Automation Testing

Introduction to JUnit5

A Day in the Life of an Automation Test Engineer

Marcelo is an automation test engineer in Vtest technologies, in which he has to complete his project.

To complete his project, he has to accomplish:

- Gather specific information and requirements.
- Analyze and prepare documentation.
- Interact with the developers for further processing.
- Have to understand and write test cases both manually and automated.
- Discover the errors/bugs and report.
- Be obliged to retest the whole scenario.

Marcelo will get some help by learning a few concepts from the lesson to complete his project.

Learning Objectives

By the end of this lesson, you will be able to:

- Define what is JUnit 5
- Demonstrate setup and installation
- Set path and JAR files in eclipse
- Recognize and adhere Junit 5 programming model

Getting Started with JUnit5

JUnit5

- JUnit is a popular unit-testing framework in the Java environment. It is a next generation version which includes a lot of exciting new capabilities, with the purpose of supporting new features in Java 8 and above, as well as providing a variety of testing techniques.
- JDK(Java Development Kit) 8 brought fascinating features in java and, most notably, lambda expressions.

Getting Started with JUnit5

Below are some steps to follow the approach:

Install Java

Download JUnit

Junit Environment Setup

Install Jar files in Eclipse

Verifying whether required jar file for JUnit is in my build path

Getting Started with JUnit5

Install Java: JUnit is a testing framework used to test Java based application. So before installing JUnit, users need to configure or verify the java development kit (JDK) in their machine.

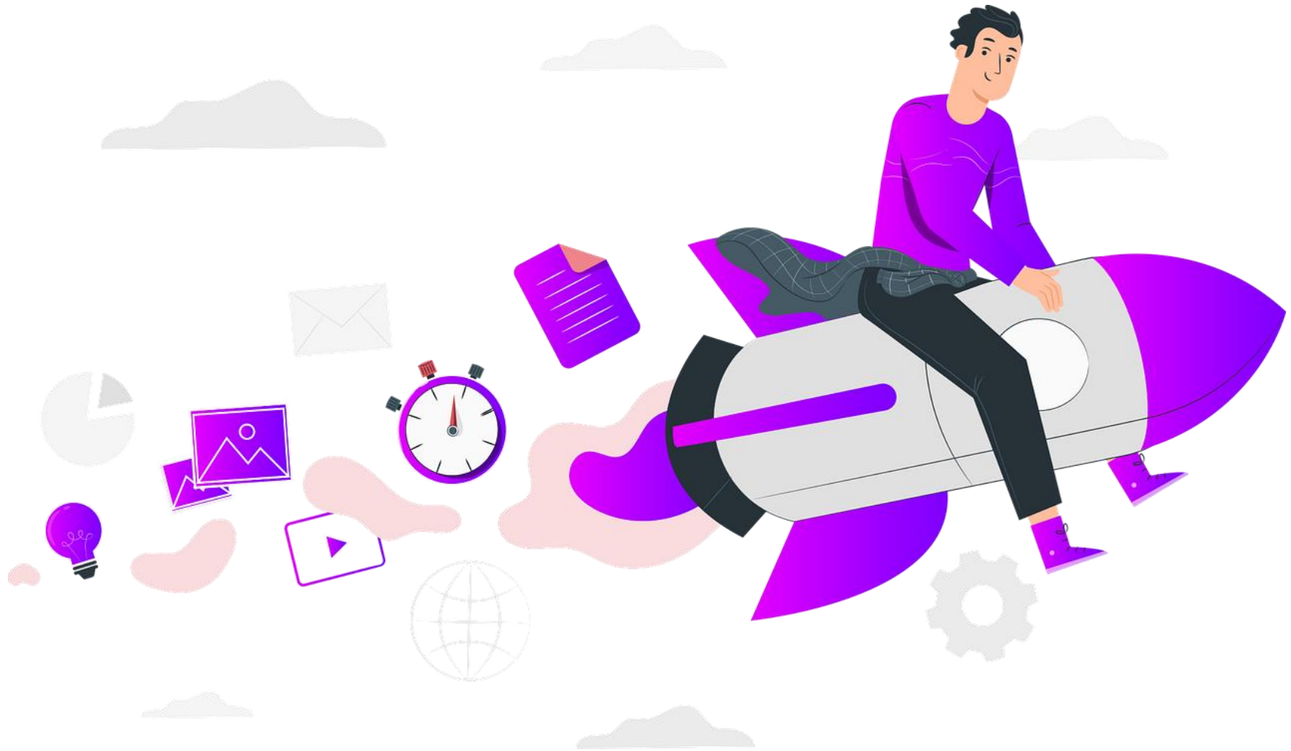
Getting Started with JUnit5

Download JUnit:

- Visit https://junit.org/junit.org/junit5 and click Download and Install.
- Click junit.jar.
- In the central repository you are shown all versions of Junit that can be downloaded. Usually, the user will select the latest version. Click on jar link to download Junit version 5.8.1
- Visit https://github.com/junit-team/junit5/wiki/Download-and-Install again. Click hamcrest-core.jar.
- Download the Jar - for JUnit installation, users need JUnit jars, and users can download the desired version of JUnit jar file from JUnit official site http://www.junit.org

Getting Started with JUnit5

JUnit Environment Setup: Users need to set the ”JUNIT_HOME**”** environment variable to point out the base location where they have placed JUnit Jars.



Getting Started with JUnit5

Install JUnit jar file in eclipse:

Right click on project –

- Click on “build path” and then.
- Click on “Configure build path”.

Next step -

- Go to java build path window
- Click on “Add External JARs” button to add users downloaded JUnit.jar file with eclipse.
- After adding a JUnit.jar file, click on ‘OK’ button to close java build path window.

Getting Started with JUnit5

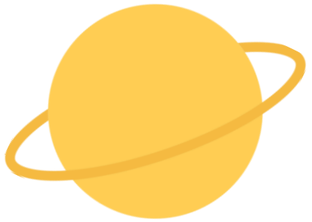
Verifying whether required jar file for JUnit is in my build path:

In order to verify JUnit jar file in eclipse, users need to follow below mentioned steps –

- Right click on project -> Build Path
- Click on “Configure build path”.
- In that window, go to Libraries tab to see all jar files. In jar file tree view, users need to look for the jar file name which is starting with JUnit.
- Once users expand JUnit libraries, users are ready to use JUnit with eclipse

JUnit5 Programming Model

JUnit5 Programming Model



- **JUnit Jupiter:** It offers new programming and test extension models. It includes all new Junit annotations as well as Test Engine support for running tests written with these annotations.

- **JUnit Platform:** It is used to run Junit tests, IDEs, build tools, and plugins must include and extend platform API(Application Program Interface)s. It defines the Test Engine API, which is used to create new testing frameworks that operate on the platform.

- **JUnit Vintage:** Its primary purpose is to support running JUnit 3 and JUnit 4 written tests on the JUnit 5 platform. It's there is backward compatibility.

Key Takeaways

- JUnit5 is a popular unit-testing framework in the Java environment. It is a next generation version of JUnit.
- JUnit Jupiter offers new programming and test extension models. It includes all new Junit annotations as well as Test Engine support for running tests written with these annotations.
- The primary purpose of JUnit Vintage is to support running JUnit 3 and JUnit 4 written tests on the JUnit 5 platform. It's there is backward compatibility.
- JUnit 5 is composed of several different modules:

  JUnit 5 = JUnit Platform + JUnit Jupiter + JUnit Vintage.