



LAB SETUP & INSTALLATION MANUAL

LAB MANUAL

This guide covers the instructions / Pre-requisites for Labs on Day-1 and Day-2 of the conference
#VirtualConferenceDays 16th and 17th November 2024

#ATAGTR2024

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Introduction

This lab manual has been created for all the attendees of #ATAGTR2024 who are interested to attend any of the labs at #ATAGTR2024. It covers setup/installation and pre-requisites.

For ATAGTR2024 schedule please visit the following URL

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

16th November - Day 1 Lab details

There are 3 labs on Day 1 (16th Nov) of the conference. Details for each lab are given below

Day 1 : Lab 1 - Deep Dive into Nightwatch A powerful Test Automation Framework for All Things Web and Mobile by Pallavi Sharma



This lab will be taken by **Pallavi Sharma**

You can visit the following URL(s) of speaker(s) for more details

<https://gtr.agiletestingalliance.org/pallavi-sharma/>

System Setup for Lab

- a. Node js - <https://nodejs.org/en>
- b. Visual Studio Code - <https://code.visualstudio.com/>
- c. Install Nightwatch following information here - <https://nightwatchjs.org/guide/quickstarts/create-and-run-a-nightwatch-test.html>
- d. Access to following websites as they will be used in showcasing examples-
 - i. <https://5elementslearning.dev/demosite/>
 - ii. <https://the-internet.herokuapp.com/>

- e. Have a free browserstack or similar account to run tests - <https://www.browserstack.com/>

Pre-requisite for the lab

Working knowledge of testing, programming, and JavaScript as programming language.

Day 1 : Lab 2 - BDD From Basic to GenAI by Ashwini Lalit



This lab will be taken by **Ashwini Lalit**

You can visit the following URL(s) of speaker(s) for more details

<https://gtr.agiletestingalliance.org/ashwini-l/>

System Setup for Lab

- Individuals Laptop for all attendees.
- 64-bit CPU Laptop with at least 8GB RAM, 20GB free disk space.
- OS: Windows 10, MacOS Sierra or higher.
- Internet Connectivity.
- Admin Rights in all the machines.

Software Installations

- Visual Studio Code - <https://code.visualstudio.com/>
- Git - <https://git-scm.com/>
- ChatGPT account - <https://chat.openai.com/>
- Claude account - <https://claude.ai/>

- IDE - VSCode, IntelliJ, Eclipse
- Java JDK11 or higher - <https://www.oracle.com/java/technologies/downloads/>
- Selenium driver for chromedriver/geckodriver
- Maven - <https://maven.apache.org/download.cgi>

GIT Repo Setup

Clone git repository - <https://github.com/ashwini-lalit/BDDOrangeHRM>

2. You should see following structure in the IDE

demo1/

```
|— src/
| |— test/
| |— java/
| |  |— com/
| |  |— digite/
| |  |— actions
| |  |— Login.java
| |  |— Employee.java
| |  |— core
| |  |— DriverManager.java
| |  |— TestRunner.java
| |  |— WebDriverFactory.java
| |  |— stepDefinitions
| |  |— EmployeeSteps.java
| |  |— LoginSteps.java
```

```
| └─ resources/  
| └─ features/  
| | └─ Login.feature  
| | └─ Employee.feature  
| └─ pageObjects/  
| | └─ login.properties  
| | └─ employee.properties  
| └─ user.properties  
| └─ config.properties  
└─ target/  
└─ pom.xml
```

3. Sample application for testing

<https://opensource-demo.orangehrmlive.com/web/index.php/auth/login>

VERIFICATION

Run the TestRunner.java, it should show results as passed

2. Open chatgpt, put a basic prompt and verify it is working

Day 1 : Lab 3 - Accelerated Performance Test Design using GitHub Copilot by Kavin Arvind Ragavan, Giri Shankar Ravichandran



This lab will be taken by
Kavin Arvind Ragavan and
Giri Shankar Ravichandran

You can visit the following URL(s) of speaker(s) for more details

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

<https://gtr.agiletestingalliance.org/giri-shankar-ravichandran/>

Lab Requirements:

- A GitHub account and access to **Visual Studio Code**
- **Copilot extension** in VS Code
- Performance testing tools like **LoadRunner, K6** installed.

Pre-requisites:

- Participants should have basic knowledge and a general understanding of performance testing.
- Prior hands-on experience with performance testing tools would be beneficial.
- Familiarity with GitHub and Visual Studio Code.
- Understanding of scripting and coding concepts.

17th November - Day 2 Lab details

There are 3 labs on Day 2 (17th Nov) of the conference. Details for each lab are given below

Day 2 (Lab 1) - Vector Databases: Data Management for AI Applications by Toni Ramchandani



This lab will be taken by **Toni Ramchandani**

You can visit the following URL(s) of speaker(s) for more details

<https://gtr.agiletestingalliance.org/toni-r/>

Lab Requirements

- Google Colab (<https://colab.research.google.com/>)

Pre-Requisites

- Basic Python Programming
- Familiarity with Machine Learning Concepts
- Understanding of Databases

Table of Content

1. Introduction to Vector Databases: Overview of Vector Databases and Their Importance in AI, Key Differences Between Vector Databases and Traditional SQL Databases, Applications and Use Cases
2. Setting Up a Vector Database: Installation and Configuration of a Vector Database (e.g., Pinecone, Milvus, FAISS), Connecting to a Vector Database from Your Application
3. Generating Embeddings: Overview of Embedding Models, Generating Embeddings for Different Data Types (Text, Images, Audio)
4. Storing and Indexing Embeddings Inserting Embeddings into the Vector Database Indexing Techniques for Efficient Querying
5. Querying the Vector Database: Performing Similarity Searches, Querying by Example and Using Filters
6. Integrating with AI Pipelines: Integrating Vector Databases with Machine Learning Workflows, Real-Time Data Processing and Analysis
7. Case Studies: Detailed Case Studies on Vector Database Implementations in Various Industries, Lessons Learned and Best Practices
8. Hands-On Lab: Practical Exercise: Setting Up and Querying a Vector Database Building a Simple Recommendation System Using Vector Embeddings
9. Q&A Session: Open Floor for Participant Questions, Troubleshooting and Best Practices

Day 2 (Lab 2) - gRPC: A conceptual contract to empower IoT testing by Pawan Kumar



This lab will be taken by **Pawan Kumar**

You can visit the following URL(s) of speaker(s) for more details

<https://gtr.agiletestingalliance.org/pawan-kumar/>

Lab Requirements

- Any IDE (Visual Studio / VS Code)

Installations

- 1. Visual Studio 2022 (At least free community version) - Recommended
<https://visualstudio.microsoft.com/vs/community/>
- 2. Visual Studio Code - Optional (If unable to instal Visual Studio 2022)
<https://code.visualstudio.com/download>
- 3. .net core version: 8.0 - Recommended
<https://dotnet.microsoft.com/en-us/download/dotnet/8.0>

Pre-Requisites

- Advantage to have some basic knowledge of coding (C#/Java at least)

Table of Contents

- IoT testing and its limitations.
- About gRPC and its architecture
- Protocol buffer
- Hand-on experience with implementation

Day 2 (Lab 3) Integrating Generative AI for Comprehensive Exploratory Performance Testing by Ebin I



This lab will be taken by **Ebin I**

You can visit the following URL(s) of speaker(s) for more details

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

Lab Requirements

- Computer: A computer with at least 8GB RAM and a multi-core processor (e.g., Intel i5 or higher), Storage: Minimum 10GB free disk space
- Internet Connection: Reliable internet connection for downloading dependencies and accessing the OpenAI API
- Operating System: Windows, macOS, or Linux
- Python: Python 3.8 or higher
- Web Browser: Google Chrome or Mozilla Firefox
- Browser Driver: Chrome Driver for Chrome or Gecko Driver for Firefox
- **OpenAI API Access: An OpenAI account with API access**
- Selenium: Selenium WebDriver library
- Load Testing Tool: JMeter or similar performance testing tool.

Pre-Requisites:

- Access for OpenAI API key

Workshop Table of Content with suggested duration:

- Introduction (3 minutes)
- Hardware and Software Requirements (3 minutes)
- Pre-requisites (3 minutes)
- Setting up the Environment (4 minutes)
- Setting up the Web Application (4 minutes)
- Configuring the AI Agent (5 minutes)

- Running the Web Application (5 minutes)
- Executing the AI-Driven Exploratory Testing Script (5 minutes)
- Performance Testing Integration (5 minutes)
- Analyzing Results (5 minutes)
- Conclusion (3 minutes)