SALESFORCE ADMIN & DEVELOPER SYLLABUS

Greens Technologies

PART 1: SALESFORCE ADMIN

Module 1: Salesforce Fundamentals

Overview: Introduces cloud computing, CRM and how Salesforce is built, then covers the company-level settings an admin configures first.

1.1 Cloud Computing Basics

- What is CRM
- Multi-Tenant Architecture
- Advantages of Salesforce CRM
- Salesforce Editions
  - Essentials
  - Professional
  - Enterprise
  - Unlimited

1.2 Salesforce Architecture

- CRM Concepts
- Salesforce Ecosystem
- Lightning Experience vs Salesforce Classic
- AppExchange
- Trust and Security Model

1.3 Company Information

- Fiscal Year
- Business Hours
- Holidays
- Currencies
- Corporate Currency
- Multiple Currencies
- Advanced Currency Management

Practice: Explore a Developer Org, compare the editions, and set fiscal year, business hours, holidays and currencies.

Module 2: App Manager

Overview: Explains what an app is and how standard, custom and console apps are set up, branded and made visible to users.

2.1 App Manager

- What is an App
- Standard Apps
- Custom Apps
- Console Apps
- Navigation Items
- App Branding
- Utility Bar Configuration
- App Visibility Settings

Hands-On

Create a Sales Application with:

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- Accounts
- Contacts
- Opportunities
- Reports
- Dashboards

Practice: Create a Sales app with Accounts, Contacts, Opportunities, Reports and Dashboards.

Module 3: Lightning App Builder

Overview: Covers how to build App, Home and Record pages and make them change with the record using dynamic components.

3.1 Lightning App Builder Fundamentals

- Lightning Page Types
  - App Page
  - Home Page
  - Record Page

3.2 Dynamic Components

- Dynamic Forms
- Dynamic Actions
- Component Visibility
- Conditional Display Filters

3.3 Standard Components

- Related Lists
- Report Charts
- Rich Text
- Path
- Tabs
- Highlights Panel

Practical Exercises

- Create Dynamic Record Pages
- Design Responsive Home Page
- Configure Related List Quick Links

Practice: Build a dynamic record page, a responsive home page and related list quick links.

Module 4: Object Manager

Overview: Explains standard objects and how custom objects are created, deployed, secured and related to each other.

Understanding Objects

Standard Objects

- Account
- Contact
- Lead
- Opportunity
- Case
- Campaign
- Product
- Quote

Custom Objects

- Creation
- Deployment
- Permissions
- Relationships

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Practice: Create a custom object, set its permissions and link it to Account.

Module 5: Custom Fields & Relationships

Overview: Covers field types and the relationship types used to connect data, from lookup to many-to-many.

Field Types

Basic Fields

- Text
- Number
- Currency
- Date
- Date Time
- Email
- Phone
- URL

Advanced Fields

- Formula
- Roll-Up Summary
- Auto Number
- Geolocation
- Encrypted Fields

Relationship Types

Lookup Relationship

- Optional Relationships
- Cascade Behavior

Master Detail Relationship

- Parent Child Relationship
- Ownership
- Sharing Inheritance
- Roll-Up Summaries

Many-to-Many Relationships

- Junction Objects

Hierarchical Relationships

- User Hierarchies

Practice: Add basic and advanced fields, build a master-detail with a roll-up summary, and a junction object.

Module 6: Formula Fields

Overview: Shows how formulas calculate values from other fields using text, logical, math and date functions.

Introduction to Formulas

Functions

- Text Functions
- Logical Functions
- Math Functions
- Date Functions

Practice: Write one formula for each function type on a practice object.

Module 7: Validation Rules

Overview: Explains how validation rules protect data quality by blocking bad or incomplete entries.

Data Quality Enforcement

Business Scenarios

- Mandatory Fields

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- Email Format Validation
- Prevent Opportunity Closure
- Restrict Data Entry

Practice: Create rules for mandatory fields, email format, and preventing Opportunity closure.

Module 8: Buttons, Links & Actions

Overview: Covers the buttons, links and actions that let users do tasks from a record or list.

Custom Buttons

- Detail Page Buttons
- List Buttons
- URL Buttons

Quick Actions

- Global Actions
- Object Actions

Productivity Actions

- Send Email
- Log Call
- Create Records

Practice: Create a custom button, a URL button, and quick actions to send email, log a call and create records.

Module 9: Field Dependency

Overview: Explains how a controlling field limits the values available in a dependent picklist.

Controlling Field

Practice: Build a controlling and dependent picklist pair.

Module 10: Business Process

Overview: Covers the sales, lead, support and solution processes and how Path guides users through them.

Lead Process

Opportunity Process

Case Process

Solution Process

Path Configuration

- Key Fields
- Guidance for Success

Practice: Configure a Path with key fields and guidance for success on Opportunity.

Module 11: Record Types

Overview: Explains how record types give different users different processes, picklist values and layouts.

Purpose

- Different Business Processes
- Different Picklist Values
- Different Page Layouts

Practice: Create two record types with their own picklist values and page layouts.

Module 12: Page Layouts

Overview: Covers designing page layouts: sections, fields, buttons, related lists and compact layouts.

Layout Design

Components

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- Sections
- Fields
- Buttons
- Related Lists

Compact Layouts

Practice: Design a layout for a sales user and a compact layout for mobile.

Module 13: Related Lists & List Views

Overview: Explains related lists and list views, including filters, inline editing and Kanban.

Related Lists

- Standard Related Lists
- Custom Related Lists

List Views

- Public List Views
- Private List Views
- Filters
- Inline Editing
- Kanban View

Practice: Create a public list view with filters and a Kanban view.

Module 14: Field History Tracking & Feed Tracking

Overview: Covers tracking field changes for audit and following record updates in the Chatter feed.

Field History Tracking

- Audit Changes
- Reporting on History

Feed Tracking

- Chatter Updates
- Feed Filters

Practice: Turn on history tracking for chosen fields and build a report on the history.

Module 15: Custom Settings, Labels & Custom Metadata

Overview: Explains how to store configuration data and text outside code using custom settings, labels and custom metadata.

Custom Settings

List Custom Settings

Hierarchy Custom Settings

Use Cases

- Store Configuration Data
- Business Logic Control

Custom Labels

- Multi-language Support
- Dynamic Messages

Custom Metadata Types

Practice: Create a hierarchy custom setting, a custom label and a custom metadata type.

Module 16: Data Modeling

Overview: Covers planning the data structure: relationships, cardinality and normalization.

Data Architecture

Concepts

- Data Relationships

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- Cardinality
- Normalization

Practice: Draw and build a data model for a small business scenario.

Module 17: Data Management

Overview: Explains how to bring data into Salesforce with the Data Import Wizard and Data Loader.

Data Import Wizard

Data Loader

Practice: Import accounts with the wizard, then insert and update records with Data Loader.

Module 18: Automation

Overview: Covers automating business processes with approval processes and the different types of Flow, including error handling.

Approval Process

Screen Flow

Record Triggered Flow

Scheduled Flow

Platform Event Flow

Auto-launched Flow

Flow Elements

Fault Handling

Collections

Transform Element

Dynamic Forms Integration

Custom LWCs in Flow

Practice: Build a screen flow, a record-triggered flow, a scheduled flow and an approval process.

Module 20: Queue & Email Management

Overview: Explains how queues share ownership of records and how email is administered.

Queues

Email Administration

Practice: Create a queue and route records to it.

Module 21: Assignment & Auto Response Rules

Overview: Covers rules that assign records automatically and send automatic replies to leads and cases.

Assignment Rules

Lead Assignment Rules

Case Assignment Rules

Auto Response Rules

Lead Auto Response

Case Auto Response

Practice: Create a lead assignment rule and a case auto-response rule.

Module 22: Security & Access Management

Overview: Explains how users, profiles and permission sets control what each person can do and see.

Users

User Creation

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Login Access
Freezing Users
Deactivating Users
Profiles
Object Permissions
Field Permissions
App Permissions
Permission Sets
Permission Set Groups
Muting Permission Sets
Practice: Create a user, a profile, a permission set and a permission set group.

Module 23: Organization-Wide Defaults (OWD)

Overview: Covers the baseline record access model and how it differs for internal and external users.
Access Levels
Private
Public Read Only
Public Read Write
Controlled by Parent
Security Model Design
Internal Users
External Users
Practice: Set OWD for an object and observe the effect with test users.

Module 24: Roles & Role Hierarchy

Overview: Explains how the role hierarchy gives managers visibility to records owned by their team.
Role Hierarchy
Vertical Sharing
Record Visibility
Practice: Build a role hierarchy and test record visibility.

Module 25: Public Groups

Overview: Covers grouping users so records can be shared with them together.
Static Groups
Dynamic Sharing
Practice: Create a public group and use it in sharing.

Module 26: Sharing Rules

Overview: Explains how sharing rules open access beyond the baseline, by owner or by criteria.
Owner-Based Sharing Rules
Criteria-Based Sharing Rules
Practice: Create an owner-based and a criteria-based sharing rule.

Module 27: Reports

Overview: Covers report types and formats: tabular, summary and matrix.
Report Types
Tabular

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Summary

Matrix

Features

Practice: Build one report in each format.

Module 28: Custom Report Types

Overview: Explains how custom report types define which objects and relationships a report can use.

Standard Report Types

Custom Report Types

Relationships

Primary Object

Related Objects

Practice: Create a custom report type with a primary and a related object.

Module 29: Dashboards

Overview: Covers the dashboard components and filters used to show report data.

Dashboard Components

Chart

Gauge

Metric

Table

Dashboard Filters

Practice: Build a dashboard with chart, gauge, metric and table components.

Module 30: Mass Delete & Maintenance

Overview: Explains how to clean up records in bulk and keep an org maintained.

Mass Delete Records

Practice: Mass delete a set of practice records.

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PART 2: SALESFORCE DEVELOPER

Module 1: Salesforce Development Fundamentals

Overview: Introduces the Salesforce platform and the development lifecycle, sets up the tools, and covers the core ideas every Apex developer needs: variables, governor limits and order of execution.

1.1 Introduction to Salesforce Development

Topics Covered

- What is Salesforce Platform?
- Salesforce Architecture
- Multi-Tenant Architecture
- Difference between Configuration and Customization
- Overview of Apex, SOQL, SOSL, Visualforce, Aura, and LWC
- Salesforce Development Lifecycle

1.2 Developer Tools Setup

Topics Covered

- Developer Console
- Visual Studio Code Installation
- Salesforce CLI Installation
- Salesforce Extensions Pack
- Org Authorization

1.3 Variables in Apex

Topics Covered

- What is a Variable?
- Variable Declaration
- Variable Initialization
- Variable Scope
- Local vs Global Variables

1.4 Collection Variables

Topics Covered

- Introduction to Collections
- Why Collections are Important
- Performance Benefits
- Collections and Governor Limits

1.5 Governor Limits

Topics Covered

- Why Governor Limits Exist
- Types of Limits
- SOQL Limits
- DML Limits
- Heap Size Limits
- CPU Time Limits

1.6 Salesforce Order of Execution

Topics Covered

- Validation Rules
- Before Trigger
- After Trigger
- Assignment Rules
- Workflow Rules
- Process Builder
- Flow

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- Roll-Up Summary
- Commit

1.7 Custom Labels

Topics Covered

- What are Custom Labels?
- Multilingual Support
- Dynamic Messages

1.8 Custom Settings

Topics Covered

- List Custom Settings
- Hierarchy Custom Settings
- Use Cases
- Access in Apex

1.9 Custom Metadata Types

Topics Covered

- Custom Metadata vs Custom Settings
- Deployment Benefits
- Configuration Driven Development

Practice: Set up VS Code with Salesforce CLI, authorize an org, and trace the order of execution on a sample record.

Module 2: Apex Collections Deep Dive

Overview: Goes deep on Lists, Sets and Maps and their methods, including sorting.

2.1 List Collection

Topics Covered

- List Declaration
- Adding Records
- Removing Records
- Accessing by Index

List Methods

- add()
- addAll()
- remove()
- removeAll()
- clear()
- contains()
- get()
- set()
- size()
- sort()

2.2 Understanding set() vs add()

`set()`

Updates Existing Index.

Apex

```
names.set(0,'John');
```

`add()`

Adds New Element.

Apex

```
names.add('John');
```

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2.3 Sorting Lists

Topics Covered

- sort() method
- Comparable Interface
- Custom Sorting

2.4 Set Collection

Topics Covered

- Unique Data Storage
- Duplicate Handling
- Set Methods

Apex

```
Set<String> countries = new Set<String>();
```

Methods

- add()
- remove()
- contains()
- clear()
- size()

2.5 Map Collection

Topics Covered

- Key Value Pair Storage
- Efficient Record Retrieval

Apex

```
Map<Id, Account> accMap = new Map<Id, Account>();
```

Methods

- put()
- get()
- containsKey()
- keySet()
- values()
- remove()

2.6 Advanced Collections

Topics Covered

- List inside Map
- Set inside Map
- Nested Collections

Practice: Write small Apex programs using each collection and its methods.

Module 3: Data Types and Operators

Overview: Covers Apex data types, operators and string handling.

3.1 Primitive Data Types

Topics Covered

- Integer
- Double
- Decimal
- Long
- Boolean
- Date
- Datetime
- String
- ID

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3.2 String Class

String Methods

Methods:

- contains()
- replace()
- substring()

3.3 Operators

Arithmetic Operators

Comparison Operators

Logical Operators

Assignment Operators

Practice: Practise with strings, numbers and operators in the Developer Console.

Module 4: Conditional Statements and Loops

Overview: Explains how to control program flow with conditions and loops.

4.1 If Statements

If Else

If Else If

4.2 Loops

For Loop

For Each

Practice: Write loops over a list of records with conditional logic.

Module 5: SOQL and SOSL

Overview: Covers querying Salesforce data with SOQL and searching with SOSL.

5.1 SOQL Fundamentals

5.3 Query Clauses

5.4 Aggregate Functions

```
COUNT()
SUM()
MAX()
MIN()
AVG()
```

5.6 Relationship Queries

Parent to Child

Child to Parent

5.7 Custom Object Relationships

Master Detail

Lookup

Junction Objects

5.8 SOSL

Practice: Write queries with filters, relationships and aggregates.

Module 6: Apex Trigger Development

Overview: Explains trigger events and context variables and how to write triggers.

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6.1 Trigger Events

Before Events

- Before Insert
- Before Update
- Before Delete

After Events

- After Insert
- After Update
- After Delete
- After Undelete

6.2 Trigger Context Variables

Topics Covered

```
Trigger.new
Trigger.old
Trigger.newMap
Trigger.oldMap
Trigger.isInsert
Trigger.isUpdate
Trigger.isDelete
```

6.3 Writing Apex Triggers

Practice: Write before and after triggers for insert, update and delete on a practice object.

Module 7: Apex Classes

Overview: Covers writing Apex classes, methods and reusable code.

7.1 Apex Class Fundamentals

Topics Covered

- Class Syntax
- Variables
- Methods
- Constructors

7.2 Apex Annotations

Important Annotations

Apex

@AuraEnabled

@InvocableMethod

@Future

@TestSetup

@IsTest

@RestResource

Practice: Create a handler class and call it from a trigger.

Module 8: DML Operations

Overview: Explains inserting, updating, deleting and restoring records with DML.

Insert

Update

Delete

Practice: Run DML operations on lists of records.

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Module 9: Test Classes and Deployment

Overview: Covers writing test classes and deploying code.

9.1 Apex Testing Fundamentals

Why Test Classes?

- Deployment Requirement
- Quality Assurance

9.2 Writing Test Classes

9.3 Test Best Practices

Topics Covered

- Test Data Creation
- Test Setup Methods
- Assert Statements
- Positive Scenarios
- Negative Scenarios

9.4 Code Coverage

Topics Covered

- 75% Organization Coverage
- Coverage Analysis
- Coverage Strategies

Practice: Write a test class for the trigger and deploy it to another org.

Module 10: Salesforce Integration

Overview: Explains integrating with outside systems using REST API and Apex callouts.

REST API Integration

Apex Callout

Apex

```
HttpRequest req = new HttpRequest();
```

JSON Parsing

- Serialize
- Deserialize

Practice: Make a REST callout from Apex and read the response.

Module 11: Asynchronous Apex

Overview: Covers running Apex in the background, including Queueable Apex.

Future Methods

Topics Covered

- Use Cases
- Limitations
- Best Practices

Queueable Apex

Topics Covered

- Chaining Jobs
- Monitoring Jobs

Batch Apex

Topics Covered

- Database.Batchable
- Start
- Execute
- Finish

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Scheduled Apex

Topics Covered

- CRON Expressions
- Automated Scheduling

Practice: Write a Queueable job and run it.

Module 12: Lightning Web Components (LWC)

Overview: Explains building Lightning Web Components, working with data and communicating between components.

12.1 LWC Introduction

Topics Covered

- Why LWC?
- LWC Architecture
- Shadow DOM
- Component Lifecycle

12.2 Component Structure

Plain Tex

```
helloWorld.html
helloWorld.js
helloWorld.js-meta.xml
```

12.3 Reactive Properties

Topics Covered

- Properties
- @api
- @track
- Getter Methods

12.4 Data Binding

Topics Covered

- One-Way Binding
- Template Rendering

12.5 Wire Service

12.6 Imperative Apex Calls

12.7 LDS & UI API

Topics Covered

- createRecord
- updateRecord
- deleteRecord
- getRecord

12.8 Advanced LWC

Topics Covered

- Component Communication
- Event Bubbling
- Pub Sub
- LMS (Lightning Message Service)
- Dynamic Components
- Navigation Service
- Refresh Apex

Practice: Build a component, read and update records with Lightning Data Service, and pass data between components.

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Topics are from the supplied syllabus. Overview and practice lines are added explanations and hands-on activities, not new curriculum.

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