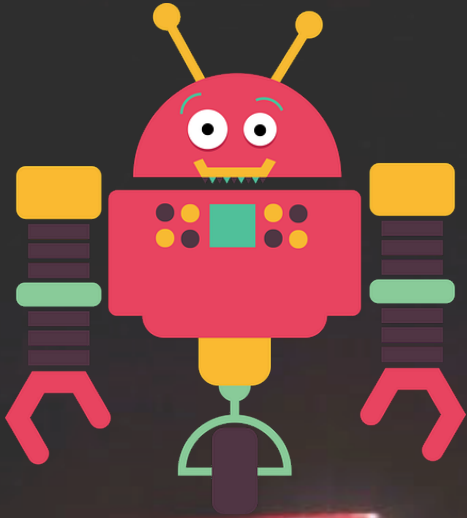


Roadmap to becoming a Test Automation Engineer



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Action Plan



What should be your action plan?

- **Phase 1:** Develop basic programming & automation skills by choosing a language & some automation technology.
- **Phase 2:** Plan Automation Strategy
- **Phase 3:** Develop understanding about DevOps and start using some continuous integration tool.
- **Phase 4:** Learn about concepts like TDD, ATDD and BDD. Explore some tool that supports BDD
- **Phase 5:** Learn about Web Services & API's and technologies like XML, JSON, SOAP
- **Phase 6:** Mobile Application Automation. Learn about technologies behind mobile apps.
- **Phase 7:** Performance and Scalability

Action Plan



Phase 1 – Choosing programming language and automation technology

- **Programming languages:**

Java, Python, Ruby, VB.NET/C#
Scala, Groovy

Suggested: **Java** OR **Python**

Scope: A test automation developer can limit his efforts to learn the core part of programming language.

Recommended Resources

- **Free Programming Books**

<https://github.com/EbookFoundation/free-programming-books>

- **Bento** bentobox.io

A community sourced curated listing of the best free resources for learning how to program.

- **Class-Central**

www.class-central.com/subject/cs

Phase 1 – Choosing Automation Technology

- **Automation Tools:**

- Supporting both Desktop & Web Application: QTP (Now known as HP Unified Functional Test)
- Web Applications: Selenium, Watir, Katalon Studio
- AngularJS applications: Protractor
- Headless Automation: PhantomJS & CapserJS
- Performance: jMeter
- API / Web Services: SOAPUI, SOATest, REST Assured (Java Library), Postman, JMockit, WireMock

Phase 1 – Choosing Automation Technology

Suggested:

Selenium for Web-based automation

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Phase 1 – Choosing Automation Technology

- **Test bench tools:**

- JIRA
- Zephyr

- **Version Control:**

- Git
- GitHub
- BitBucket

- **Unit testing frameworks/tools:**

- Junit
- TestNG

Recommended Resources

- **Selenium HQ Wiki**

<http://www.seleniumhq.org/docs/>

- **Software Testing Help**

<http://www.softwaretestinghelp.com/selenium-tutorial-1/>

- **Guru99**

<https://www.guru99.com/selenium-tutorial.html>

- **ToolsQA**

<http://toolsqa.com/selenium-tutorial/>

Phase 2 - Test Automation Strategy & Planning

- Focus mainly on three types of testing strategies where you can add value by automating the tasks:
 - Acceptance Testing
 - Regression Testing
 - End to End Testing
- Create a test coverage metric document and update it continuously.

Phase 3 – Integration with build management tools

Suggested: **Maven, Jenkins**

Maven - used to manage information about all libraries that are required to compile and build the application.

Jenkins - Dynamic build is done through Jenkins while using maven as dependency manager.

Recommended Resources

DEVOPS.com

<https://devops.com/>

Visual Studio Documentation

<https://www.visualstudio.com/learn/what-is-devops/>

Book: A Practical Guide to Testing in DevOps by Katrina Clokie

<https://leanpub.com/testingindevops>

Phase 4 – TDD, ATDD, BDD

- **Behavior Driven Development Tools:**

- Cucumber
- Jbehave
- Serenity



Suggested: Cucumber

Recommended Resources

Dan North & Associates

<https://dannorth.net/introducing-bdd/>

ToolsQA

<http://toolsqa.com/cucumber/behavior-driven-development/>

Book: BDD in Action by John Ferguson Smart

Book: The Cucumber Book by Aslak Hellesøy and Matt Wynne

Phase 5 – Web Services

- Learn about Web Services & API's and technologies like XML, JSON, SOAP and start exploring some tool that helps perform API & web services automation
- Suggested: Parasoft SOAtest, REST Assured, Postman, JMockit, WireMock
- Languages: Groovy, Scala

Recommended Resources:

<https://www.ontestautomation.com/open-source-workshops/>

Phase 6 - Mobile Application Automation

- **Mobile Automation Tools:**

- Appium, Robotium, Espresso, XCUITest, Perfecto, SeeTest

Suggested: Appium

Recommended Resources:

- <https://www.slideshare.net/AmbreenKhan24/automation-testing-on-ios-platform-using-appium?trk=v-feed>

Phase 7 - Performance and Scalability

- **Popular Automation Frameworks:**

- Robot framework
- Serenity
- RedwoodHQ
- Sahi
- Galen framework
- Gauge

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