DSP Architecture

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Laboratory Report 1

Projects initialization and setup

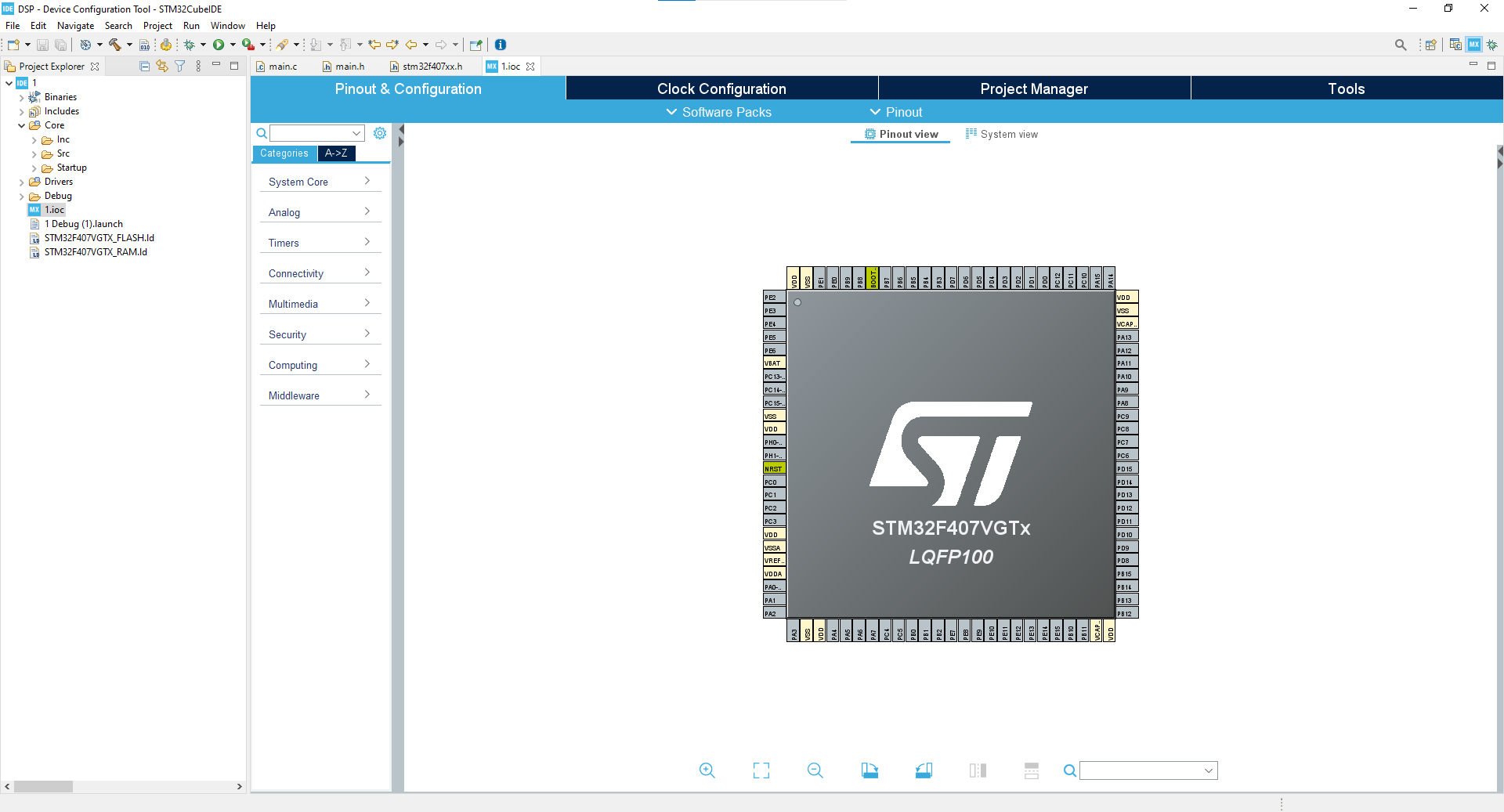
22.11.2021

# CUBE IDE

## Project

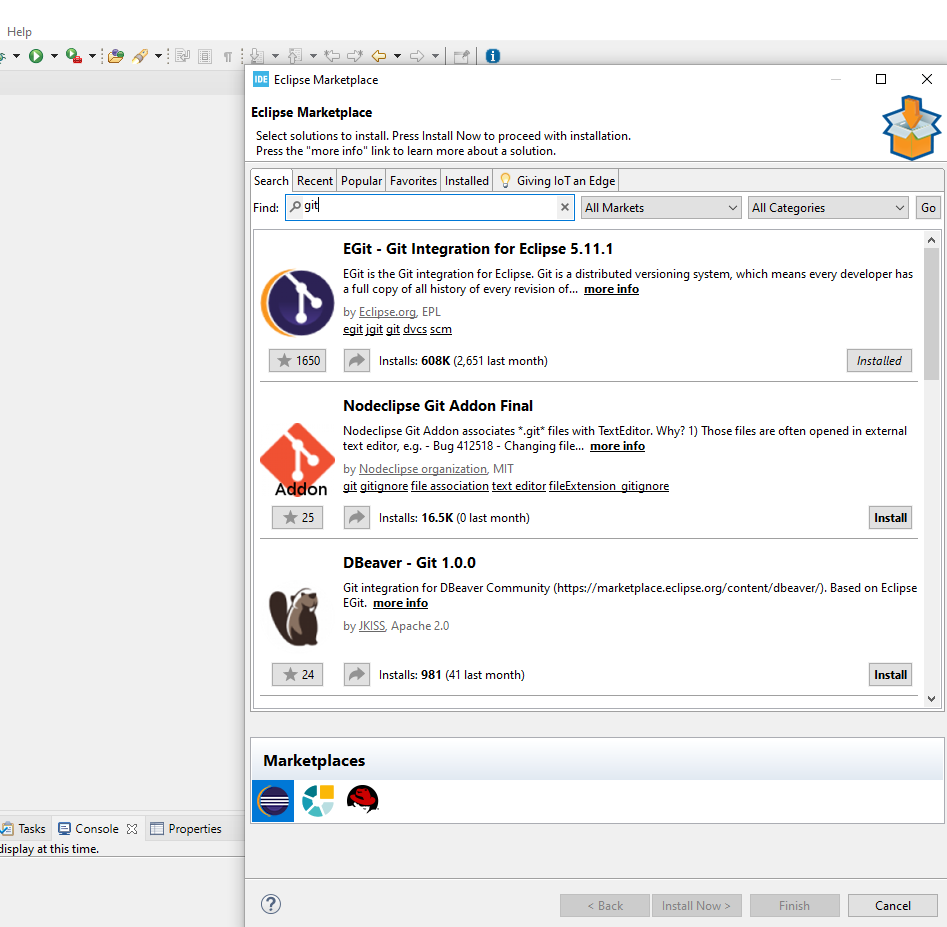
The project setup in CUBE IDE is straight forward. We need to remember the development board that we will work on – in this case STM32f407VG. It is also a good practice to equip with reference manuals and datasheets.

One can use the Hal libraries to generate code (it is however not the best practice – it makes things easy but does not teach how the microcontroller actually works.

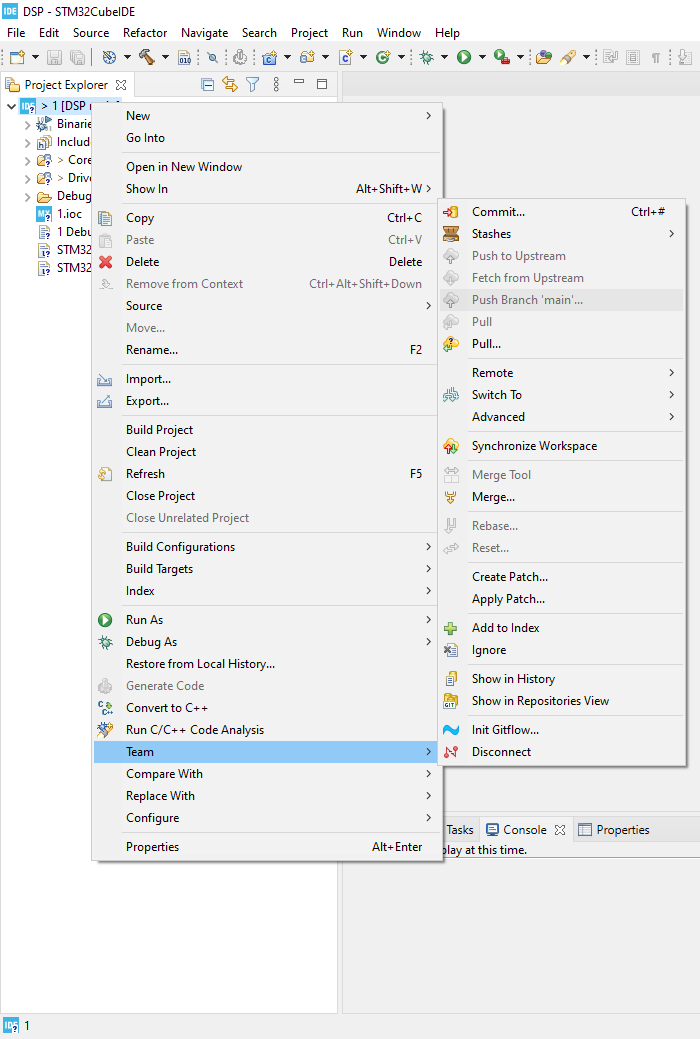


## Git integration

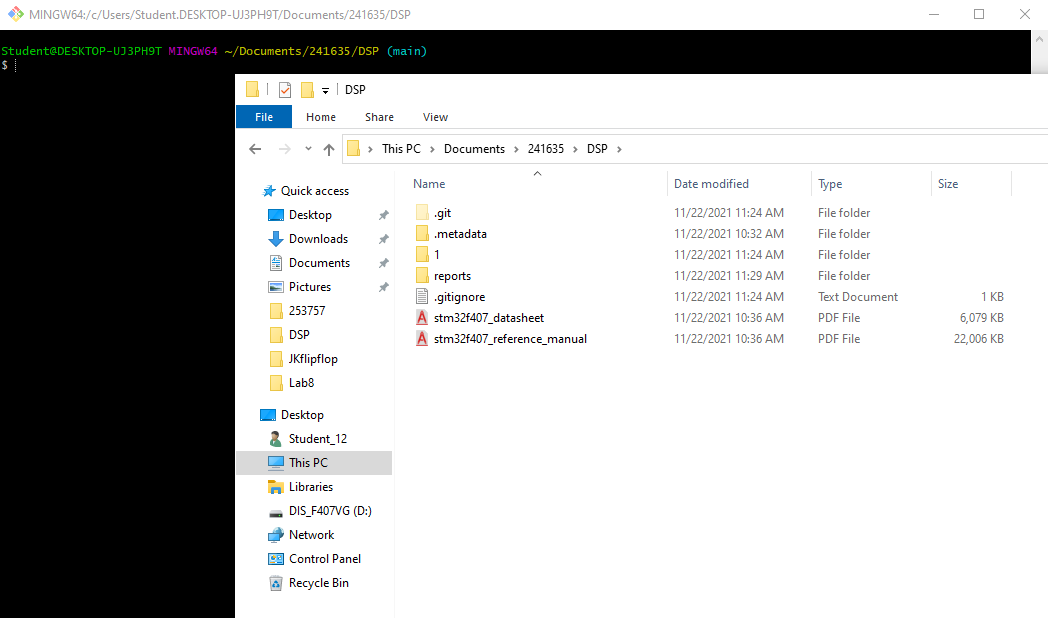
The CUBE IDE has a option to integrate git repository. This feature is present in most of the major programming IDEs (e.g. visual studio or pycharm). It is helpful to see the version and branch on which we are currently working and if the changes are staged or committed. It is however a good practice to use git from command line – it gives more options and allows to use git environment everywhere. We can also connect it with origin on e.g. GitHub or GitLab.



For git to work in CUBE IDE we need to install the ‘EGit’ plugin in the marketplace of the app – it is in ‘Help’ menu.



After initialization of the repository we can easily stage, commit, branch, merge and push files. It is also helpful that CUBE understands the .gitignore file and we can manage it precisely.



The hidden .git folder is created with git repository. Here all configuration files are stored. To remove the repository we just delete it (along with .gitignore file).

# Waveforms

Another environment shown on the laboratory is Waveforms. It is an application for managing the Diligent Discovery 2 board. It is a compact tool which can be used as an oscilloscope, signal generator, etc. We did not use it only opened demo.

