# Salesforce Developer Catalyst v3.0 - 100 Viva Questions and Answers

## 1. What are the different types of triggers in Salesforce?

There are two types of triggers:
- Before Triggers: Used to update or validate values before saving.
- After Triggers: Used to access system-set values like record IDs and make changes in other records.

## 2. How do you bulkify a trigger?

Avoid SOQL/DML inside loops. Use collections (Lists, Sets, Maps) to store records and perform operations outside the loop.

## 3. What is the difference between SOQL and SOSL?

- SOQL: Query one object or related objects.
- SOSL: Search across multiple objects and fields.

## 4. How many DML statements and SOQL queries are allowed per transaction?

Maximum 150 DML statements and 100 SOQL queries per transaction.

## 5. What are the types of Asynchronous Apex in Salesforce?

- Future Methods
- Batch Apex
- Queueable Apex
- Scheduled Apex
- Future with Callout

## 6. When would you use Batch Apex?

For processing large datasets (over 50K records), such as mass updates or deletions.

## 7. How do you make a REST callout in Apex?

Use HttpRequest and Http classes. Example:
HttpRequest req = new HttpRequest();
req.setEndpoint('https://api.example.com');
req.setMethod('GET');
Http http = new Http();
HttpResponse res = http.send(req);

## 8. Can you make callouts from triggers?

No. Use asynchronous methods like Queueable Apex or Platform Events to perform callouts.

### 9. What is the minimum test coverage required for Apex deployment?

75% code coverage is required to deploy Apex code to production.

### 10. How do you test callouts in Apex?

Use the HttpCalloutMock interface to simulate HTTP responses in tests.

### 11. What are different types of Flows in Salesforce?

- Screen Flow
- Record-Triggered Flow
- Schedule-Triggered Flow
- Auto-launched Flow
- Platform Event-Triggered Flow

### 12. Can Flows call Apex classes?

Yes. Use @InvocableMethod in Apex classes to expose methods to Flows.

### 13. What are different ways to deploy code in Salesforce?

- Change Sets
- Ant Migration Tool
- Salesforce CLI (SFDX)
- Git + CI/CD tools

### 14. What is a governor limit?

Limits enforced by Salesforce to ensure resource fairness in the multitenant architecture.

### 15. How do you handle limits in Apex?

Bulkify code, minimize SOQL/DML, and use the Limits class for monitoring.

### 16. What is the trigger framework pattern?

A design pattern that separates trigger logic into handler classes for better maintenance and testing.

### 17. What is a Singleton in Apex?

A class where only one instance is used per transaction. Useful for shared static data.

### 18. What is the use of Database.insert() with allOrNone set to false?

Allows partial success. Some records may insert while others return errors.

### 19. What is the use of @AuraEnabled?

Exposes Apex methods to Lightning components. Use cacheable=true for read-only methods.

### 20. How do you secure Apex methods from unauthorized access?

Use 'with sharing' and Security.stripInaccessible() to enforce field- and record-level security.

### 21. What is Apex?

Apex is a strongly typed, object-oriented programming language that allows developers to execute flow and transaction control statements on Salesforce servers.

### 22. What are Apex classes?

Classes in Apex are templates or blueprints for creating objects. They encapsulate logic and data.

### 23. What are Apex triggers?

Apex triggers are pieces of code that execute before or after data manipulation language (DML) events occur on Salesforce records.

### 24. What is SOQL?

SOQL (Salesforce Object Query Language) is used to query records from a single object or multiple related objects.

### 25. What is SOSL?

SOSL (Salesforce Object Search Language) is used to search text, email, and phone fields for multiple objects simultaneously.

### 26. What is a governor limit?

Governor limits are runtime limits enforced by Salesforce to ensure efficient use of shared resources.

### 27. What are collections in Apex?

Collections in Apex are data structures used to store groups of elements: Lists, Sets, and Maps.

### 28. What is a List in Apex?

A List is an ordered collection of elements that can contain duplicates.

### 29. What is a Set in Apex?

A Set is an unordered collection of unique elements.

### 30. What is a Map in Apex?

A Map is a collection of key-value pairs where each key maps to a single value.

### 31. What is the difference between a class and an interface?

A class is a blueprint for creating objects. An interface defines methods that must be implemented by classes.

### 32. What is a constructor in Apex?

A constructor is a special method that is invoked when an object of the class is created.

### 33. What is a static method?

A static method belongs to the class rather than any object instance and can be called without instantiating the class.

### 34. What is the purpose of the 'this' keyword?

It refers to the current instance of the class.

### 35. What is the difference between 'with sharing' and 'without sharing'?

'With sharing' enforces the sharing rules that apply to the current user, while 'without sharing' ignores them.

### 36. What is a custom object?

A custom object is a database table created by the user to store custom data in Salesforce.

### 37. What are validation rules?

Validation rules verify that the data entered in a record meets the standards you specify before the record is saved.

### 38. What is a formula field?

A read-only field that automatically calculates a value based on other fields or expressions.

### 39. What is a workflow rule?

A workflow rule is an automated process that triggers an action based on evaluation criteria and rule criteria.

### 40. What is a Process Builder?

A point-and-click tool used to automate business processes by creating processes.

### 41. What is Flow Builder?

Flow Builder is a declarative automation tool that can handle complex business logic without code.

### 42. What is a screen flow?

A type of flow that requires user input through a screen interface.

### 43. What is a record-triggered flow?

A flow that launches automatically when a record is created, updated, or deleted.

### 44. What are custom metadata types?

Custom metadata types let you define application configurations that can be reused and deployed between orgs.

### 45. What is the use of the 'final' keyword?

Final variables cannot be reassigned, and final methods or classes cannot be overridden or extended.

### 46. What is an enum?

An enum is a list of named constants.

### 47. What is a test class in Apex?

A class written to test Apex code. It contains methods annotated with @isTest.

### 48. What is the @testSetup annotation?

Used to define methods that create test data common to all test methods in a class.

### 49. What is the use of Test.startTest() and Test.stopTest()?

These methods help test asynchronous code and governor limits by resetting limits during test execution.

### 50. How can you avoid recursive triggers?

Use static variables to track and prevent repeated trigger executions.

### 51. What is the Trigger.new context variable?

A list of the new versions of the sObject records.

### 52. What is the Trigger.old context variable?

A list of the old versions of the sObject records.

### 53. What is the use of the 'transient' keyword?

Used to declare instance variables that cannot be serialized.

### 54. What is a custom setting?

Custom settings are similar to custom objects and provide a way to store application data and cache it for efficient access.

### 55. What is a wrapper class?

A class used to wrap multiple data types into a single object for use in Visualforce pages or Apex logic.

### 56. What is the Lightning Component Framework?

A UI framework for developing dynamic web apps for mobile and desktop devices.

### 57. What is LWC?

Lightning Web Components (LWC) is a modern framework based on web standards for building web components in Salesforce.

### 58. What is Aura?

Aura is the older component framework that uses proprietary syntax to create dynamic web apps in Salesforce.

### 59. What is SLDS?

Salesforce Lightning Design System (SLDS) is a CSS framework that allows you to style applications with Salesforce's UI design principles.

### 60. What is the difference between Aura and LWC?

LWC is modern, faster, and based on web standards. Aura is older and more verbose.

### 61. How do you perform Apex callouts to REST APIs?

By using the HttpRequest and Http classes to send and receive HTTP requests/responses.

### 62. What is a named credential?

A named credential specifies the URL of a callout endpoint and its required authentication parameters.

### 63. What are Platform Events?

Platform Events are part of Salesforce's event-driven architecture and are used to deliver secure, scalable custom notifications.

### 64. What is an Invocable method?

A method annotated with @InvocableMethod to be called from Flow or Process Builder.

### 65. What is a visualforce page?

A web page built using Visualforce markup that allows developers to create custom UI on Salesforce.

### 66. How do you pass parameters in a Visualforce page?

Using query strings or Apex parameters in the controller.

### 67. What is a standard controller?

A controller provided by Salesforce that contains the standard logic for an object.

### 68. What is a custom controller?

A custom Apex class used to control the behavior of a Visualforce page.

### 69. What is a controller extension?

An Apex class that extends the functionality of a standard or custom controller.

### 70. What is the difference between standard and custom objects?

Standard objects are provided by Salesforce; custom objects are created by users to store custom data.