories like Salesforce Scheduler, Objects and Fields, User Interface, and Custom Code. The 'Lightning App Builder' section is selected. The main content area displays the 'Assignment_Record_Page' configuration. It includes a 'Lightning Page Detail' section with 'Edit', 'Clone', and 'Delete' buttons. Below this is an 'Information' section with a table showing the page's name and description. The 'Assignments By App' section shows 'No Assignments to display'. The 'Assignments By App, Record Type, and Profile' section contains a table with columns for App, Record Type, Profile, and Form Factor.

App	Record Type	Profile	Form Factor
Assignment and Exam Management System	Master	Guardian_Profile	Desktop
Assignment and Exam Management System	Master	Standard User	Desktop
Assignment and Exam Management System	Master	Student_Profile	Desktop
Assignment and Exam Management System	Master	System Administrator	Desktop
Assignment and Exam Management System	Master	Teacher_Profile	Desktop

The screenshot shows the Lightning App Builder interface for the 'Lightning Pages' list. The left sidebar is the same as the previous screenshot. The main content area displays a table of existing Lightning Pages. The table has columns for Action, Label, Name, Namespace Prefix, Description, Type, Created By, and Last Modified By. The 'View' dropdown is set to 'All'. The 'Create New View' button is visible. The table lists several pages, including 'Assignment_Record_Page', 'Exam_Record_Page', 'Grade_Record_Page', 'Home_Page_Default', and 'Submission_Record_Page'.

Action	Label	Name	Namespace Prefix	Description	Type	Created By	Last Modified By
Edit Clone Del	Assignment_Record_Page	Assignment_Record_Page			Record Page	sfr: 9/22/2025, 7:19 PM	sfr: 9/22/2025, 7:20 PM
Edit Clone Del	Exam_Record_Page	Exam_Record_Page			Record Page	sfr: 9/22/2025, 7:46 PM	sfr: 9/22/2025, 7:46 PM
Edit Clone Del	Grade_Record_Page	Grade_Record_Page			Record Page	sfr: 9/22/2025, 7:43 PM	sfr: 9/22/2025, 7:43 PM
Edit Clone Del	Home_Page_Default	Home_Page_Default			Home Page	sfr: 8/14/2025, 6:12 AM	sfr: 8/14/2025, 6:12 AM
Edit Clone Del	Submission_Record_Page	Submission_Record_Page			Record Page	sfr: 9/22/2025, 7:36 PM	sfr: 9/22/2025, 7:37 PM

<https://orgfarm-323fe2f3a-dev-ed.develop.lightning.force.com/lightning/setup/fluxPageId/home>

Setup → Lightning App Builder → New → Record Page → Object: Exam__c → Add Exam Details, Related Assignments.

Setup → Lightning App Builder → New → Record Page → Object: Grade__c → Show Submission, Marks, Teacher Comments.

Setup → Lightning App Builder → New → Record Page → Object: Submission__c → Show Submission details and related Grade.

Setup → Lightning App Builder → New → Home Page → Default → Add Recent Items, Reports, List View.

Tabs (Custom Object Tabs)

The image shows two screenshots of the Salesforce Setup interface, specifically the 'Tabs' section.

Top Screenshot: Custom Object Tabs List

The 'Custom Object Tabs' list displays the following tabs:

Action	Label	Tab Style	Description
Edit Del	Assignments	Books	
Edit Del	Courses	Bank	
Edit Del	Exams	Safe	
Edit Del	Grades	Bottle	
Edit Del	Guardians	Chess piece	
Edit Del	Integration Logs	Helicopter	
Edit Del	Students	Factory	
Edit Del	Submissions	Compass	

Bottom Screenshot: Assignments Tab Detail

The 'Assignments' tab detail view shows the following information:

Custom Tab Definition Detail		Tab Style
Tab Label	Assignments	Books
Object	Assignment	Splash Page Custom Link
Description		
Created By	Shruti Misal	Modified By
	9/16/2025, 10:54 AM	9/16/2025, 10:54 AM

Setup → Tabs → New → Custom Object Tab → Exam

Setup → Tabs → New → Custom Object Tab → Courses

Setup → Tabs → New → Custom Object Tab → Grades

Setup → Tabs → New → Custom Object Tab → Guardians

Setup → Tabs → New → Custom Object Tab → Integration Logs

Setup → Tabs → New → Custom Object Tab → Students

LWC (Lightning Web Components)

VS Code → Create LWC → assignmentSummary → Deploy to Salesforce → Add to Assignment Record Page.

```
1 <template>
2   <lightning-card title="Assignments Summary" icon-name="standard:assignment">
3     <template if:true={assignments}>
4       <ul class="assignment-list">
5         <template for:each={assignments} for:item="assignment">
6           <li key={assignment.Id} class="assignment-item">
7             <strong>{assignment.Name}</strong>
8             <p>Status: {assignment.Status_c}</p>
9             <p>Due Date: {assignment.Due_Date_c}</p>
10          </li>
11        </template>
12      </ul>
13    </template>
14    <template if:true={error}>
15      <p class="error">Error loading assignments.</p>
16    </template>
17    <template if:false={assignments}>
18      <p>No assignments found.</p>
19    </template>
20  </lightning-card>
21 </template>
```

```
1 import { LightningElement, api, wire } from 'lwc';
2 import { getRelatedListRecords } from 'lightning/uiRelatedListApi';
3 import { refreshApex } from '@salesforce/apex';
4
5 export default class AssignmentSummary extends LightningElement {
6   @api recordId; // Student Id
7   assignments;
8   error;
9   wiredAssignmentsResult;
10
11   // Listen for custom event 'submissionupdated' from child components
12   connectedCallback() {
13     this.template.addEventListener('submissionupdated', () => {
14       this.handleSubmissionUpdated();
15     });
16   }
17
18   @wire(getRelatedListRecords, {
19     parentRecordId: '$recordId',
20     relatedListId: 'Submissions_r', // API name of related list from Student_c
21     fields: [
22       'Submission__c.Assignment__r.Name',
23       'Submission__c.Assignment__r.Due_Date__c',
24       'Submission__c.Status__c'
25     ]
26   })
27   wiredAssignments(result) {
28     this.wiredAssignmentsResult = result;
29     const { data, error } = result;
30     if (data) {
31       // Map submissions + assignments
32       this.assignments = data.records.map(r => ({
33         Id: r.fields.Assignment__c.value,
```

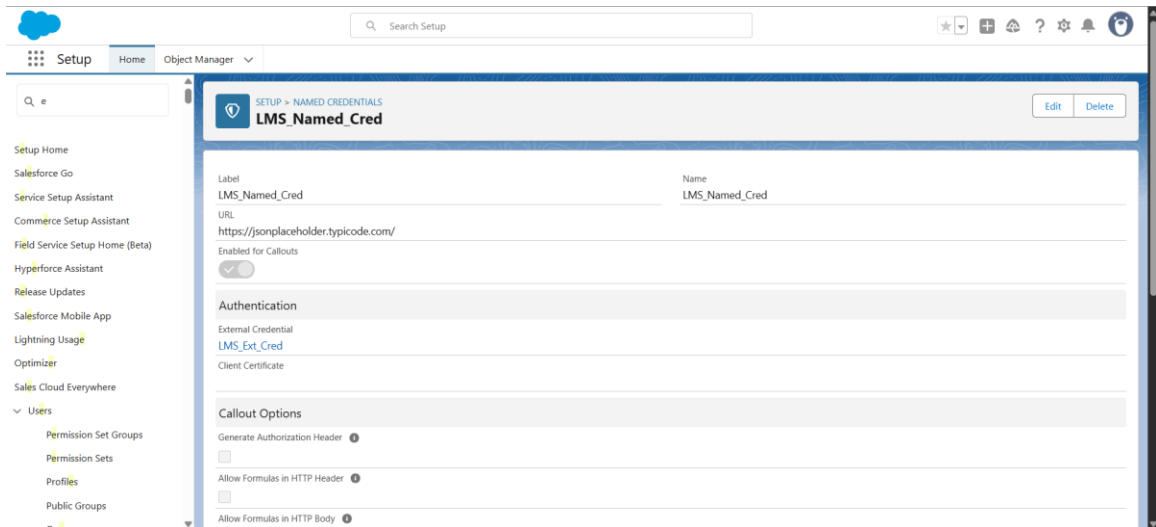
The screenshot shows an IDE with a project named "ASSIGNMENT-AND-EXAM-MANAGEMENT-SYSTEM". The Explorer pane on the left shows a directory structure with folders like "force-app/main/default", "classes", "contentassets", "flexipages", "flows", "layouts", "lwc", and "assignmentSummary". The "assignmentSummary" folder is expanded, showing files like "assignmentSummary.html", "assignmentSummary.js", and "assignmentSummary.js-meta.xml". The main editor pane displays the content of "assignmentSummary.js-meta.xml", which is an XML file defining a Lightning Component Bundle. The XML includes a namespace, API version, and target configurations for "lightning__RecordPage", "lightning__AppPage", and "lightning__HomePage".

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <LightningComponentBundle xmlns="http://soap.sforce.com/2006/04/metadata">
3   <apiVersion>58.0</apiVersion>
4   <isExposed>true</isExposed>
5   <targets>
6     <target>lightning__RecordPage</target>
7     <target>lightning__AppPage</target>
8     <target>lightning__HomePage</target>
9   </targets>
10  <targetConfigs>
11    <targetConfig targets="lightning__RecordPage">
12      <objects>
13        <object>Student__c</object>
14      </objects>
15    </targetConfig>
16  </targetConfigs>
17 </LightningComponentBundle>
```

Phase 7: Integration & External Access

Named Credentials

Setup → Named Credentials → New → Label: LMS_Named_Cred → URL:
<https://jsonplaceholder.typicode.com/> → External Credential: LMS_Ext_Cred → Save.



External Credentials

Setup → External Credentials → New → Label: LMS_Ext_Cred → Authentication Protocol: Basic Authentication → Save.

The screenshot shows the Salesforce Setup interface for an external credential named 'LMS_Ext_Cred'. The left sidebar contains navigation links for Setup Home, Salesforce Go, Service Setup Assistant, Commerce Setup Assistant, Field Service Setup Home (Beta), Hyperforce Assistant, Release Updates, Salesforce Mobile App, Lightning Usage, Optimizer, Sales Cloud Everywhere, and Users. The main content area displays the 'LMS_Ext_Cred' configuration with fields for Label, Name, Authentication Protocol, and Managed Package Access. Below this, there is a section for 'Related Named Credentials' and a 'Principals' table.

Label	Name	URL
LMS_Named_Cred	LMS_Named_Cred	https://jsonplaceholder.typicode.com/

Se...	Parameter Name	Identity Type	Authentication Status	Username	Actions
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Phase 8: Data Management & Deployment

Data Loader

Open Data Loader → Login with Salesforce → Select Insert → Object: Student__c → Choose CSV file → Map fields → Finish.

The screenshot shows a CSV file with student data. The first row contains headers for various fields, and the second row contains sample data.

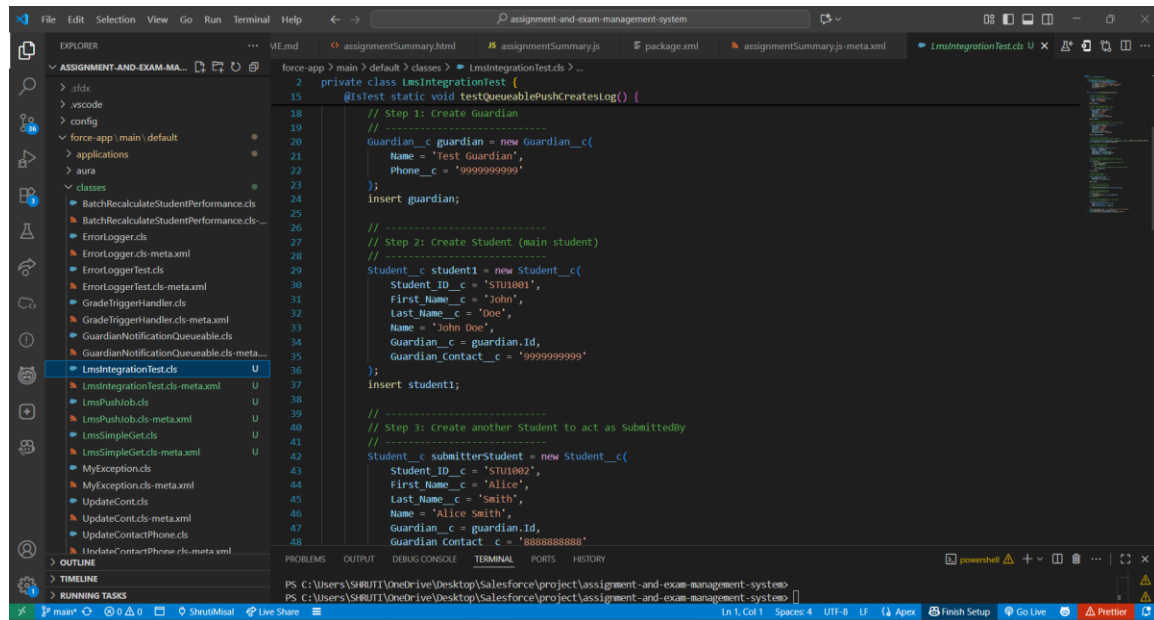
Record ID	Average_A	Created By	Created Date	Deleted	Email	First Name	Guardian	Guardian C	Guardian F	Last Activi	Last Modif	Last Modif	Last Name	Last Refer	Last Viewe	Owner ID	Phone	Student ID	Student N	System Mc	Owner.ID	Owner.Act	Os
a02gK0000	40	005gK0000	09/18/202	FALSE	shrutimisa	Shruti	a08gK0000	9.77E+09	raju misal	005gK0000	09/21/202	Misal	09/23/202	09/23/202	09/23/202	005gK0000	8.79E+09	PRM123	Shruti Mis	09/21/202	005gK0000	TRUE	sh

Data Export & Backup

Setup → Data Export → Schedule Export → Select Student_c → Export to CSV → Download.

VS Code & SFDX

Install VS Code → Install Salesforce Extension Pack → Connect to Org (sfdx force:auth:web:login) → Push/Deploy metadata.



Phase 9: Reporting, Dashboards & Security Review

Reports

Report: Exams with Course
New Exams with Course Report

Total Records: 3 Total Max Marks: 150

	Exam: Exam Name	Course: Course Name	Exam: ID	Max Marks
1	UNIT TEST 1	2nd class	a05gK000007w1Nu	30
2	Winter 2025	2nd class	a05gK000007w82n	80
3	UNIT TEST 2	2nd class	a05gK000008JcCb	40
4				150

Reports → New Report → Object: Exam_c → Report: New Exams with Course Report

Reports → New Report → Object: Course__c → Report: New Courses with Student Report

Screenshot: _____

Reports → New Report → Object: Grade__c → Report: New Grades with Assignment Report

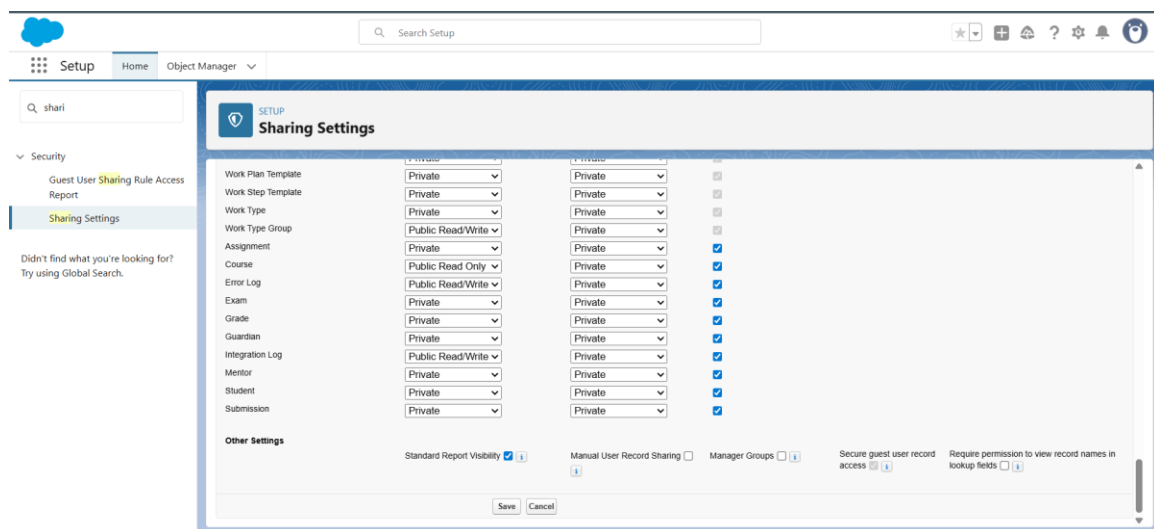
Screenshot: _____

Reports → New Report → Object: Submission__c → Report: New Submissions Report

Screenshot: _____

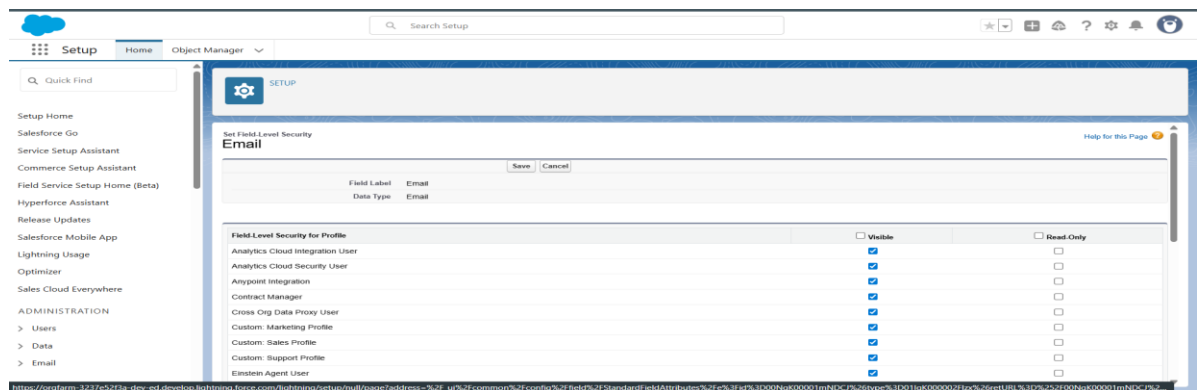
Sharing Settings (OWD)

Setup → Sharing Settings → Edit OWD → Define object-level access for Assignment, Submission, Grade, etc.



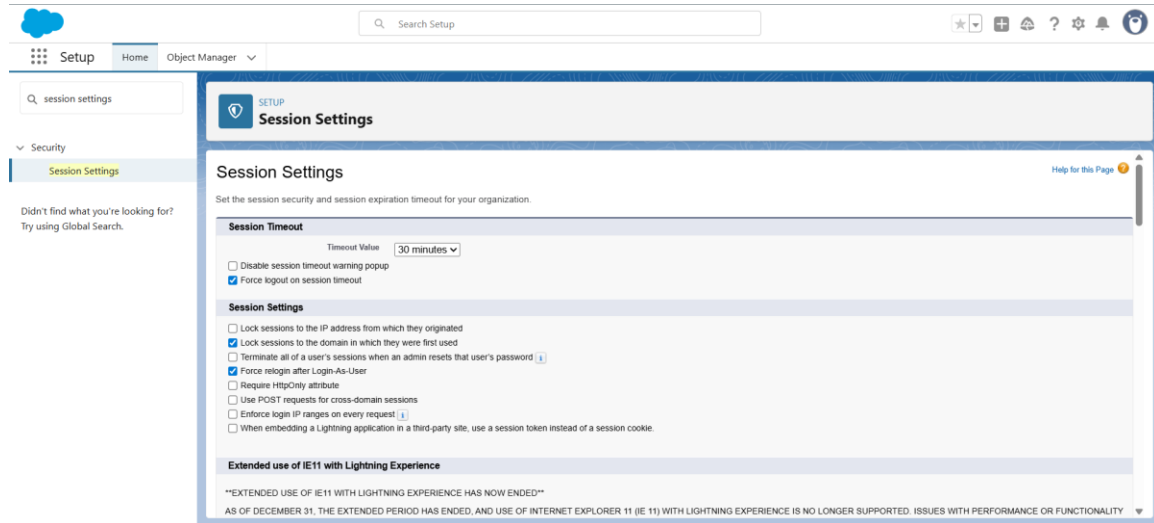
Field Level Security

Setup → Object Manager → [Select Object] → Fields & Relationships → Select Field → Set Field-Level Security.



Session Settings

Setup → Session Settings → Session Timeout = 30 minutes → Save.



The screenshot shows the Salesforce Setup interface. The left sidebar has a search bar with "session settings" and a "Security" section with "Session Settings" highlighted. The main content area is titled "Session Settings" and includes a sub-header "Set the session security and session expiration timeout for your organization." Below this, there are two sections: "Session Timeout" and "Session Settings".

Session Timeout

- Timeout Value: 30 minutes
- ☐ Disable session timeout warning popup
- ☒ Force logout on session timeout

Session Settings

- ☐ Lock sessions to the IP address from which they originated
- ☒ Lock sessions to the domain in which they were first used
- ☐ Terminate all of a user's sessions when an admin resets that user's password
- ☒ Force relogin after Login-As-User
- ☐ Require HttpOnly attribute
- ☐ Use POST requests for cross-domain sessions
- ☐ Enforce login IP ranges on every request
- ☐ When embedding a Lightning application in a third-party site, use a session token instead of a session cookie.

Extended use of IE11 with Lightning Experience

EXTENDED USE OF IE11 WITH LIGHTNING EXPERIENCE HAS NOW ENDED

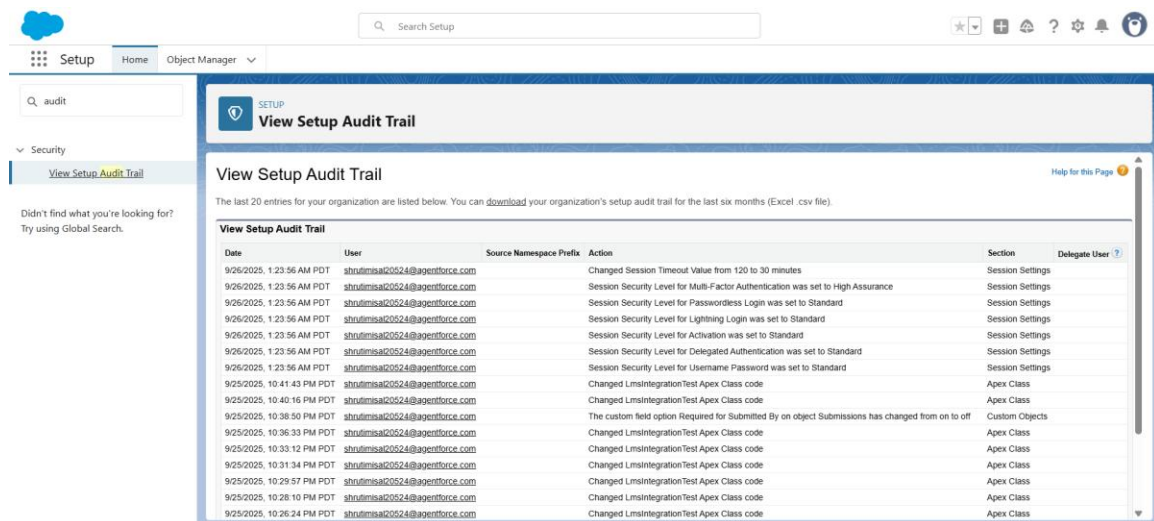
AS OF DECEMBER 31, THE EXTENDED PERIOD HAS ENDED, AND USE OF INTERNET EXPLORER 11 (IE 11) WITH LIGHTNING EXPERIENCE IS NO LONGER SUPPORTED. ISSUES WITH PERFORMANCE OR FUNCTIONALITY

Login IP Ranges

Setup → Profiles → [Select Profile] → Login IP Ranges → No restrictions added.

Audit Trail

Setup → View Setup Audit Trail → Download CSV if required.



The screenshot shows the Salesforce Setup interface. The left sidebar has a search bar with "audit" and a "Security" section with "View Setup Audit Trail" highlighted. The main content area is titled "View Setup Audit Trail" and includes a sub-header "The last 20 entries for your organization are listed below. You can download your organization's setup audit trail for the last six months (Excel .csv file)." Below this, there is a table with the following columns: Date, User, Source Namespace Prefix, Action, Section, and Delegate User.

Date	User	Source Namespace Prefix	Action	Section	Delegate User
9/26/2025, 1:23:56 AM PDT	shulmisaat20524@agentforce.com		Changed Session Timeout Value from 120 to 30 minutes	Session Settings	
9/26/2025, 1:23:56 AM PDT	shulmisaat20524@agentforce.com		Session Security Level for Multi-Factor Authentication was set to High Assurance	Session Settings	
9/26/2025, 1:23:56 AM PDT	shulmisaat20524@agentforce.com		Session Security Level for Passwordless Login was set to Standard	Session Settings	
9/26/2025, 1:23:56 AM PDT	shulmisaat20524@agentforce.com		Session Security Level for Lightning Login was set to Standard	Session Settings	
9/26/2025, 1:23:56 AM PDT	shulmisaat20524@agentforce.com		Session Security Level for Activation was set to Standard	Session Settings	
9/26/2025, 1:23:56 AM PDT	shulmisaat20524@agentforce.com		Session Security Level for Delegated Authentication was set to Standard	Session Settings	
9/26/2025, 1:23:56 AM PDT	shulmisaat20524@agentforce.com		Session Security Level for Username Password was set to Standard	Session Settings	
9/25/2025, 10:41:43 PM PDT	shulmisaat20524@agentforce.com		Changed LmsIntegrationTest Apex Class code	Apex Class	
9/25/2025, 10:40:16 PM PDT	shulmisaat20524@agentforce.com		Changed LmsIntegrationTest Apex Class code	Apex Class	
9/25/2025, 10:38:50 PM PDT	shulmisaat20524@agentforce.com		The custom field option Required for Submitted By on object Submissions has changed from on to off	Custom Objects	
9/25/2025, 10:36:33 PM PDT	shulmisaat20524@agentforce.com		Changed LmsIntegrationTest Apex Class code	Apex Class	
9/25/2025, 10:33:13 PM PDT	shulmisaat20524@agentforce.com		Changed LmsIntegrationTest Apex Class code	Apex Class	
9/25/2025, 10:31:34 PM PDT	shulmisaat20524@agentforce.com		Changed LmsIntegrationTest Apex Class code	Apex Class	
9/25/2025, 10:29:57 PM PDT	shulmisaat20524@agentforce.com		Changed LmsIntegrationTest Apex Class code	Apex Class	
9/25/2025, 10:28:10 PM PDT	shulmisaat20524@agentforce.com		Changed LmsIntegrationTest Apex Class code	Apex Class	
9/25/2025, 10:26:24 PM PDT	shulmisaat20524@agentforce.com		Changed LmsIntegrationTest Apex Class code	Apex Class	