



# LAB/ WORKSHOP INSTRUCTION MANUAL

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This manual covers the instructions for setting up installations for the seven (7) Lab sessions at #ATAGTR2020

#ATAGTR2020

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## Introduction

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This lab manual has been created for all the attendees of #ATAGTR2020 who are interested to attend any of the labs at #ATAGTR2020

There are seven labs that you can attend

1. Building a distributed synthetic monitoring system with Puppeteer and Jenkins - Day 1
2. Test Automation Made Awesome with Jalenium - Day 1
3. World of Automated Visual Testing - Day 1
4. Automated Accessibility testing in Devops Environment - Day 2

5. End to End Testing using TestCafe - Day 2
6. How can QA become a DevOps expert? A practitioner's session for QA on Azure DevOps - Day 2
7. Externalization of Testcases for Quick Delivery - Day 2

Please look at the #ATAGTR2020 Day 1 and Day 2 conference schedule for your reference.

<https://gtr.agiletestingalliance.org/schedule/>

Please note that if you are attending any of these labs, you should come prepared with necessary recommended installations. Speakers will jump right into action as the slot duration time is limited.

We are sharing details for all the labs in the subsequent sections

## Pre-requisites

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- You should have a good laptop/ desktop with 8GB or more RAM and a good internet connection.
- A Windows user account with administrator privileges (or the ability to download and install software). Access to the Windows command line (search > cmd > right-click > run as administrator)

**Most of the labs require you to install or more of the following**

- JDK 8
- Eclipse or IntelliJ (IDE for Java)
- Node
- NPM
- Jenkins server running on your local machine
- Git
- TestNG (in Eclipse )
- Maven
- Visual Studio code

We are sharing details in the subsequent section on how to install if you are a complete newbie and don't have these installations.

# Workshop 1: Building a distributed synthetic monitoring system with Puppeteer and Jenkins

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This workshop will be conducted by Deepak Kaul

Please see speaker details here :

<https://gtr.agiletestingalliance.org/deepak-koul/>



## Workshop will cover the following

1. What is synthetic monitoring and what are its benefits
2. Introduction to puppeteer
3. Setting up a generic application-agnostic puppeteer runner.
4. Setting up a distributed Jenkins job
5. Data collection and analysis

In this 90 minute lab, Deepak is going to show how to build a distributed synthetic monitor very easily using

- a) Puppeteer: Google-backed browser automation tool using devtools protocol.
- b) Jenkins: Famous CI tool used by organizations to build and schedule jobs. Every tool and technology used in this lab is open source and hence everyone can straightaway start using this setup. Attendees can not only use this setup to monitor their applications but also use the data generated by this setup overtime to do performance analysis and draw tuning strategies. And an interesting by-product of the whole setup is that you can always put your pre-prod environments on monitoring and every time your QA or Stage environment is down, you will be notified and hence you get a nice control over the stability of your testing environments in this continuous integration era.

## Pre-requisites for this workshop

1. Node and NPM (> V13)
2. A Jenkins server running on local

## Workshop 2: Test Automation Made Awesome with Jalenium

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This workshop will be conducted by Kushan

Please see speaker details here :

<https://gtr.agiletestingalliance.org/kushan-amarasiri/>



Workshop will cover the following

1. Introduction to Jalenium
2. Importance of the Jalenium Open API
3. A practical hands-on session of automating a test case with Jalenium
4. Use of Jalenium as a test automation framework - a walkthrough
5. Future enhancements

Pre-requisites for this workshop

1. Eclipse Oxygen IDE
2. JDK 1.8
3. TestNG installed

## Workshop 3: World of Automated Visual Testing

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This workshop will be conducted by Sumit

Please see speaker details here :

<https://gtr.agiletestingalliance.org/sumit-mundhada/>



Workshop will cover the following

Visual testing is very crucial aspect for overall product quality. It is very popular for the products focusing on great UI. At the same time it is equally important to know the challenges, limitations and accordingly decide overall approach.

This lab will take you to the world of visual validations. How has visual testing changed and evolved over the years. We will see some of the tools and How to use them to gain true ROI. Find out How it all works, session using selenium and applitool

### Pre-requisites for this workshop

1. JDK 1.8
2. Eclipse IDE
3. Selenium
4. Create a free Applitools account and get the Applitools API KEY (<https://auth.applitools.com/users/register> )
5. Maven
6. Git
7. Download ChromeDriver (<https://chromedriver.chromium.org/getting-started> ) and keep it in your System Path  
<https://www.youtube.com/watch?v=dz59GsdvUF8>
8. Get the following Git repo:  
git clone <https://github.com/applitools/tutorial-selenium-java-basic.git>  
(Instructions here <https://applitools.com/tutorials/selenium-java.html> )

## Workshop 4: Automated Accessibility testing in Devops Environment

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This workshop will be conducted by Gayathiri and Kevin

Please see speaker details here

<https://gtr.agiletestingalliance.org/gayathiri-balakrishnan/>

<https://gtr.agiletestingalliance.org/kavin-arvind/>



Workshop will cover the following

### Automated Accessibility testing in DevOps environment

Since manual testing is difficult and complex, we can try automated accessibility tests which is very reliable. Most of tools are open source, which allows automated accessibility testing and integration with devops. Running accessibility test automation rules during continuous integration prevents common accessibility issues.

All this will be attempted in this lab. Please ensure you come ready with the installables.

### Pre-requisites for this workshop

1. JDK 1.8 with environmental variables setup
2. Jenkins up and running with access to Jenkins workspace directory in windows
3. Node js and NPM (can be verified by running node -v and npm-v)
4. An individual GitHub account for participants (their own) which will be needed to integrate with Jenkins
5. Gmail account (can be of participants) for triggering the test reports in their lab machine

## Workshop 5: End to End Testing using TestCafe

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This workshop will be conducted by Nagesh

Please see speaker details here

<https://gtr.agiletestingalliance.org/nagesh-deshpande/>



### Workshop will cover the following

1. What is TestCafe?
2. Why TestCafe?
3. How to install TestCafe?
4. Run First Test in TestCafe
5. Data Driven Test in TestCafe
6. POM in TestCafe

### Pre-requisites for this workshop

1. Node js and NPM (can be verified by running node -v and npm-v)
2. Visual Studio code

# Workshop 6: A practitioner's session QA Azure DevOps

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This workshop will be conducted by Vinod and Senthil

Please see speaker details here

<https://gtr.agiletestingalliance.org/vinod-sundararaju-antony/>

<https://gtr.agiletestingalliance.org/senthilkumar-thirumalaisamy/>



## Workshop will try to cover the following

- Introduction on DevOps
- Various stages of DevOps
- Brief walk through of Azure DevOps
- Azure DevOps with GitHub
- Azure Repos
- Code Repository with Azure Repos
- Create a Cod Repository
- Commit Changes to Code
- Performing a Pull Request
- Build Pipeline for 'build' and 'release'
- Azure Pipelines
- Intro on Builds vs Releases
- Create a Build, GitHub Pipelines
- Create a DevOps Release Pipeline
- Configuring Builds as Code with YAML in Azure Pipelines
- Enabling Continuous Integration with Azure Pipelines
- Other DevOps tools
- Q & A

## Pre-requisites for this workshop

- Admin. Privileges for the laptop or software as needed (for any SW)
- Laptop or desktop with Windows 10, 8 GB RAM & higher.
- Access to Azure DevOps (Can be personal or individual organization account)
- Basic + test plan
- Git bash or equivalent repository
- Any IDE - Eclipse preferably
- Java JDK 1.8
- Maven (optional)



# Workshop 7: Externalization of Testcases for Quick Delivery

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This workshop will be conducted by Kunal

Please see speaker details here

<https://gtr.agiletestingalliance.org/kunal-ashar/>



## Workshop will try to cover the following

Testcase management plays an important part in determining the success of automation. If we are spending too much time in modifying scripts and selecting test cases to execute after each deployment than we're adding overhead to execution time and to the product delivery.

**Externalizing test cases** help us control our cases better without touching our code base and it helps us to pre-plan cases that need to be executed based on the bug-fix/ impact areas without modifying our code. It also helps us to analyze our execution results and identifying faulty and flaky cases without human intervention.

You will learn how to externalize your test cases in this workshop.

## Pre-requisites for this workshop

- Eclipse or IntelliJ installed.
- Java 8 or higher
- Maven
- All participants need to take checkout of below repository and follow the steps mentioned in the ReadMe.md file
- Repo Url: [https://github.com/kunalashar25/ATA\\_GTR\\_LabSession](https://github.com/kunalashar25/ATA_GTR_LabSession)

## Pre-requisite Installation Help

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Here are the details for getting your pre-requisite setups

[Installing Java / JDK 1.8](#)

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For Windows System:

Please follow one of the the below mentioned links: -

<https://www.geeksforgeeks.org/setting-environment-java/>

<https://www.guru99.com/install-java.html>

For Mac System:

Please follow below mentioned video: -

<https://www.youtube.com/watch?v=y6szNJ4rMZ0>

## Installing Eclipse

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JDK installation should have happened before you can install Eclipse

Please follow below mentioned video: -

<https://www.youtube.com/watch?v=rSFraftR4I4>

Download from here and install (<https://www.eclipse.org/downloads/>) , that's also fine.

## Installing IntelliJ IDE

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Download IntelliJ from below mentioned link: -

<https://www.jetbrains.com/idea/download/#section=windows>

Note: - Community version is free.

## Node JS and NPM setup

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**Please follow the following url for the installation**

There are installers available on the following page, which can be directly used to install.

<https://nodejs.org/en/download/>

For more details please refer

<https://docs.npmjs.com/downloading-and-installing-node-js-and-npm>

## Installing Jenkins

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Please refer below link for downloading

<https://www.jenkins.io/download/>

You can download the WAR file and following the instructions from the below URL

<https://www.jenkins.io/doc/book/installing/war-file/>

## Maven

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Please use the following URL for installation steps for Maven

<https://www.javatpoint.com/how-to-install-maven>

<https://maven.apache.org/install.html>

## Git Installation

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Please refer the following URL's

<https://git-scm.com/book/en/v2/Getting-Started-Installing-Git>

<https://git-scm.com/download/win>

## Visual Studio Code

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Please see the following URL

<https://code.visualstudio.com/docs/setup/windows>

## Azure devops

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Please refer below link

<https://azure.microsoft.com/en-us/services/devops/>

You can create your own free account or signup using your github account. You would need to create your own organization to start things out. Basic + Testplan is free for 30 days.

## TestNG

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Please refer below link

<https://www.guru99.com/install-testng-in-eclipse.html>