

First Steps User's Guide

For the TTCN-3 LTE Project

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Testing
Technologies



Every few weeks ETSI is releasing a new version of the LTE UE test suite. This guide gives you an overview of all necessary steps to be performed in order to get a working TTCN-3 project from the release version.

To be able to compile the LTE test suite please install:

- TTworkbench Basic or Professional
- ASN.1 Plugin

A First Steps User's Guide on how to install TTworkbench and plugins can be found at: http://testingtech.com/download/users_guides/TTworkbench_1stSteps.pdf

You can either download the project containing all necessary configurations from Testing Technologies (Quick start up – Using our precompiled Test Suite), or you can create your own project based on the sources in this archive and configure it as described below in this document (Create from scratch).

In case you want to download the configured project please contact ttcn3-support@testingtech.com.

Download the TTCN-3 sources for the LTE UE test suite directly from ETSI at http://www.3gpp.org/ftp/tsg_ran/WG5_Test_ex-T1/TTCN/Deliveries/LTE_SAE/

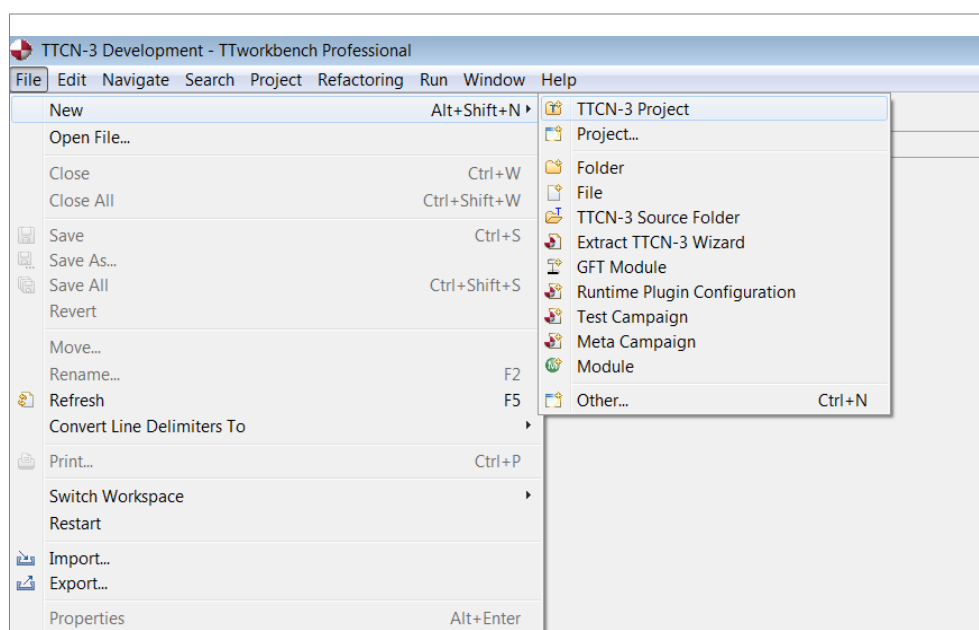
Please change TTworkbench memory configurations to make sure the memory requirement on compilation of such project is fulfilled. Open the **ttworkbench.ini** file (e.g. with Wordpad under Windows) in your TTworkbench installation directory, change the setting according to your system and memory capacity as recommended below. Please make sure, that your **available memory > Xmx + MaxPermSize**.

Default	32bit (x86-32) OS	63bit (x86-64) OS
-Xmx512m	-Xmx1024m	-Xmx1600m
-XX:MaxPermSize=128m	-XX:MaxPermSize=256m	-XX:MaxPermSize=400m

Now, please perform following steps.

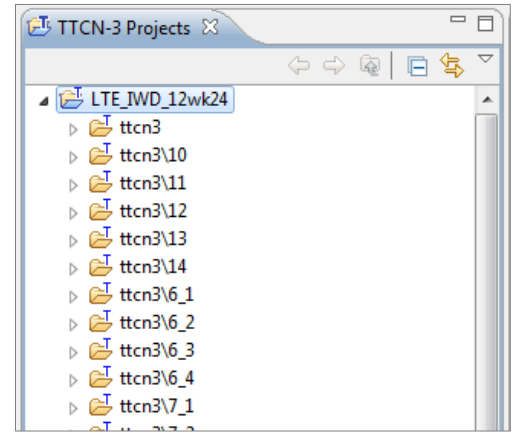
1. Create a TTCN-3 Project from Scratch

First, create a new TTCN-3 project (let's call it **LTE_IWD_12wk24** - appropriate to the ETSI naming convention of release IWD_12wk24).



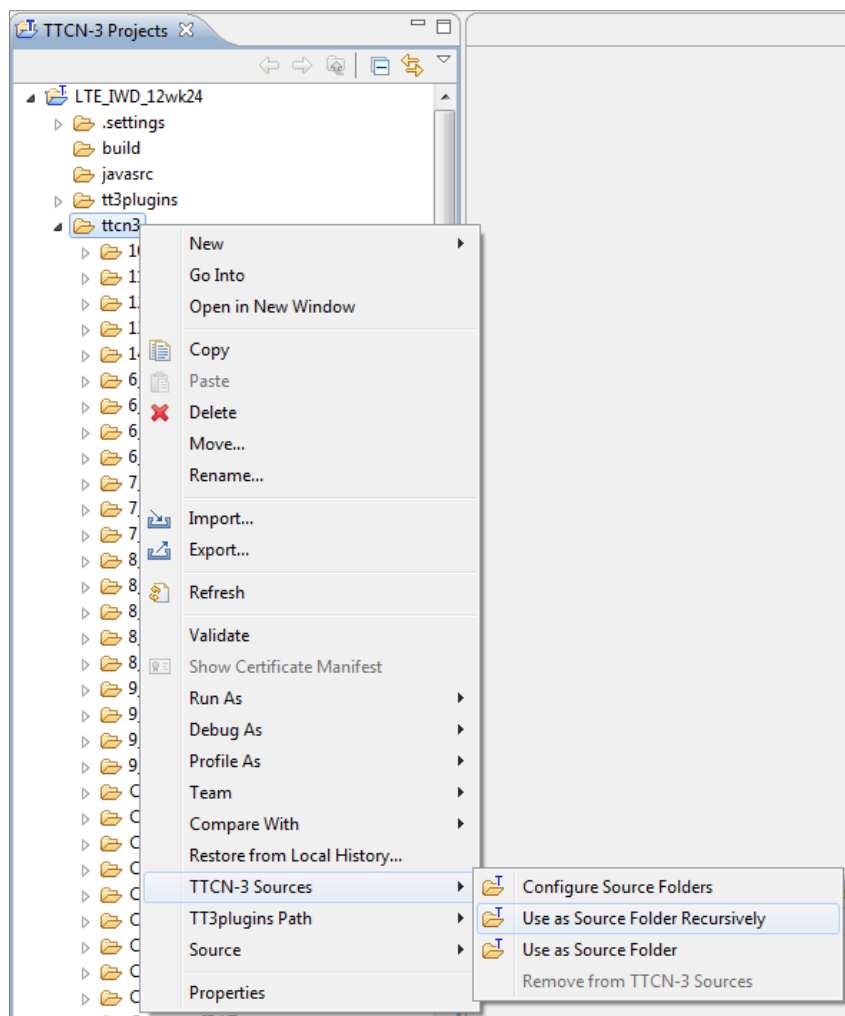
2. Copy Sources

In the next step, copy the TTCN-3 sources from the downloaded ETSI zip file, i.e. extract the `LTE_IWD_xxwxxx.zip` file in the ETSI `iwd_EUTRA_XXXXX` zip file, copy all files and folders included in folder **IWD_12wk24** and paste them into the **ttcn3** folder of the generated project in TTworkbench.



3. Configure Project Settings

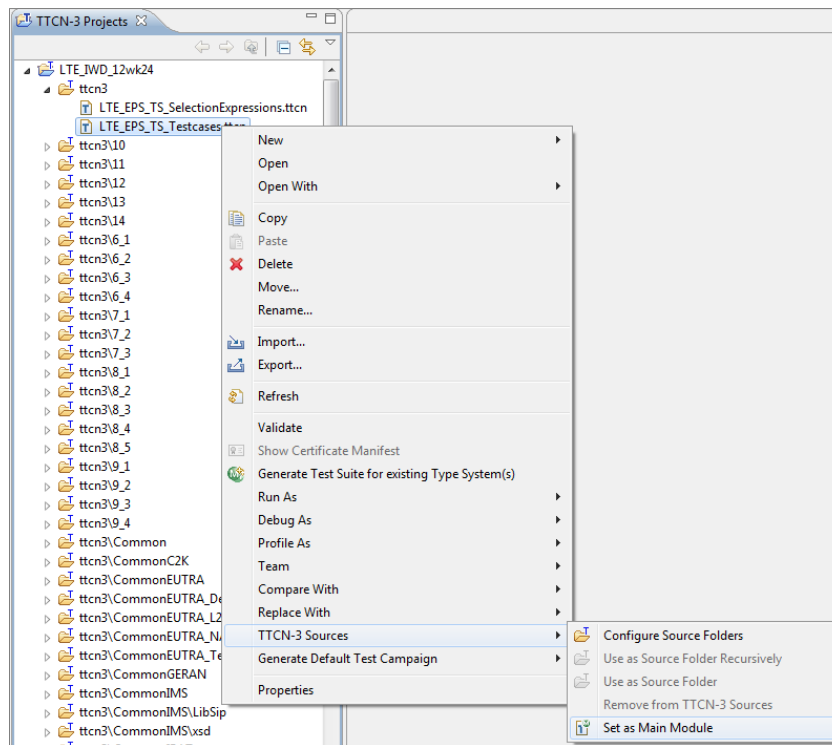
As TTworkbench needs the information which folders have to be treated as source folders, please mark the folders you have just copied as TTCN-3 Source Folders. To do so, select the **ttcn3** folder, right click on it and select *TTCN-3 Sources* → *Use as Source Folder Recursive*.



Now, you need to configure some more project settings. Click on *Project* → *Properties*.

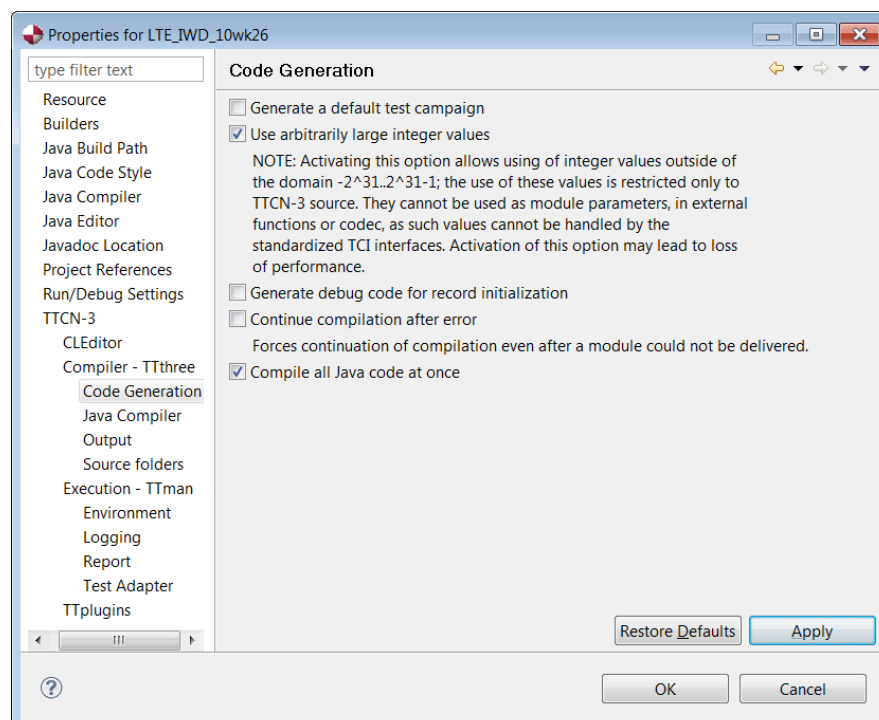
3.1. Set the Main Module

- Right mouse click on the module `LTE_EPS_TS_Testcases.ttcn`.
Choose *TTCN3-source* → *Set as main module*.
Thus you can start compilation from this module as root.



3.2. Compiler Settings (Project → TTCN-3 → Compiler)

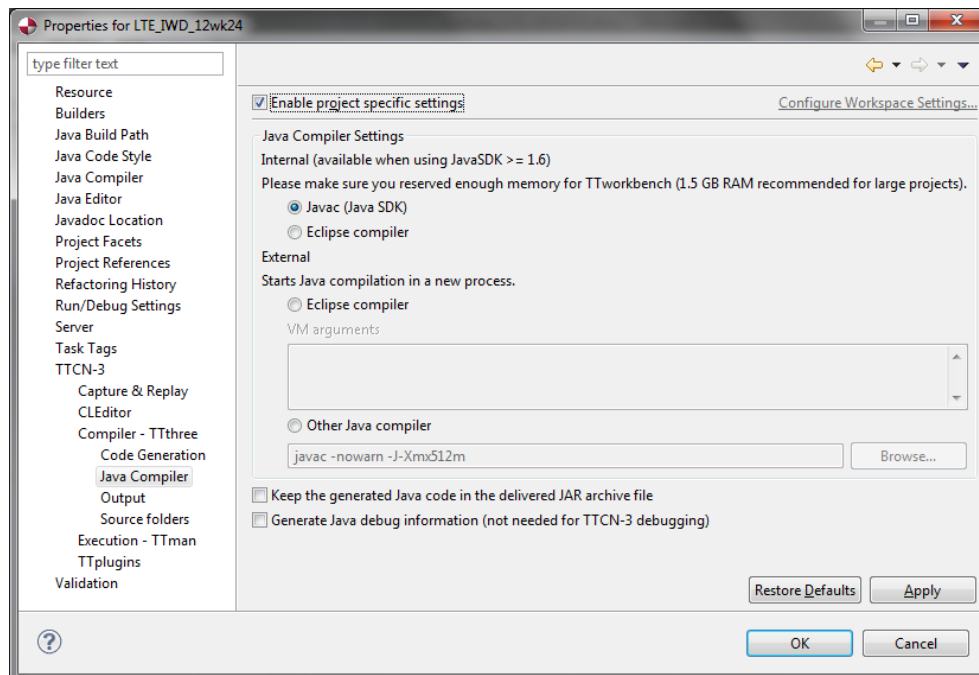
- Now select ... → *Code generation* on the left side and enable *Use arbitrarily large integer values*.



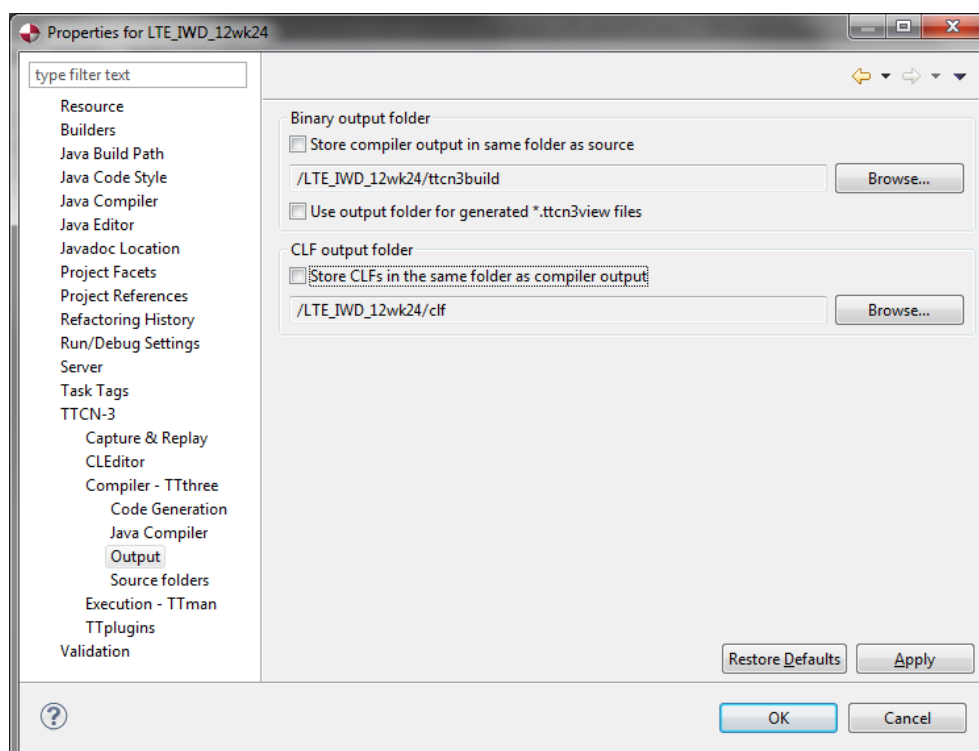
- Select ... → *Java Compiler* on the left side and *Enable project specific settings*.
 - We recommend using the first option **Javac (Java SDK)**. In this case, the JDK installed on your system will be used.
 - In case you have not installed the javac compiler from Oracle, please download the latest **JDK** version directly from their website at www.oracle.com/technetwork/java/javase/downloads/index.html.

Attention: TTworkbench versions older than 11 only support javac compiler for Windows 32bit. However, this compiler also works on an OS Windows 64bit.

- Alternatively you can use your favored java compiler by choosing the fourth option **Other Java compiler** and assign 1024 MB of memory for the Java compiler by setting the VM argument **-J-Xmx1024m**.



- Select ... → *Output* on the left side and define to use the **ttn3build** folder as output folder, i.e. just disable the checkbox **Store compiler output in same folder as source**.



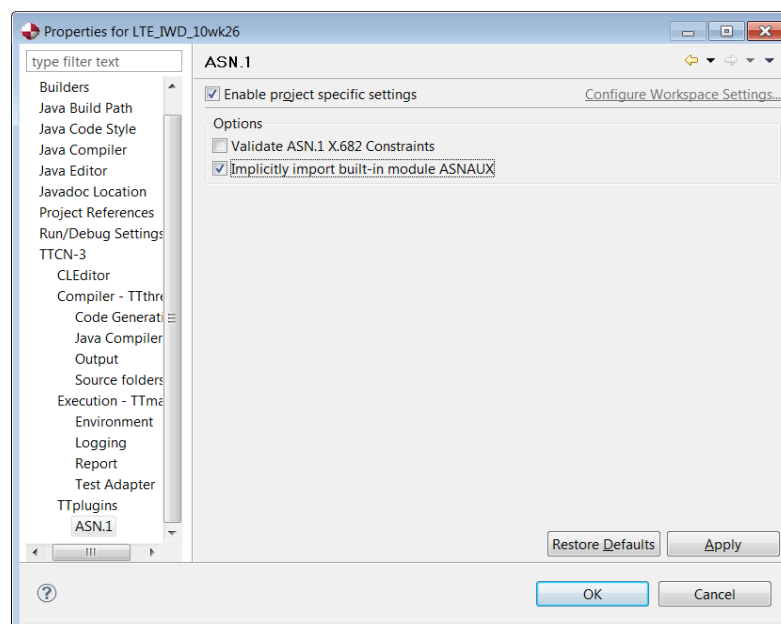
3.3. Execution Settings (Project → TTCN-3 → Execution)

- Enable project specific settings, VM argument → Use VM arguments

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-Xmx1024m	-Xmx1600m
-XX:MaxPermSize=256m	-XX:MaxPermSize=400m

3.4. TTplugin Settings (Project → TTCN-3 → TTplugins)

- Make sure you have installed TTplugins: ASN Language Support, ASN Codec Factory, ASN LTE Codec (in this order).
- Now select ... → **ASN.1** on the left side and enable the checkbox **Implicitly import built-in module ASNAUX**.



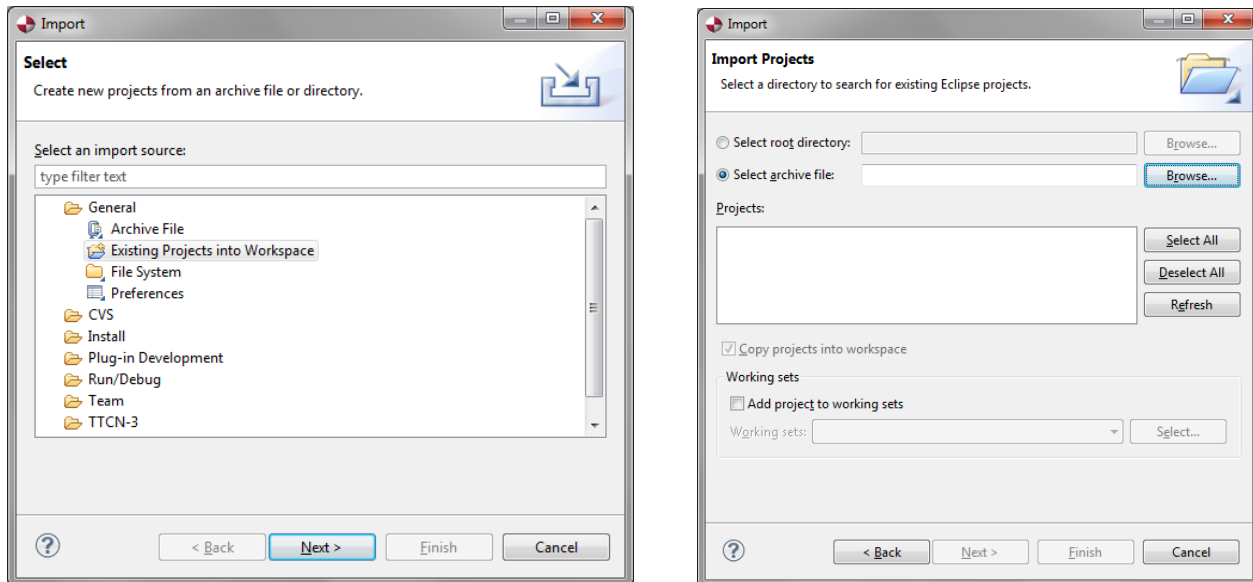
4. Compile the Test Suite

In order to compile the test suite please double click the main module **LTE_EPS_TS_Testcases** to open it and press the button *Rebuild*. The whole project will be compiled completely. It takes several minutes. After the compilation is done successfully, you will see the compiled jar files in the ttcn3build folder when setting as output folder beforehand.

5. Quick Start Up – Using our Precompiled Test Suite

Alternatively we provide also the precompiled project with necessary settings, as well as RRC codec and XML codec to ease up your kick-off. Import the download zip file

File → Import → General → Existing projects into workspace → Select archive file, browse, choose the downloaded file.



Please contact our professional service team at ttn3-support@testingtech.com to get this project.

6. Additional Information

If you intend to use the latest ETSI LTE delivery, please make sure you are using the latest TTworkbench version. Should you have any questions about usage of the test suite please contact ttn3-support@testingtech.com.

Notes

This document is subject to change without notice.

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