**Java Selenium Learning**

1. Java Collections – Intermediate
   1. Understand the overview of the Collection framework
   2. Understand various interfaces List, Set, Queue, Map
   3. Understand various implementations Arrary List, Linked List, Hash Set, Dequeue, Hash Map, Hash Table
   4. Understand the difference in in various interfaces and implementations
   5. Understand iterating through various collection implementations
   6. Understand Sorting, Searching, Iterating in all the collection implementations
   7. Understand Hashcode/Comparator/Comparable

Collections in Java

[https://www.javatpoint.com/collections-in-java](https://vpn.epam.com/https/www.javatpoint.com/collections-in-java)

Java Collections Tutorial

[http://tutorials.jenkov.com/java-collections/index.html](https://vpn.epam.com/http/tutorials.jenkov.com/java-collections/index.html)

Java Fundamentals: Collections

[https://app.pluralsight.com/library/courses/java-fundamentals-collections/table-of-contents](https://vpn.epam.com/https/app.pluralsight.com/library/courses/java-fundamentals-collections/table-of-contents)

Java Collections

[https://videoportal.epam.com/video/qaymbval](https://vpn.epam.com/https/videoportal.epam.com/video/qaymbval)

1. BDD – Advanced:
   1. Understand the importance of BDD
   2. Understand the Gherkin language
   3. Understand various tools available for BDD implementation
   4. Write test cases in BDD format
   5. Understand various annotations in BDD tool (JBehave or Cucumber)
   6. Integrate BDD tool with Maven (JBehave or Cucumber)
   7. Create the test sets with BDD tool (JBehave or Cucumber)
   8. Create Runner files and config files in BDD tool (JBehave or Cucumber)
   9. Create data driven tests in BDD tool (JBehave or Cucumber)
   10. Understand the best practices of writing the feature files

BDD in Automated Testing

[https://videoportal.epam.com/video/VJwLEDav](https://vpn.epam.com/https/videoportal.epam.com/video/VJwLEDav)

Useful practices of creation automatic tests by using cucumber jvm

[https://www.slideshare.net/kirlionik/useful-practices-of-creation-automatic-tests-by-using-cucumber-jvm-english](https://vpn.epam.com/https/www.slideshare.net/kirlionik/useful-practices-of-creation-automatic-tests-by-using-cucumber-jvm-english)

Behavior-Driven Development

[https://www.linkedin.com/learning/behavior-driven-development](https://vpn.epam.com/https/www.linkedin.com/learning/behavior-driven-development)

BDD

[https://videoportal.epam.com/video/boM0lLaV](https://vpn.epam.com/https/videoportal.epam.com/video/boM0lLaV)

BDD Automation Framework Implementation Using JBehave (Part 1/2)

[https://videoportal.epam.com/video/VolmKKRd](https://vpn.epam.com/https/videoportal.epam.com/video/VolmKKRd)

BDD Automation Framework Implementation Using JBehave (Part 2/2)

[https://videoportal.epam.com/video/noP5qyRX](https://vpn.epam.com/https/videoportal.epam.com/video/noP5qyRX)

Best Practices

[https://automationpanda.com/2017/01/30/bdd-101-writing-good-gherkin/](https://vpn.epam.com/https/automationpanda.com/2017/01/30/bdd-101-writing-good-gherkin/)

1. Selenium – Advanced
   1. Understand the Selenium Architecture
   2. Setup environment for writing the tests with Selenium
   3. Implement working with various browsers
   4. Implement the various locator strategies
   5. Implement XPATH - "/","//","."/Sibling/Child/Parent/Regular Expressions
   6. Implement relative and absolute xpaths
   7. Implement Filling forms , text boxes, radio buttons, check boxes, date fields, etc
   8. Implement Implicit, Explicit, Page Load and Fluent Wait
   9. Implement XPATH and CSS for complex elements on web pages
   10. Understand and implement Assert & Verify
   11. Implement Navigate through history (back button)
   12. Implement handling of common Exceptions in Selenium
   13. Implement handling of Alerts, Message boxes and Frames
   14. Implement switching between windows
   15. Implement taking screenshots
   16. Implement the Action Class
   17. Implement JavaScript Executors
   18. Implement various Listener classes like ITestListener
   19. Implement the best practices of locating elements from web pages
   20. Implement Page Object Model

Learning Selenium

[https://www.linkedin.com/learning/learning-selenium](https://vpn.epam.com/https/www.linkedin.com/learning/learning-selenium)

WebDriver part 1

[https://videoportal.epam.com/video/7oWjAmaP](https://vpn.epam.com/https/videoportal.epam.com/video/7oWjAmaP)

Web Driver part 2

[https://videoportal.epam.com/video/boM0QQaV](https://vpn.epam.com/https/videoportal.epam.com/video/boM0QQaV)

Web Driver part 3

[https://videoportal.epam.com/video/LoEpnKad](https://vpn.epam.com/https/videoportal.epam.com/video/LoEpnKad)

Selenium Tutorial

[https://www.javatpoint.com/selenium-tutorial](https://vpn.epam.com/https/www.javatpoint.com/selenium-tutorial)

Selenium Essential Training

[https://www.linkedin.com/learning/selenium-essential-training](https://vpn.epam.com/https/www.linkedin.com/learning/selenium-essential-training)

1. Object Oriented Concepts – Intermediate
   1. Understand the need of OO Concepts
   2. Understand Abstraction
   3. Understand Encapsulation
   4. Understand Inheritance
   5. Understand Polymorphism

OOPS Concepts in Java – OOPS Concepts Example

[https://www.journaldev.com/12496/oops-concepts-java-example](https://vpn.epam.com/https/www.journaldev.com/12496/oops-concepts-java-example)

1. Rest API Automation – Advanced
   1. Understand the Importance of Service level testing
   2. Understand the difference in REST and WS
   3. Understand SOAP, WSDL, calling web methods using postman
   4. Understand Different HTTP methods and its importance
   5. Understand the POJOs and its importance in API testing
   6. Understand the Serializing and Deserializing Json
   7. Understand HTTP Request structure
   8. Understand HTTP Response structure
   9. Understand the Headers/Token
   10. Understand the REST Architecture constraints
   11. Understand the different data formats XML, JSON
   12. Understand the HTTP Response codes
   13. Understand the security constraints in API testing
   14. Implement WebService testing using SOAPUI or any other tool
   15. Implement REST API testing using Rest Assured
   16. Implement REST API testing using Http Client

API Testing

[https://videoportal.epam.com/video/nJQ275ar](https://vpn.epam.com/https/videoportal.epam.com/video/nJQ275ar)

API Testing Foundations

[https://www.linkedin.com/learning/api-testing-foundations](https://vpn.epam.com/https/www.linkedin.com/learning/api-testing-foundations)

Automate Rest Api Using Rest Assured

[https://www.youtube.com/watch?v=aqrxDxumKZQ](https://vpn.epam.com/https/www.youtube.com/watch?v=aqrxDxumKZQ)

Rest Assured Tutorial – Learn API Testing Step by Step

[https://www.swtestacademy.com/rest-assured-tutorial-api-testing/](https://vpn.epam.com/https/www.swtestacademy.com/rest-assured-tutorial-api-testing/)

API/Webservices Testing using RestAssured

[https://www.youtube.com/watch?v=yDdBOspPp\_c](https://vpn.epam.com/https/www.youtube.com/watch?v=yDdBOspPp_c)

Web Services Automation

[https://videoportal.epam.com/video/BR0n11al](https://vpn.epam.com/https/videoportal.epam.com/video/BR0n11al)

Introduction to Web Service Testing

[https://learn.epam.com/detailsPage?id=2cfcf9a5-9a64-4d0e-b017-06fc862c28d0&source=TRAINING](https://vpn.epam.com/https/learn.epam.com/detailsPage?id=2cfcf9a5-9a64-4d0e-b017-06fc862c28d0&source=TRAINING)

1. Parallel Execution – Advanced
   1. Implement the features provided by Browserstack or SauceLabs
   2. Implement the integration of Jenkins, GIT and Selenium tests
   3. Understand the need to execute the tests in Parallel
   4. Understand the options provided for Parallel execution in TestNG
   5. Implement the concept of Remotewebdriver
   6. Install and Configuration of Selenium Grid
   7. Implement the automation of Cross browser testing
   8. Execute the tests in parallel
   9. Implement execution of Selenium tests in Selenoid

Selenium Grid

[https://videoportal.epam.com/video/6Rndg4ar](https://vpn.epam.com/https/videoportal.epam.com/video/6Rndg4ar)

Selenium Grid Tutorial for Beginner

[https://www.youtube.com/watch?v=P8yq37Qr4eo](https://vpn.epam.com/https/www.youtube.com/watch?v=P8yq37Qr4eo)

Run tests on Grid

[https://www.linkedin.com/learning/selenium-essential-training/run-on-the-grid](https://vpn.epam.com/https/www.linkedin.com/learning/selenium-essential-training/run-on-the-grid)

Run Selenium Tests With Jenkins - Cross browser

[https://www.youtube.com/watch?v=t95Emvd4wSE](https://vpn.epam.com/https/www.youtube.com/watch?v=t95Emvd4wSE)

Jenkins, GIT, Maven and GRID integration

[https://www.youtube.com/watch?v=X3WjmTqjaRM](https://vpn.epam.com/https/www.youtube.com/watch?v=X3WjmTqjaRM)

Selenoid

[https://aerokube.com/selenoid/latest/#\_getting\_started](https://vpn.epam.com/https/aerokube.com/selenoid/latest/#_getting_started)

1. Core Java – Advanced
   1. Understand the JRE, JDK, JVM, Memory (Heap, Stack)
   2. Understand the benefits of Java Programming language
   3. Understand byte code, Compilation code java classes and run from command line byte code, Compilation code java classes and run from command line
   4. Understand Variables, datatypes, Conditional Logic, If and Switch, Class, methods, parameters, Class initializes, constructors, static blocks
   5. Implement Different loops and switch statements (best practices, when to use what)
   6. Implement Handling Strings like concatenation, navigation, comparison etc
   7. Implement Different keywords, static, final, finally, synchronize, throw and throws, break and continue, instance of etc.
   8. Implement Exception Handing/Throws/Throwable
   9. Implement Access modifiers, Enums. Operator hierarchy.
   10. Implement inheritance using interfaces, abstract classes
   11. Implement method overloading
   12. Implement polymorphism using interfaces, abstract classes
   13. Implement the role of access modifiers in inheritance chain
   14. Implement the inheritance and polymorphism rules like overriding, overloading methods which are private, protected, static, final etc
   15. Implement Comparing the objects, Equals, Compactor, Comparable, Hash Code, clone, tostring
   16. Implement String builders, various string operations.
   17. Implement handling of Arrays like initializing, searching, sorting etc
   18. Understand and implement various logging mechanisms in test automation

Java Fundamentals Course

[https://www.pluralsight.com/courses/java-fundamentals-language](https://vpn.epam.com/https/www.pluralsight.com/courses/java-fundamentals-language)

Java Tutorial

[https://www.javatpoint.com/java-tutorial](https://vpn.epam.com/https/www.javatpoint.com/java-tutorial)

CoreJava

[https://www.linkedin.com/learning/learning-java](https://vpn.epam.com/https/www.linkedin.com/learning/learning-java)

Java - 1

[https://videoportal.epam.com/video/VJw4vpav](https://vpn.epam.com/https/videoportal.epam.com/video/VJw4vpav)

Java - 2

[https://videoportal.epam.com/video/LoBgv2R9](https://vpn.epam.com/https/videoportal.epam.com/video/LoBgv2R9)

Java - 3

[https://videoportal.epam.com/video/QoVeXVa9](https://vpn.epam.com/https/videoportal.epam.com/video/QoVeXVa9)

1. Design Patterns – Intermediate
   1. Understand the evaluation Design Patterns
   2. Understand the types of design Patterns
   3. Understand and implement the Singleton Pattern
   4. Understand and implement the Factory Pattern
   5. Understand and implement the Abstract Factory Pattern
   6. Understand and implement the Builder Pattern
   7. Understand and implement the Decorator Pattern
   8. Understand and implement the Strategy Pattern
   9. Understand and implement the Command Pattern

Design Pattern

[https://www.geeksforgeeks.org/design-patterns-set-1-introduction/](https://vpn.epam.com/https/www.geeksforgeeks.org/design-patterns-set-1-introduction/)

Java Design Patterns

[https://www.journaldev.com/1827/java-design-patterns-example-tutorial](https://vpn.epam.com/https/www.journaldev.com/1827/java-design-patterns-example-tutorial)

Java Design Patterns

[https://www.javatpoint.com/design-patterns-in-java](https://vpn.epam.com/https/www.javatpoint.com/design-patterns-in-java)

Design Patterns (Video)

[https://www.youtube.com/watch?v=0jjNjXcYmAU](https://vpn.epam.com/https/www.youtube.com/watch?v=0jjNjXcYmAU)

Creational Patterns (Video)

[https://www.linkedin.com/learning/java-design-patterns-creational/improve-code-with-creational-design-patterns](https://vpn.epam.com/https/www.linkedin.com/learning/java-design-patterns-creational/improve-code-with-creational-design-patterns)

Creational Patterns (Optional)

[https://app.pluralsight.com/library/courses/design-patterns-java-creational/table-of-contents](https://vpn.epam.com/https/app.pluralsight.com/library/courses/design-patterns-java-creational/table-of-contents)

Structural Patterns (Optional)

[https://app.pluralsight.com/library/courses/design-patterns-java-structural/table-of-contents](https://vpn.epam.com/https/app.pluralsight.com/library/courses/design-patterns-java-structural/table-of-contents)

Behavioral Patterns (Optional)

[https://app.pluralsight.com/library/courses/design-patterns-java-behavioral/table-of-contents](https://vpn.epam.com/https/app.pluralsight.com/library/courses/design-patterns-java-behavioral/table-of-contents)

1. Java 8 – Intermediate
   1. Understand whats is new in Java8
   2. Understand the Functional Interfaces in Java8
   3. Understand the Default Methods in Java8
   4. Understand Collections and Stream in Java8
   5. Understand Anonymous classes in Java8
   6. Understand Lambda Expressions in Java8
   7. Understand Date and Time changes in Java8

PL Course

[https://app.pluralsight.com/library/courses/java-8-whats-new](https://vpn.epam.com/https/app.pluralsight.com/library/courses/java-8-whats-new)

Java8 - Lambda

[https://www.youtube.com/playlist?list=PLqq-6Pq4lTTa9YGfyhyW2CqdtW9RtY-I3](https://vpn.epam.com/https/www.youtube.com/playlist?list=PLqq-6Pq4lTTa9YGfyhyW2CqdtW9RtY-I3)

Learning Java Lambda Expressions

[https://www.linkedin.com/learning/learning-java-lambda-expressions](https://vpn.epam.com/https/www.linkedin.com/learning/learning-java-lambda-expressions)

1. Clean Code and SOLID Principles – Intermediate
   1. Understand the importance of clean code
   2. Understand the importance of rules like SOLID, DRY, KISS
   3. Understand the use of static code analyzers
   4. Understand the best practices of code review (tools and techniques)
   5. Understand the SOLID rules with examples
   6. Understand the DRY rule with examples

SOLID Rules

[https://stackify.com/solid-design-principles/](https://vpn.epam.com/https/stackify.com/solid-design-principles/)

SOLID Rules

[https://www.youtube.com/watch?v=HLFbeC78YlU&list=PL6n9fhu94yhXjG1w2blMXUzyDrZ\_eyOme](https://vpn.epam.com/https/www.youtube.com/watch?v=HLFbeC78YlU&list=PL6n9fhu94yhXjG1w2blMXUzyDrZ_eyOme)

Clean Code

[https://videoportal.epam.com/video/QoV7DNR9](https://vpn.epam.com/https/videoportal.epam.com/video/QoV7DNR9)

Code Review Best practices

[https://smartbear.com/learn/code-review/best-practices-for-peer-code-review/](https://vpn.epam.com/https/smartbear.com/learn/code-review/best-practices-for-peer-code-review/)

Code Review Analysis

[https://www.baeldung.com/sonar-qube](https://vpn.epam.com/https/www.baeldung.com/sonar-qube)

1. Spring Framework
2. CI / CD - Jenkins – Advanced
   1. Understand the CI and CD concept
   2. Understand the benefits and limitations of CI
   3. Installation of Jenkins and configuration
   4. Configure Jenkins jobs and triggers
   5. Create Artifacts and distributed builds
   6. Create Jenkins Nodes
   7. Understand and implement Test Automation plugins for Jenkins
   8. Understand and use Code quality plugins for Jenkins
   9. Understand and configure Quality gates in Jenkins

CI with Jenkins

[https://videoportal.epam.com/video/Lo952loD](https://vpn.epam.com/https/videoportal.epam.com/video/Lo952loD)

CI and CD

[https://www.atlassian.com/continuous-delivery/principles/continuous-integration-vs-delivery-vs-deployment](https://vpn.epam.com/https/www.atlassian.com/continuous-delivery/principles/continuous-integration-vs-delivery-vs-deployment)

Learning Jenkins

[https://www.linkedin.com/learning/learning-jenkins](https://vpn.epam.com/https/www.linkedin.com/learning/learning-jenkins)

Jenkins Essential Training

[https://www.linkedin.com/learning/jenkins-essential-training](https://vpn.epam.com/https/www.linkedin.com/learning/jenkins-essential-training)

1. Framework – Advanced
   1. Understand the need of Test Automation Frameworks
   2. Implement the various Layers in test automation
   3. Implement the TDD approaches, KDD approaches, BDD Approaches
   4. Implement the Page object model with Page Factories
   5. Implement the reporting and logging
   6. Implement the Log4J structure for logging
   7. Implement the configuration parameters in framework
   8. Implement reading data from various sources like, text, excel, xml
   9. Understand difference in BDD, KDD, DDD frameworks
   10. Implement a sample framework from scratch

Test Automation Framework

[https://videoportal.epam.com/video/dJ8817JW](https://vpn.epam.com/https/videoportal.epam.com/video/dJ8817JW)

Reporting

[https://videoportal.epam.com/video/1ox9lkRr](https://vpn.epam.com/https/videoportal.epam.com/video/1ox9lkRr)

Test Automation Frameworks With Pros

[https://www.softwaretestinghelp.com/test-automation-frameworks-selenium-tutorial-20/](https://vpn.epam.com/https/www.softwaretestinghelp.com/test-automation-frameworks-selenium-tutorial-20/)

POI

[https://www.toolsqa.com/selenium-webdriver/data-driven-testing-excel-poi/](https://vpn.epam.com/https/www.toolsqa.com/selenium-webdriver/data-driven-testing-excel-poi/)

Guide Test Automation

[https://www.thoughtworks.com/insights/blog/guide-test-automation](https://vpn.epam.com/https/www.thoughtworks.com/insights/blog/guide-test-automation)

Page Object Model and Page Factories

[https://www.youtube.com/watch?v=xalRieVr3m8](https://vpn.epam.com/https/www.youtube.com/watch?v=xalRieVr3m8)

1. In-Sprint Automation – Advanced
   1. Understand the Challenges for in-sprint Automation
   2. Understand the importance of Importance of in-sprint automation
   3. Explain the challenges for API in-sprint Automation
   4. Explain the challenges for UI in-sprint Automation
   5. Understand how to implement in-sprint automation

Faster Regression Testing With In-Sprint Automation

[https://saucelabs.com/resources/articles/faster-regression-testing-with-in-sprint-automation](https://vpn.epam.com/https/saucelabs.com/resources/articles/faster-regression-testing-with-in-sprint-automation)

What You Need To Know About Achieving “In-Sprint Test Automation”

[https://www.linkedin.com/pulse/how-achieve-in-sprint-test-automation-support-your-devops-sai-gopalan#:~:text=Beyond%20making%20the%20automation%20engineers,as%20in%20test%20script%20writing.](https://vpn.epam.com/https/www.linkedin.com/pulse/how-achieve-in-sprint-test-automation-support-your-devops-sai-gopalan#:~:text=Beyond%20making%20the%20automation%20engineers,as%20in%20test%20script%20writing.)

in-sprint QE automation improves code and accelerates development speed

[https://blog.griddynamics.com/how-in-sprint-qe-automation-improves-accelerates-development/](https://vpn.epam.com/https/blog.griddynamics.com/how-in-sprint-qe-automation-improves-accelerates-development/)

6 Ways to Make Test Automation Successful in Agile Environment

[https://www.testing-whiz.com/blog/6-ways-to-make-test-automation-successful-in-agile-environment](https://vpn.epam.com/https/www.testing-whiz.com/blog/6-ways-to-make-test-automation-successful-in-agile-environment)

Testing in Agile

[https://videoportal.epam.com/video/VJwydpov](https://vpn.epam.com/https/videoportal.epam.com/video/VJwydpov)

Quality in Agile

[https://videoportal.epam.com/video/VRggEzR2](https://vpn.epam.com/https/videoportal.epam.com/video/VRggEzR2)

1. Identify Automation Candidates – Advanced
   1. Understand the criteria to automation test cases
   2. Understand the Feasibility to automate test cases
   3. Understand the various layers of test automation
   4. Understand the possible reasons not to automate test cases
   5. Understand the point of yield for automation

How To Select Correct Test Cases For Automation Testing

[https://www.softwaretestinghelp.com/manual-to-automation-testing-process-challenges/](https://vpn.epam.com/https/www.softwaretestinghelp.com/manual-to-automation-testing-process-challenges/)

Automated Testing Best Practices and Tips

[https://smartbear.com/learn/automated-testing/best-practices-for-automation/](https://vpn.epam.com/https/smartbear.com/learn/automated-testing/best-practices-for-automation/)

Criteria to automate test cases

[https://dzone.com/articles/how-to-choose-which-test-cases-to-automate](https://vpn.epam.com/https/dzone.com/articles/how-to-choose-which-test-cases-to-automate)

1. TestNG / JUnit / Unit testing – Intermediate
   1. Understand the test pyramid approach
   2. Understand the Importance of Unit testing
   3. Understand the advantages and limitations of Unit testing
   4. Understand the Quality of Unit tests, code coverage
   5. Understand the unit testing frameworks - JUnit and TestNG
   6. Implement the Annotations in TestNG
   7. Implement the Test classes and tests
   8. Implement the inheritance in test classes
   9. Implement the Test Suites, Groups, Priorities, Parameterizing, Dependencies
   10. Implement the Data Driven Tests
   11. Implement the Asserts, Listeners
   12. Understand the maven configuration to run unit tests
   13. Understand the mocks in Unit testing

xUnit testing frameworks

[https://videoportal.epam.com/video/BR0nV7al](https://vpn.epam.com/https/videoportal.epam.com/video/BR0nV7al)

Java Automated Testing - XUnit Testing Frameworks

[https://videoportal.epam.com/video/noZB7zoq](https://vpn.epam.com/https/videoportal.epam.com/video/noZB7zoq)

TestNG Listeners

[https://www.toolsqa.com/selenium-webdriver/testng-listeners/](https://vpn.epam.com/https/www.toolsqa.com/selenium-webdriver/testng-listeners/)

IRetryAnalyzer – Retry Failed Tests with TestNG

[https://www.swtestacademy.com/retry-failed-tests-testng-iretryanalyzer/](https://vpn.epam.com/https/www.swtestacademy.com/retry-failed-tests-testng-iretryanalyzer/)

Java: Testing with JUnit

[https://www.linkedin.com/learning/java-testing-with-junit](https://vpn.epam.com/https/www.linkedin.com/learning/java-testing-with-junit)

TestNG

[https://testng.org/doc/documentation-main.html](https://vpn.epam.com/https/testng.org/doc/documentation-main.html)

1. Testing Techniques – Advanced
   1. Understand levels of testing and types of testing
   2. Understand and implement the test-pyramid approach
   3. Understand the types of testing like Unit Testing, Integration Testing, Functional Testing, System Testing, Usability Testing, Acceptance Testing, Regression Testing, Re-Testing, Beta Testing
   4. Understand Code level testing and system level testing
   5. Understand types of testing and test environments

Test Pyramid vs ROI

[https://videoportal.epam.com/video/Vold8Pod](https://vpn.epam.com/https/videoportal.epam.com/video/Vold8Pod)

Test pyramid

[https://martinfowler.com/bliki/TestPyramid.html](https://vpn.epam.com/https/martinfowler.com/bliki/TestPyramid.html)

Practical test pyramid

[https://martinfowler.com/articles/practical-test-pyramid.html](https://vpn.epam.com/https/martinfowler.com/articles/practical-test-pyramid.html)

Types of Software Testing – Complete List

[https://www.testingexcellence.com/types-of-software-testing-complete-list/](https://vpn.epam.com/https/www.testingexcellence.com/types-of-software-testing-complete-list/)

Differences Between the Different Levels of Testing

[https://reqtest.com/testing-blog/different-levels-of-testing/](https://vpn.epam.com/https/reqtest.com/testing-blog/different-levels-of-testing/)

Levels and types of testing

[https://smartbear.com/learn/automated-testing/software-testing-methodologies/](https://vpn.epam.com/https/smartbear.com/learn/automated-testing/software-testing-methodologies/)

Localization Testing

[https://videoportal.epam.com/video/na2wPVoY](https://vpn.epam.com/https/videoportal.epam.com/video/na2wPVoY)

Regression Testing

[https://videoportal.epam.com/video/VRgpnmJ2](https://vpn.epam.com/https/videoportal.epam.com/video/VRgpnmJ2)

Functional and Domain testing

[https://videoportal.epam.com/video/qaymBAal](https://vpn.epam.com/https/videoportal.epam.com/video/qaymBAal)

1. Test Strategy – Intermediate
   1. Understand the importance of test strategy
   2. Understand various parameters to be considered to prepare test strategy
   3. Understand the Common Sections Of Test Strategy Document
   4. Understand the difference in test strategy and test plan

Test strategy

[https://en.wikipedia.org/wiki/Test\_strategy](https://vpn.epam.com/https/en.wikipedia.org/wiki/Test_strategy)

Test Strategy vs Test Plan

[https://devqa.io/test-strategy-and-test-plan/](https://vpn.epam.com/https/devqa.io/test-strategy-and-test-plan/)

The Complete Guide To Writing Test Strategy

[https://www.softwaretestingmaterial.com/test-strategy/](https://vpn.epam.com/https/www.softwaretestingmaterial.com/test-strategy/)

Agile Test Strategy

[https://docs.broadcom.com/doc/ca-ppm-leading-practice-test-strategy-and-approach-in-agile-projects](https://vpn.epam.com/https/docs.broadcom.com/doc/ca-ppm-leading-practice-test-strategy-and-approach-in-agile-projects)

1. Requirement Elaboration – Intermediate
   1. Understand the importance of Software Requirements Specification
   2. Understand the Requirement elaboration techniques
   3. Understand the 3 - amigos process
   4. Understand the Story grooming process
   5. Understand the requirement tractability matrix

Three Amigos

[https://www.agilealliance.org/glossary/three-amigos/](https://vpn.epam.com/https/www.agilealliance.org/glossary/three-amigos/)

Agile: Backlog Grooming

[https://www.productplan.com/glossary/backlog-grooming/](https://vpn.epam.com/https/www.productplan.com/glossary/backlog-grooming/)

Requirement Analysis Techniques

[https://www.visual-paradigm.com/guide/requirements-gathering/requirement-analysis-techniques/](https://vpn.epam.com/https/www.visual-paradigm.com/guide/requirements-gathering/requirement-analysis-techniques/)

Software Requirement Specification (SRS)

[http://www.softwaretestingclass.com/software-requirement-specification-srs/](https://vpn.epam.com/http/www.softwaretestingclass.com/software-requirement-specification-srs/)

1. Test Design Techniques – Intermediate
   1. Understand the importance of test design techniques
   2. Understand the various test design techniques
   3. Understand BVA, Equivalence Class Partitioning, Decision Table Testing, State Transition Testing, Use Case Testing etc

Software Test Design Techniques – Static and Dynamic Testing

[https://www.invensis.net/blog/it/software-test-design-techniques-static-and-dynamic-testing/](https://vpn.epam.com/https/www.invensis.net/blog/it/software-test-design-techniques-static-and-dynamic-testing/)

Test Case Design Techniques

[https://reqtest.com/testing-blog/test-case-design-techniques/](https://vpn.epam.com/https/reqtest.com/testing-blog/test-case-design-techniques/)

Test Cases Design\_Part 1

[https://videoportal.epam.com/video/boMQrNoV](https://vpn.epam.com/https/videoportal.epam.com/video/boMQrNoV)

Test Cases Design Part 2

[https://videoportal.epam.com/video/1ox9BNRr](https://vpn.epam.com/https/videoportal.epam.com/video/1ox9BNRr)

1. Defect Management – Advanced
   1. Understand the defect life cycle in a project
   2. Understand defect hunting process
   3. Understand the best practices while creating defect (description, severity, test evidences etc)
   4. Understand the difference of priority and severity of defect
   5. Understand the RCA process on defect
   6. Understand the prevention mechanisms to prevent defects. (various feedback loops)
   7. Implement a sample defect management process for a given scenario

Defect Management Process

[https://www.softwaretestinghelp.com/defect-management-process/](https://vpn.epam.com/https/www.softwaretestinghelp.com/defect-management-process/)

Defect Hunting and Reporting

[https://videoportal.epam.com/video/1oxp3Xor](https://vpn.epam.com/https/videoportal.epam.com/video/1oxp3Xor)

Defect Management Process

[http://www.defectmanagement.com/defectmanagement/modelmain.htm](https://vpn.epam.com/http/www.defectmanagement.com/defectmanagement/modelmain.htm)

Defect Management – Steps to Better Products & Processes

[https://www.arenasolutions.com/resources/articles/defect-management/](https://vpn.epam.com/https/www.arenasolutions.com/resources/articles/defect-management/)

1. Version Control Systems - GIT – Intermediate
   1. Understand the Need of Version Control Systems
   2. Understand the Type of Repositories -> Centralized Vs Distributed
   3. Understand verbose like Check in, Checkout, Conflict, Merge, Tags, Reverting changes
   4. Implement GIT Installation, Installing Source Tree
   5. Implement creating GIT repositories, cloning repositories, push and pull
   6. Implement GIT basic commands like add, commit, push, pull, branch, checkout
   7. Implement Git Commands - Pull, Fetch, Merge, Stash, Merge Conflicts
   8. Implement Undo Changes, Reset, Rebase, gitignore, STASH
   9. Understand the Branching strategy and gitflow
   10. Understand SHA1
   11. Understand Git Cherry Pick

Version Control with Git - Part1

[https://videoportal.epam.com/video/qayml7al](https://vpn.epam.com/https/videoportal.epam.com/video/qayml7al)

Version Control with Git - Part2

[https://videoportal.epam.com/video/nRmpD8o9](https://vpn.epam.com/https/videoportal.epam.com/video/nRmpD8o9)

GIT Book

[https://git-scm.com/book/en/v2](https://vpn.epam.com/https/git-scm.com/book/en/v2)

Git Essential Training: The Basics

[https://www.linkedin.com/learning/git-essential-training-the-basics/](https://vpn.epam.com/https/www.linkedin.com/learning/git-essential-training-the-basics/)

1. Estimation Techniques – Intermediate
   1. Understand and implement Planning Poker
   2. Understand estimation techniques Delphi Technique
   3. Understand estimation technique Work Breakdown Structure (WBS)
   4. Understand estimation technique Three Point Estimation
   5. Understand estimation technique Functional Point Method
   6. Understand estimation technique Story Points

What is Planning Poker?

[https://www.mountaingoatsoftware.com/agile/planning-poker](https://vpn.epam.com/https/www.mountaingoatsoftware.com/agile/planning-poker)

What Are Story Points?

[https://www.mountaingoatsoftware.com/blog/what-are-story-points](https://vpn.epam.com/https/www.mountaingoatsoftware.com/blog/what-are-story-points)

Estimation in Test Automation

[https://videoportal.epam.com/video/VJwMwpov](https://vpn.epam.com/https/videoportal.epam.com/video/VJwMwpov)

Estimations in Testing

[https://videoportal.epam.com/video/QoVv79o9](https://vpn.epam.com/https/videoportal.epam.com/video/QoVv79o9)

Estomation Techniques

[https://www.softwaretestingclass.com/software-estimation-techniques/](https://vpn.epam.com/https/www.softwaretestingclass.com/software-estimation-techniques/)

1. Agile - Scrum / Kanban – Intermediate
   1. Understand Agile manifesto
   2. Understand Scrum model of Agile
   3. Understand roles in scrum model - Product Owner, Scrum Team, Scrum Master
   4. Understand the sprint ceremonies - Sprint Planning, Daily stand up, Sprint review, Sprint Demo, Sprint Retrospective
   5. Understand artifacts - Product backlog, sprint backlog, burn down down charts
   6. Understand the 3-Emigos, Story elaboration sessions, Story estimation techniques, Planning poker, story points
   7. Understand Kanban

Agile Methodology

[https://www.youtube.com/watch?v=mJRsSbWR3Mc](https://vpn.epam.com/https/www.youtube.com/watch?v=mJRsSbWR3Mc)

Scrum: The Basics

[https://www.linkedin.com/learning/scrum-the-basics](https://vpn.epam.com/https/www.linkedin.com/learning/scrum-the-basics)

Scrum: Advanced

[https://www.linkedin.com/learning/scrum-advanced](https://vpn.epam.com/https/www.linkedin.com/learning/scrum-advanced)

1. Maven – Intermediate
   1. Understand the need of maven
   2. Install and configure maven for a Java Project
   3. Understand Convention over configuration
   4. Understand Maven life cycle, goals, plugins
   5. Implement Dependencies, transitive dependencies
   6. Implement POM, Super POM, effective POM
   7. Implement Parameters in pom.xml
   8. Understand integration with Jenkins
   9. Understand maven profiles
   10. Configure Surefire plugin

Maven Tutorial

[http://tutorials.jenkov.com/maven/maven-tutorial.html](https://vpn.epam.com/http/tutorials.jenkov.com/maven/maven-tutorial.html)

Introduction to Maven

[https://videoportal.epam.com/video/PJ68YmoX](https://vpn.epam.com/https/videoportal.epam.com/video/PJ68YmoX)

Introducing Maven

[https://www.linkedin.com/learning/introducing-maven](https://vpn.epam.com/https/www.linkedin.com/learning/introducing-maven)

Build Automation with Maven

[https://www.linkedin.com/learning/java-build-automation-with-maven](https://vpn.epam.com/https/www.linkedin.com/learning/java-build-automation-with-maven)

PL Course

[https://www.pluralsight.com/courses/maven-fundamentals](https://vpn.epam.com/https/www.pluralsight.com/courses/maven-fundamentals)

1. Static Code analysis – Intermediate
   1. Understand the use of static code analyzers
   2. Understand the importance of clean code
   3. Install and configure Sonar Lint
   4. Analyze the given code through Sonar Lint
   5. Install SONAR QUBE and configure SONAR Dashboard

Code Analysis with SonarQube

[https://www.baeldung.com/sonar-qube](https://vpn.epam.com/https/www.baeldung.com/sonar-qube)

Code Quality

[https://www.linkedin.com/learning/agile-software-development-code-quality](https://vpn.epam.com/https/www.linkedin.com/learning/agile-software-development-code-quality)

Addtnl:

<https://pairwise.yuuniworks.com/>

<https://www.geeksforgeeks.org/top-50-array-coding-problems-for-interviews/>

<https://automationpanda.com/testing/>

<https://automationpanda.com/2017/05/08/10-gotchas-for-automation-code-reviews/>

<https://stackoverflow.com/questions/7489359/how-can-i-insert-into-a-blob-column-from-an-insert-statement-in-sqldeveloper/21438975>

**Stale Element Reference Exception:**

[**https://www.softwaretestingmaterial.com/stale-element-reference-exception-selenium-webdriver/#:~:text=4%3A%20Using%20POM-,What%20is%20StaleElementReferenceException%20in%20Selenium%20Webdriver,then%20the%20WebElement%20goes%20stale**](https://www.softwaretestingmaterial.com/stale-element-reference-exception-selenium-webdriver/#:~:text=4%3A%20Using%20POM-,What%20is%20StaleElementReferenceException%20in%20Selenium%20Webdriver,then%20the%20WebElement%20goes%20stale)**.**

Test Cases for Strange Objects:

[**https://artoftesting.com/chair**](https://artoftesting.com/chair)**’**

Clean code principles:

<https://areknawo.com/10-coding-principles-and-acronyms-demystified/>

<https://dzone.com/articles/solid-principles-dependency-inversion-principle>

Dependency Inversion is one of the last principles we are going to look at. The principle states that:

High-level modules should not depend on low-level modules. Both should depend on abstractions.

Abstractions should not depend on details. Details should depend on abstractions.