

# Interview Questions

# Maven Interview Questions

## 1. Basics of Maven

- What is Maven, and why is it used in test automation?
- How does Maven differ from other build tools like Ant or Gradle?
- What are the advantages of using Maven in test automation projects?

## 2. Maven Project Structure & POM.xml

- What is the purpose of the `pom.xml` file?
- What are the key sections of `pom.xml`?
- What is the difference between `dependencies` and `dependencyManagement` in Maven?
- How do you add a dependency in Maven?

## 3. Maven Lifecycle & Commands

- What are the different phases in the Maven build lifecycle?
- What is the difference between `mvn clean`, `mvn install`, and `mvn package`?
- How do you run TestNG/Selenium tests using Maven?

# Maven Interview Questions Contd.

## 4. Maven Repositories & Dependency Management

- What are the types of Maven repositories?
- What is the difference between a local repository, central repository, and remote repository?
- How do you update dependencies in Maven?
- What is the role of `mvn dependency:tree` command?

## 5. Maven Plugins

- What are Maven plugins, and how are they used?
- What is the purpose of the `maven-surefire-plugin`?
- How do you skip test execution in Maven?

# Maven Interview Questions Contd.

## 6. Handling Versions & Profiles

- What is the significance of versioning in Maven dependencies?
- How do you create and use Maven profiles?
- How can you run tests with different profiles?

## 7. Troubleshooting & Best Practices

- What are common Maven issues, and how do you resolve them?
- How do you speed up Maven builds?
- What are the best practices when using Maven in automation projects?

# TestNG Interview Questions

## 1. Basics of TestNG

- What is TestNG, and why is it used in test automation?
- How is TestNG different from JUnit?
- What are the advantages of using TestNG in Selenium automation?

## 2. Annotations in TestNG

- What are some commonly used TestNG annotations?
- What is the difference between `@BeforeMethod` and `@BeforeClass`?
- How do `@DataProvider` and `@Factory` work in TestNG?

## 3. TestNG XML Configuration

- What is the purpose of the `testng.xml` file?
- How do you run tests in parallel using TestNG?
- How can you include and exclude test cases in `testng.xml`?

# TestNG Interview Questions Contd.

## 4. Test Execution Control

- What is the role of `dependsOnMethods` in TestNG?
- How can you enable or disable a test in TestNG?
- What is the difference between `priority` and `dependsOnMethods`?

## 5. Assertions & Reporting

- What are soft assertions and hard assertions in TestNG?
- How do you generate an HTML report in TestNG?
- How can you take a screenshot on test failure using TestNG?

## 6. Data-Driven Testing with TestNG

- How do you pass data to test methods using `@DataProvider`?
- Can TestNG integrate with Excel for data-driven testing? If so, how?
- What is the use of `@Parameters` in TestNG?

# TestNG Interview Questions Contd.

## 7. Parallel & Group Testing

- How do you group test cases in TestNG?
- How can you run test cases in multiple threads?
- What is the advantage of using the `parallel` attribute in `testng.xml`?

## 8. TestNG Integration & Best Practices

- How can you integrate TestNG with Maven?
- How do you run TestNG tests using Jenkins?
- What are the best practices for using TestNG in a test automation framework?

# Selenium Interview Questions

## 1. Basics of Selenium

- What is Selenium, and why is it used in test automation?
- What are the different components of Selenium?
- What is the difference between Selenium WebDriver, Selenium Grid, and Selenium IDE?

## 2. Selenium WebDriver Basics

- How do you launch a browser in Selenium WebDriver?
- What are different ways to locate web elements in Selenium?
- What is the difference between `findElement()` and `findElements()`?
- How do you handle browser navigation in Selenium?



# Selenium Interview Questions Contd.

## 3. Handling Web Elements

- How do you handle dropdowns in Selenium?
- How do you handle alerts and pop-ups in Selenium?
- What are different ways to interact with text boxes, buttons, and links in Selenium?
- How do you handle checkboxes and radio buttons?

## 4. Waits & Synchronization

- What is the difference between implicit wait, explicit wait, and fluent wait?
- When should you use an explicit wait over an implicit wait?
- How do you handle AJAX-based elements in Selenium?

# Selenium Interview Questions Contd.

## 5. Handling Multiple Windows & Frames

- How do you handle multiple browser windows in Selenium?
- What is the difference between `getWindowHandle()` and `getWindowHandles()`?
- How do you switch between iframes in Selenium?

## 6. Actions & Mouse/Keyboard Events

- How do you perform mouse hover in Selenium?
- How do you simulate keyboard actions in Selenium?
- What is the use of the `Actions` class in Selenium?

# Selenium Interview Questions Contd.

## 7. Handling File Upload & Downloads

- How do you upload a file in Selenium?
- How do you download a file using Selenium?
- Can Selenium handle system-level pop-ups? If not, how can you overcome this limitation?

## 8. Selenium Grid & Parallel Execution

- What is Selenium Grid, and when should you use it?
- How do you execute tests in parallel using Selenium Grid?
- What is the difference between hub and node in Selenium Grid?

# Selenium Interview Questions Contd.

## 9. Exception Handling in Selenium

- What are some common exceptions in Selenium?
- How do you handle `NoSuchElementException`?
- What is `StaleElementReferenceException`, and how do you resolve it?

## 10. Framework & Best Practices

- How do you integrate Selenium with TestNG?
- What are the key components of a Selenium-based test automation framework?
- What are the best practices for writing Selenium tests?

# Cucumber Interview Questions

## 1. Basics of Cucumber

- What is Cucumber, and why is it used in test automation?
- What is Behavior-Driven Development (BDD)?
- How does Cucumber differ from other test automation frameworks?

## 2. Gherkin Language & Feature Files

- What is Gherkin in Cucumber?
- What are the keywords used in a Cucumber feature file?
- What is the difference between **Scenario** and **Scenario Outline**?
- How do you write reusable test steps in a feature file?

## 3. Step Definitions

- What is a step definition in Cucumber?
- How do you map Gherkin steps to Java methods?
- What happens if there is no matching step definition for a step in a feature file?

# Cucumber Interview Questions Contd.

## 4. Cucumber Hooks & Tags

- What are Cucumber hooks, and how do you use them?
- What is the difference between `@Before` and `@BeforeStep` hooks?
- How do you use tags in Cucumber to run specific scenarios?

## 5. Data-Driven Testing in Cucumber

- How do you pass parameters in Cucumber step definitions?
- How does `Scenario Outline` help with data-driven testing?
- What is the purpose of Examples in Cucumber?

## 6. Running Cucumber Tests

- How do you execute Cucumber tests using Maven?
- How can you run Cucumber tests in parallel?
- What is the role of the `CucumberOptions` annotation?

# Cucumber Interview Questions Contd.

## 7. Cucumber Reports & Logging

- How do you generate Cucumber reports?
- What are different types of reports supported by Cucumber?
- How do you capture screenshots in Cucumber for failed tests?

## 8. Cucumber with Selenium & API Testing

- How do you integrate Cucumber with Selenium?
- Can Cucumber be used for API testing? If so, how?
- What are the advantages of using Cucumber with Selenium for UI testing?

## 9. Cucumber Best Practices & Troubleshooting

- How do you structure a Cucumber framework for a real-time project?
- How do you handle dynamic data in Cucumber scenarios?
- What are common issues in Cucumber, and how do you debug them?

# Jenkins Interview Questions

## 1. Basics of Jenkins

- What is Jenkins, and why is it used in test automation?
- What are the key features of Jenkins?
- How does Jenkins help in CI/CD?

## 2. Jenkins Installation & Setup

- How do you install Jenkins?
- What are the system requirements for running Jenkins?
- What is the default port number for Jenkins?

## 3. Jenkins Jobs & Pipelines

- What are the different types of jobs in Jenkins?
- What is a Jenkins pipeline, and how is it different from a freestyle job?
- How do you create and trigger a Jenkins job?



# Jenkins Interview Questions Contd.

## 4. Jenkins Integration with Version Control

- How do you integrate Jenkins with GitHub/GitLab?
- How do you set up Jenkins to trigger a build when code is pushed to a repository?
- What is the role of Webhooks in Jenkins?

## 5. Jenkins Build Triggers

- What are different ways to trigger a Jenkins build?
- How do you schedule a Jenkins job using CRON syntax?
- How do you configure Jenkins to trigger builds based on code changes?

## 6. Jenkins Plugins

- What are Jenkins plugins, and why are they important?
- How do you install and manage plugins in Jenkins?
- What are some commonly used Jenkins plugins for test automation?

# Jenkins Interview Questions Contd.

## 7. Jenkins Pipeline (Declarative & Scripted)

- What is the difference between declarative and scripted pipelines?
- How do you write a simple Jenkins pipeline using a **Jenkinsfile**?
- How do you run parallel test execution in a Jenkins pipeline?

## 8. Jenkins & Test Automation Integration

- How do you run Selenium tests from Jenkins?
- How do you publish test reports in Jenkins?
- How do you configure Jenkins to execute Maven-based TestNG or JUnit tests?

# Jenkins Interview Questions Contd.

## 9. Jenkins Distributed Builds & Agents

- What is a Jenkins master-slave (agent) architecture?
- How do you configure a Jenkins node/agent for distributed builds?
- What are the benefits of using Jenkins agents?

## 10. Jenkins Best Practices & Troubleshooting

- How do you secure Jenkins?
- What are some best practices for using Jenkins in automation projects?
- What are common Jenkins errors, and how do you troubleshoot them?

# API Testing Interview Questions

## 1. Basics of API Testing

- What is API testing, and why is it important?
- What are the key differences between UI testing and API testing?
- What are the common HTTP methods used in API testing?

## 2. Understanding HTTP Requests & Responses

- What is the difference between GET, POST, PUT, PATCH, and DELETE methods?
- What is the difference between HTTP status codes 200, 201, 400, 401, and 500?
- What is the difference between Query Parameters and Path Parameters?

# API Testing Interview Questions Contd.

## Postman Interview Questions

### 3. Working with Postman

- What is Postman, and how is it used for API testing?
- How do you create a new API request in Postman?
- What are Collections in Postman, and how do they help in API testing?

### 4. Automating API Tests in Postman

- How do you write test scripts in Postman?
- What is the role of Postman variables?
- How do you pass data between multiple API requests in Postman?

### 5. Running Tests & Reporting in Postman

- How do you run a collection in Postman?
- How do you generate test reports in Postman?
- What is the Newman tool, and how is it used with Postman?

# API Testing Interview Questions Contd.

## REST Assured Interview Questions

### 6. Introduction to REST Assured

- What is REST Assured, and why is it used for API automation?
- How do you set up REST Assured in a Maven project?
- How do you send a GET request using REST Assured?

### 7. Validating API Responses with REST Assured

- How do you validate response status codes in REST Assured?
- How do you validate JSON response data using REST Assured?
- How do you extract values from a JSON response?

# API Testing Interview Questions Contd.

## 8. Authentication & Headers in REST Assured

- How do you pass headers in REST Assured requests?
- How do you handle authentication (Basic Auth, OAuth) in REST Assured?
- What is the difference between Bearer Token and API Key authentication?

## 9. Data-Driven Testing in REST Assured

- How do you perform data-driven testing using REST Assured?
- Can you integrate REST Assured with Excel or JSON files for test data?
- How do you run multiple test cases dynamically in REST Assured?

## 10. API Framework & Best Practices

- How do you integrate REST Assured with TestNG or JUnit?
- What are some best practices for API automation testing?
- What are common API testing challenges, and how do you handle them?

# Test Automation Framework Interview Questions

## 1. Basics of Test Automation Framework

- What is a test automation framework?
- Why is a test automation framework important?
- What are the key components of a test automation framework?

## 2. Types of Automation Frameworks

- What are the different types of test automation frameworks?
- What is the difference between a data-driven and a keyword-driven framework?
- What is a hybrid framework, and when should it be used?

## 3. Framework Design & Structure

- How do you structure a test automation framework?
- What are Page Object Model (POM) and Page Factory, and why are they used?
- What is the role of utility/helper classes in a test framework?



# Test Automation Framework Interview Questions

## 4. Test Data Management

- How do you handle test data in an automation framework?
- What are the different ways to externalize test data in a framework?
- How can you implement data-driven testing using Excel, JSON, or databases?

## 5. Reporting & Logging in Test Frameworks

- How do you generate test execution reports in an automation framework?
- What is the use of Extent Reports/Allure Reports in test automation?
- How do you implement logging in a test framework?

## 6. Handling Test Execution & Parallelism

- How do you execute test cases in parallel?
- What is the role of thread-local storage in parallel execution?
- How do you integrate Selenium Grid or cloud services (e.g., BrowserStack, Sauce Labs) into a framework?

# Test Automation Framework Interview Questions

## 7. Continuous Integration & Test Frameworks

- How do you integrate a test automation framework with Jenkins?
- How do you trigger test execution from a CI/CD pipeline?
- What are the benefits of running automated tests as part of a CI/CD pipeline?

## 8. Exception Handling & Debugging

- How do you handle exceptions in a test automation framework?
- What are some common errors in automation frameworks, and how do you debug them?
- How do you capture screenshots on test failure?

# Test Automation Framework Interview Questions

## 9. Framework Scalability & Maintenance

- How do you make an automation framework scalable?
- How do you handle dynamic elements in a framework?
- What are some best practices for maintaining a test automation framework?

## 10. Best Practices & Industry Standards

- What are the key principles of a well-designed test automation framework?
- How do you decide when to automate a test case?
- What are the most common mistakes made in test automation framework development?