

ST Microelectronics STVD Debugger

Abstract

This document describes the usage of the STMicroelectronics STVD debugger respectively emulator as target system. The workspace and project template files have to be adapted if you want to debug the target interactively. The minimum required version of STVD is 3.3.1. The latest tested version at the time of updating this document was 4.3.12.

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1 ST Visual Develop (STVD)

The integration with the STVD is based on the underlying gdb7.exe core debugger that is used by the IDE of the STVD debugger. TESSY needs to change the corresponding registry entries to start a process that intercepts the communication between the STVD-IDE and the gdb7.exe core debugger.

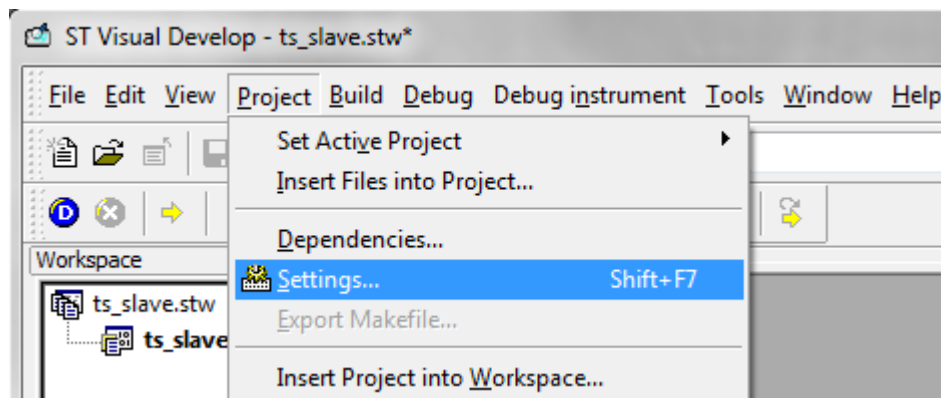
There is a preconfigured workspace and project file available for use with the simulator target of STVD. The next subchapter will show you how to adapt these files for other STVD targets.

1.1 Adapting the Workspace and Project File

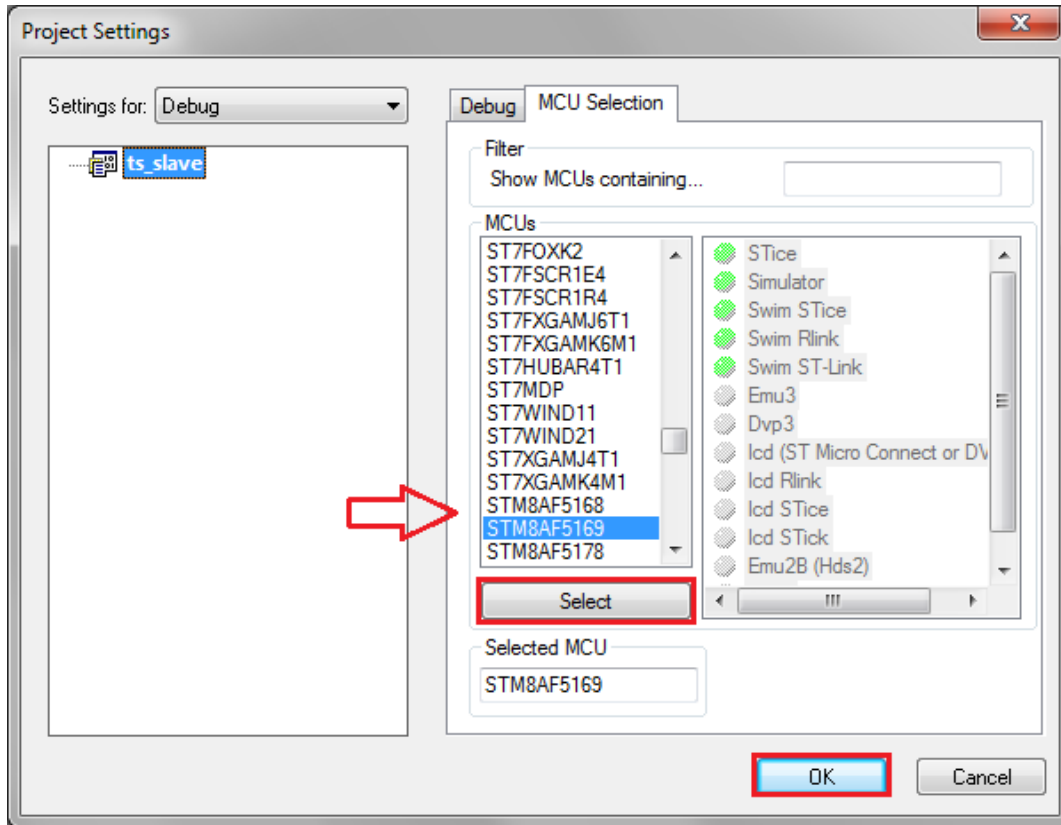
There are three predefined sets of workspace and project files available within the TESSY installation in the directory:

```
TESSY_SYS_PATH\targets\stvd
```

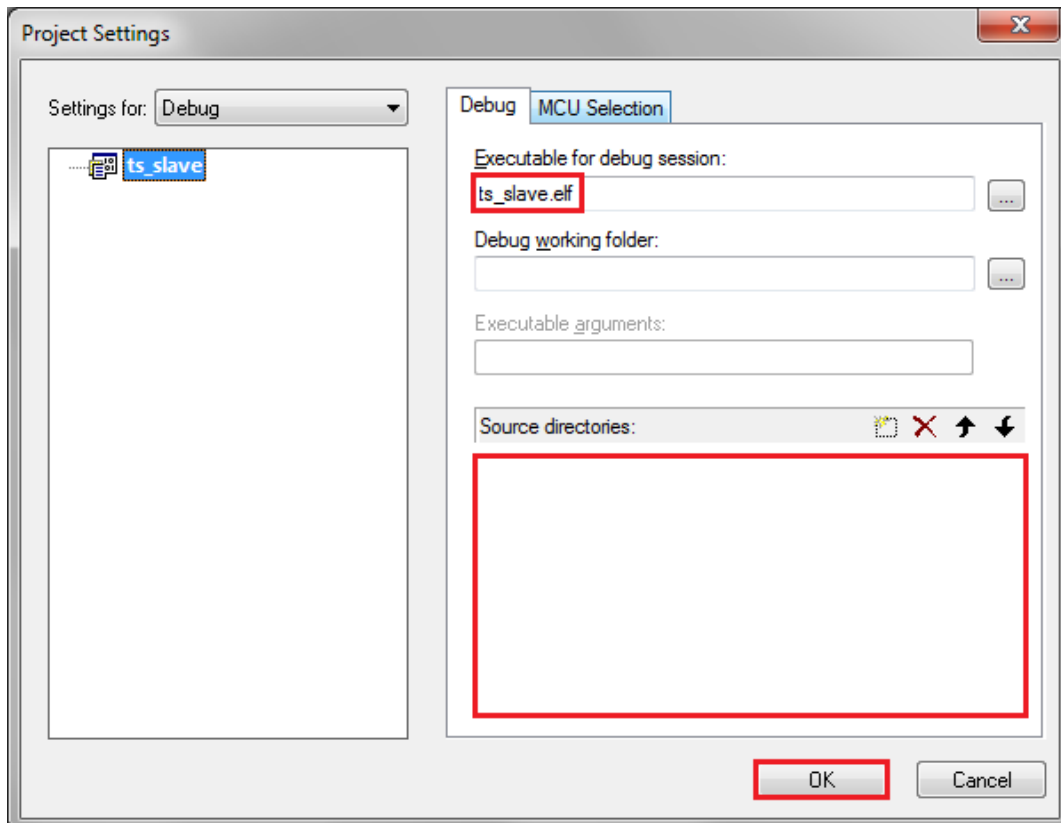
To adapt these files to your specific settings (e.g. select another MCU), copy the sample project folder into a folder you can write to, open the workspace file within STVD and select the **Project->Settings** menu entry as shown below.



Within the **Project Settings** dialog, select the appropriate MCU within the **MCU Selection** tab and click **OK**.

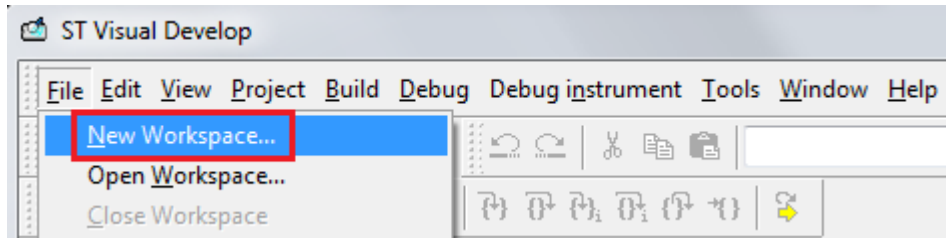


On the **Debug** tab make sure to leave the settings exactly as shown below (Source directories left empty) and click **OK**:

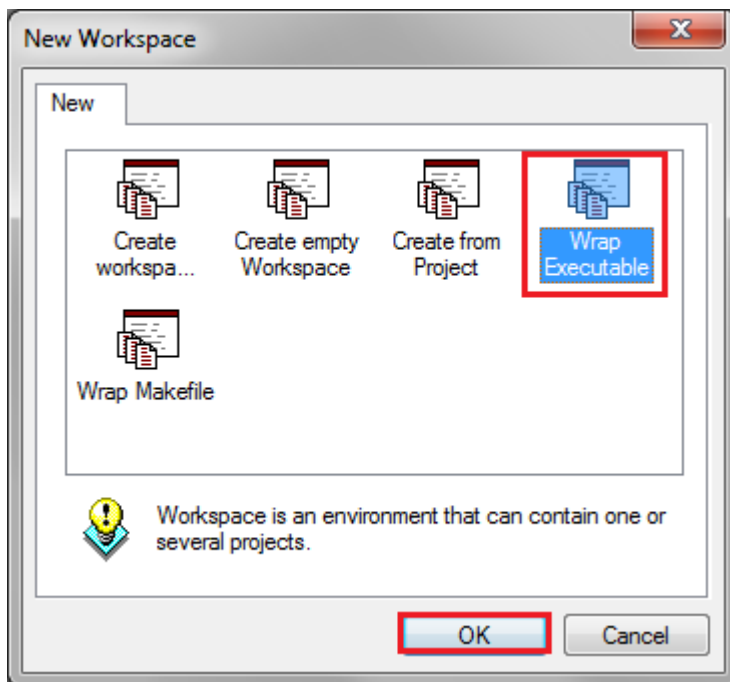


1.2 Creating a new Workspace and Project File

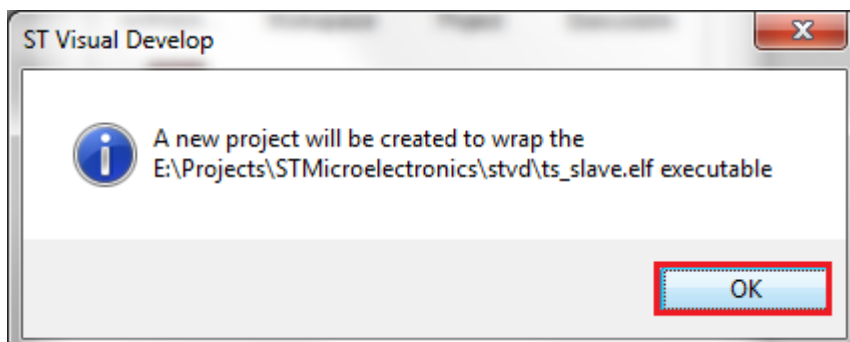
In order to create a new set of workspace and project files, start STVD and select **New Workspace...** from the **File** menu.

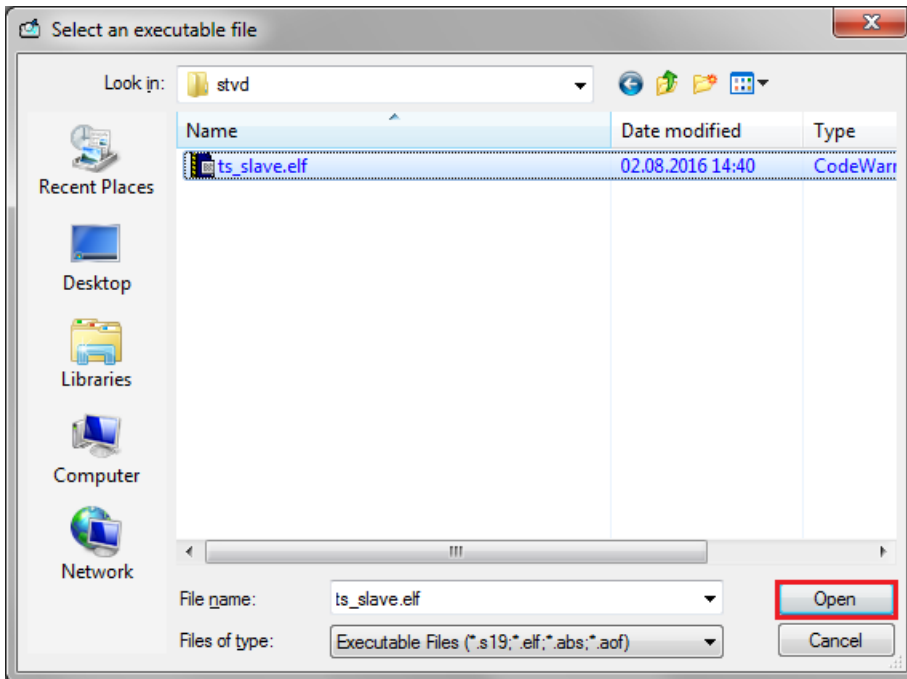


From within the appearing **New Workspace** dialog, select **Wrap Executable** and click **OK**.

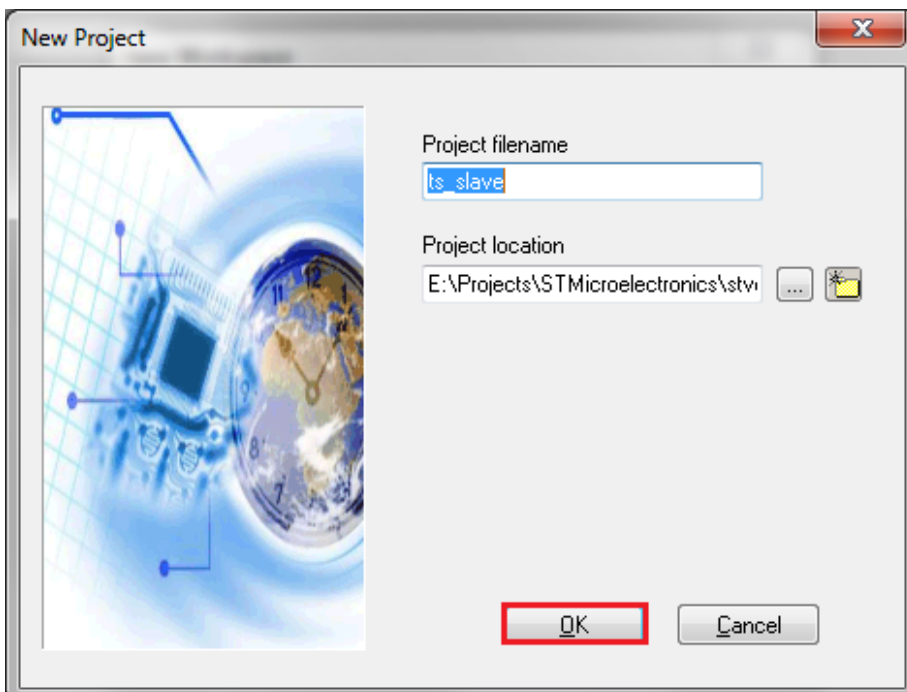


Click **OK**.

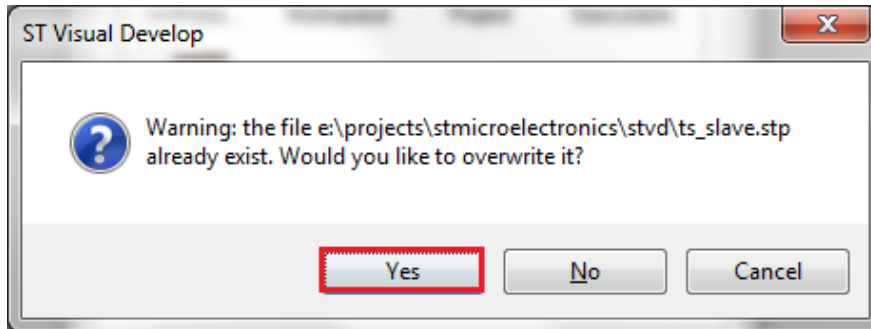




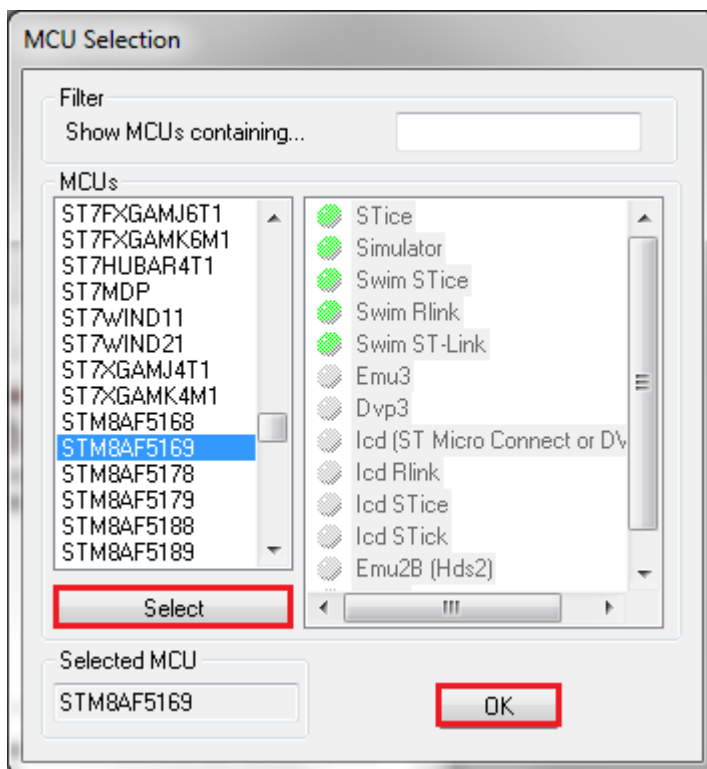
Select the binary file from the same TESSY installation directory where the sample workspace files are located. Within the appearing **New Project** dialog click **OK**.



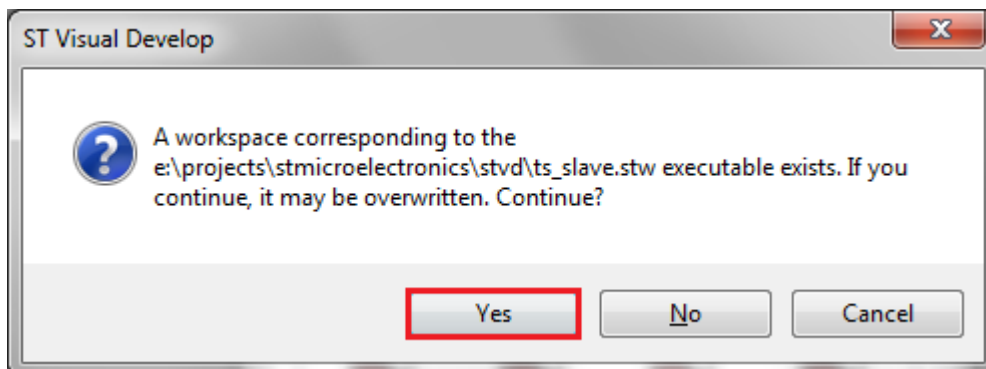
Ignore the following warning that may appear and click **Yes**.



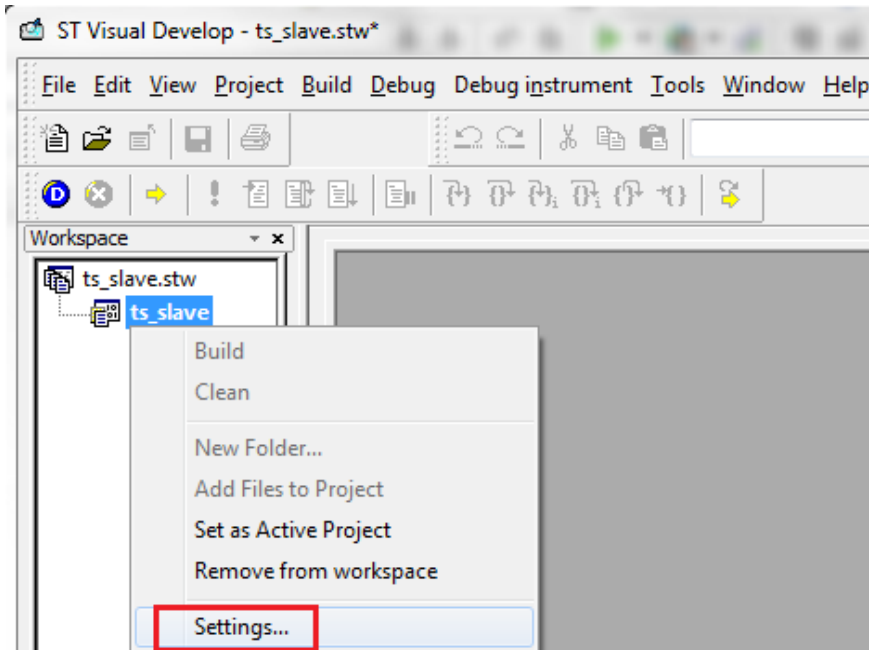
Then select the appropriate MCU within the **MCU Selection** dialog and click the **OK**.



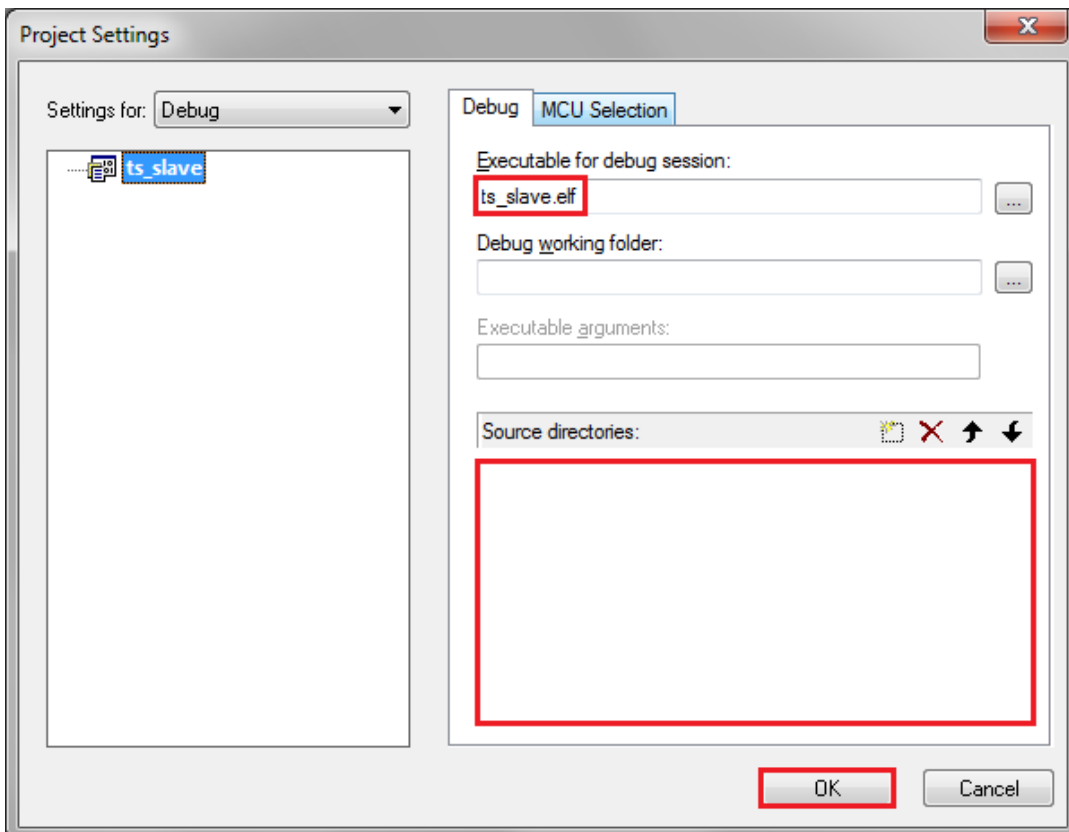
Ignore the following warning that may appear and click **Yes**.



Now open the **Project Settings** dialog.



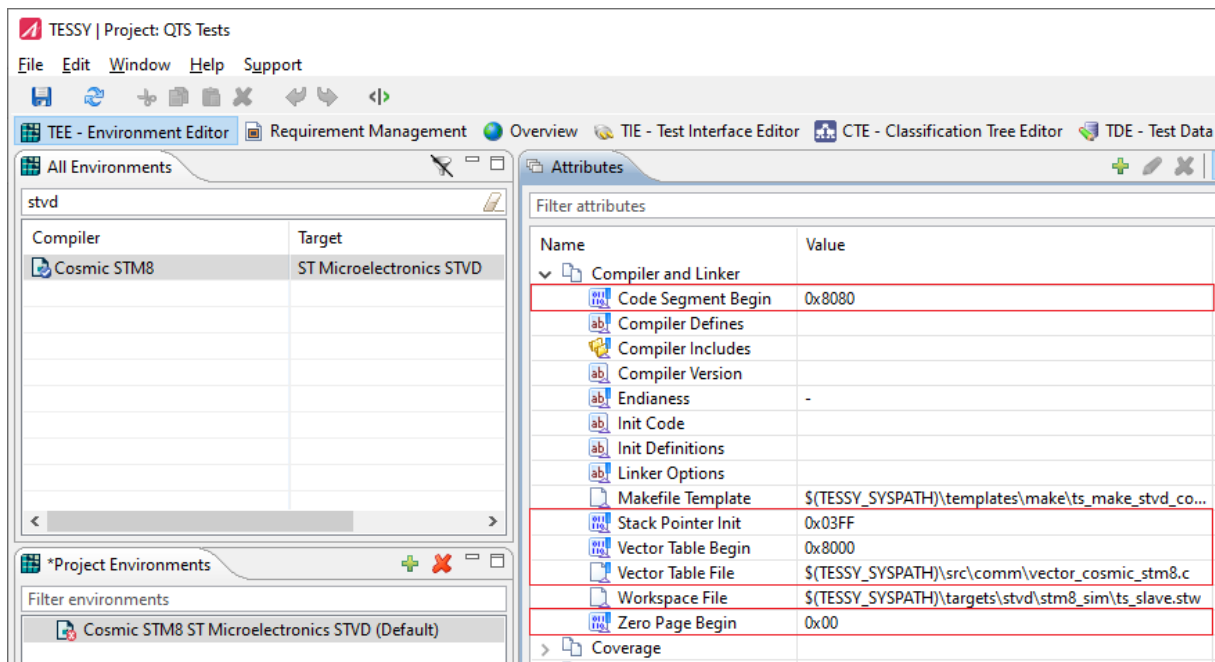
Make sure to *remove the folder path* from the name of the **Executable for debug session** and delete the **Source directories** entry so that nothing is left within this field as shown below.



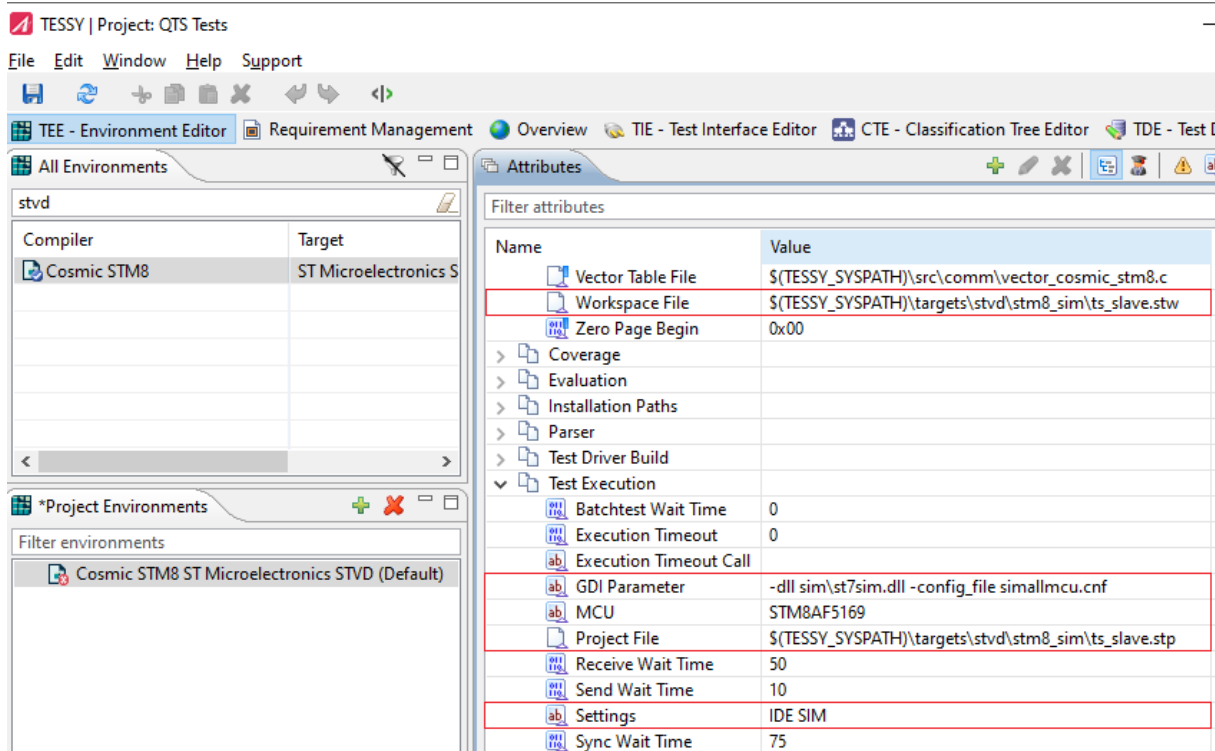
Finally save the workspace and project file and exit STVD. You may now refer the new files within the TEE attributes **WorkspaceFile** and **ProjectFile** for use within TESSY.

2 TESSY Environment Settings

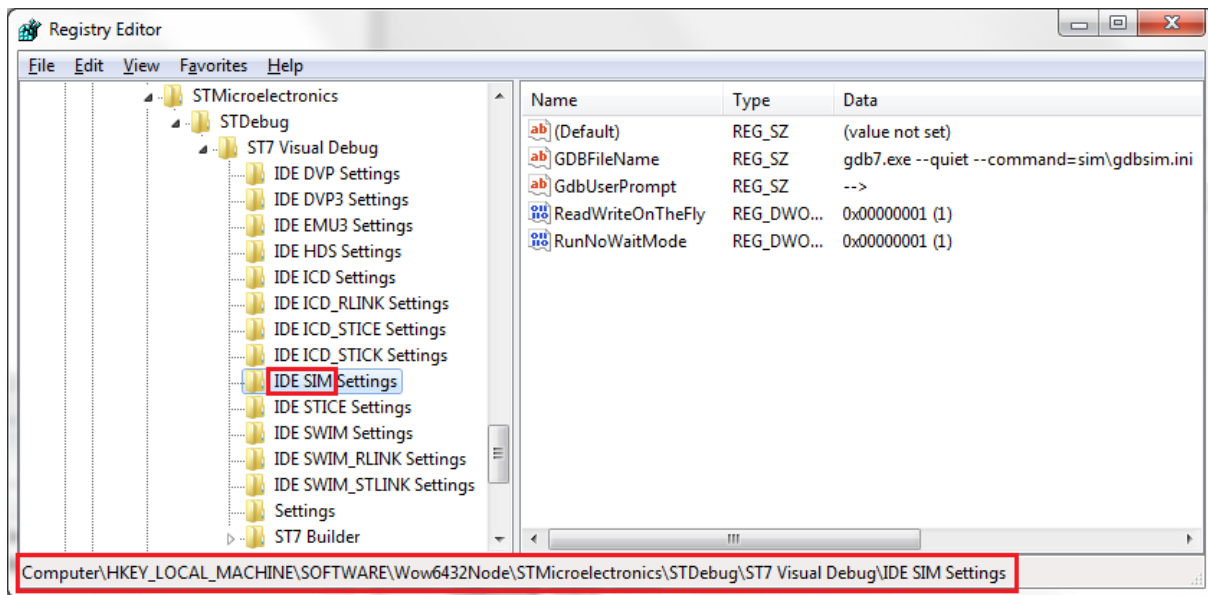
Please synchronize the TEE attributes values with your project's linker parameter.



Adjust the debugger attributes according to your STVD project's settings.






The TEE attribute **Settings** can be determined from the corresponding registry entry as shown below. Cut off the “ Settings” string from the key name and save the remaining name into the TEE **Settings** attribute. So that for instance “IDE SIM Settings” becomes “IDE SIM” and “IDE EMU3 Settings” becomes “IDE EMU3”.



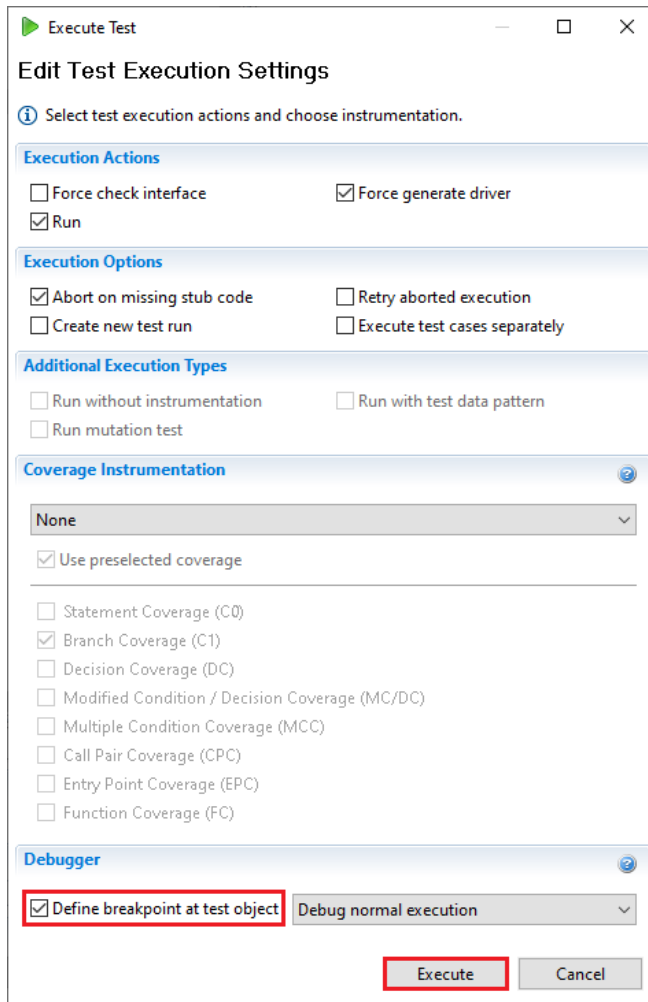
2.1 Timing issues for interactive debugging

The interactive debugging is very sensitive and the following wait times should be altered wisely to make interactive debugging possible at all. In general the interactive debugging process is very slow. So please be patient and wait until the debugger reaches the test object. The default values should be fine but in some occasions they might have to be increased. It depends on your computer and its running processes. The values are given in milliseconds.

	Receive Wait Time	50
	Send Wait Time	10
	Sync Wait Time	75

3 Running the Test

There is a difference in executing the test run with or without a test object breakpoint.



If you decide to interactively debug your test object having your test data loaded you may select Define Breakpoint at Test Object and click Execute. TESSY will start the STVD IDE debugger and the debugger will halt at your test object.

For normal test runs no IDE is started since TESSY communicates directly with the gdb7 to run the test, which will be much faster.

When running the test with STVD TESSY will copy the workspace and project files specified within the module attributes into the module directory. The files will be renamed to **ts_slave.stw** or **ts_slave.stp** respectively. If you change something within these files during the debug session (e.g. breakpoints), these changes may be saved for another debug test run.

Note: When running the test without test object breakpoint, TESSY will delete the workspace and project files from the module directory.