SQuORE 2015
CLI Installation & Upgrade Guide

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11-04-2017

REVISION HISTORY

Version	Date	Modified By	Description of Change
0.1	03-12-2015	L.ZHAO	Initial version
0.2	22-12-2015	L.ZHAO	Update with Philippe's comment that Java 1.8 is supported for CLI
0.3	22-01-2016	L.ZHAO	Update CLI installation to SP4
0.4	16-02-2016	L.ZHAO	Update CLI installation to SP6
0.5	12-01-2017	L.ZHAO	Add new chapter "3.2.4 Versions Management"
0.6	22-01-2017	L.ZHAO	Update example batch files to new URL and remove "versionpatten" parameter. Update user guide to SP7 in chapter 4.
0.7	22-01-2017	L.ZHAO	Update SVN example batch file in SVN
0.8	04-11-2017	L.ZHAO	Update CLI parameter with --group="project_group_name"

TABLE OF CONTENTS

1. Introduction

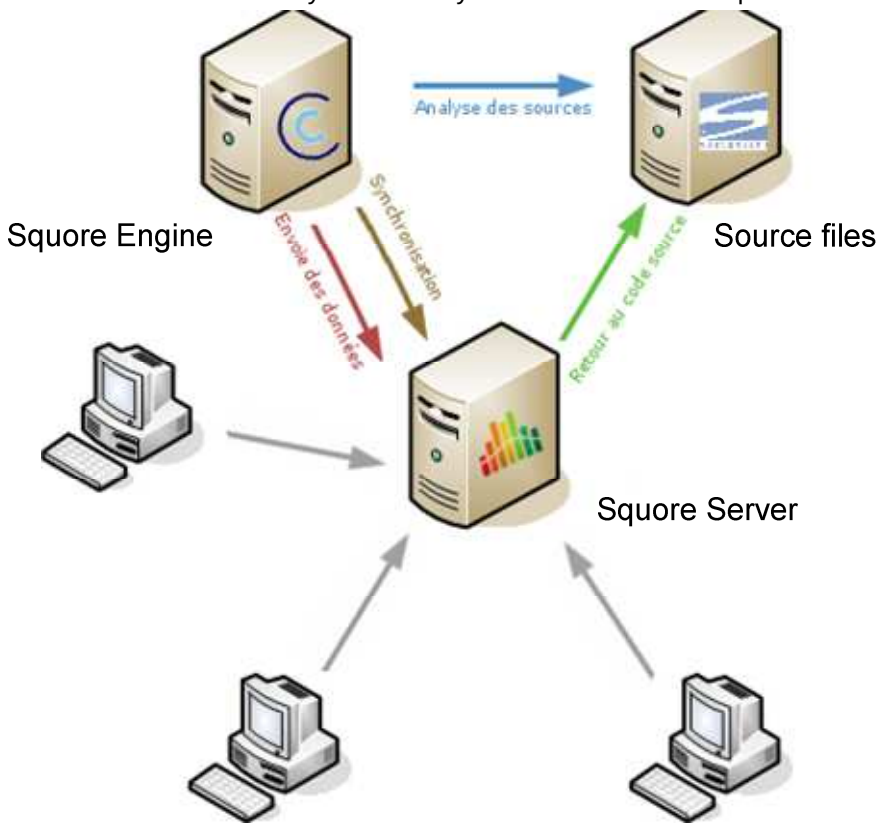
1.1 Purpose

This document is an installation guide to install and configure SQuORE Command Line Interface (hereinafter referred to as CLI), Version 2015A.

1.2 General

SQuORE CLI is a package, it contains the SQuORE Engine client (squore-engine.jar), and it is installed on every client computer that needs to perform local code analyses or trigger a remote analysis on SQuORE server.

There are two ways to complete the CLI deployment:
1. As a way to analyse code and process data on a client machine and send the results to the server.
2. As a way to instruct the server to carry out an analysis of code and other input data.



1.3 Installation Pre-requisites

1.3.1 Pre-requisites

If you choose the first way to deploy SQuORE CLI, you will need:

- SQuORE CLI 2015A installer (downloaded from **SWAS FTP server**)
- The Oracle Java Runtime Environment version 1.6.0_45 or higher (downloaded from **SWAS FTP server**)
- The java executable should be in the machine's PATH environment variable
- A user account with system administrator privileges
- At least 2 GB of space available on the disk for a full installation
- At least 4 GB of RAM on the client machine

1.3.2 Release Area

SWAS FTP Server
FTP server host: ftpswas.schneider-electric.com (IP: 10.195.53.70)
UserName: swusers
Password: e!ectr0n (an exclamation mark instead of an l and the zero number, not an O letter)

JAVA 1.7 (JDK)

SWAS ftp server ->SQuORE-2013->Java
For windows 64bit: jdk-7u40-windows-x64.exe
For windows 32bit: jdk-7u45-windows-i586.exe

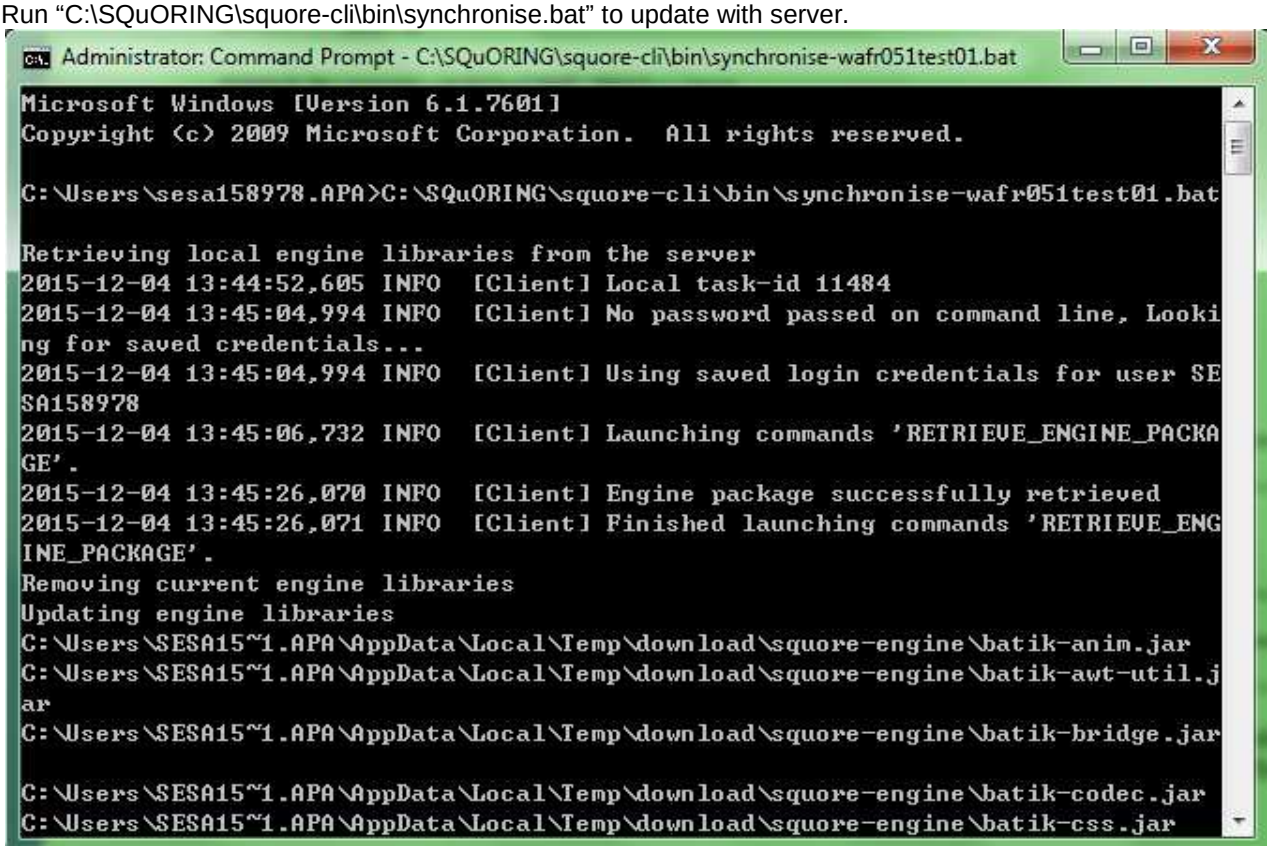
SQuORE client 2015A
SWAS ftp server -> Squore-2015 -> squore-cli-windows-15-A-SP707.2633.exe

Sample Scripts
SWAS ftp server -> Squore-2015 -> SampleScripts

2. Upgrade from 2013B to 2015A

If you have already installed SQuORE CLI 2013B on your computer, please check whether you have meet the pre-requisites detailed in the section called “Pre-requisites”, especially for the JAVA version.

Run “C:\SQuORING\squore-cli\bin\synchronise.bat” to update with server.



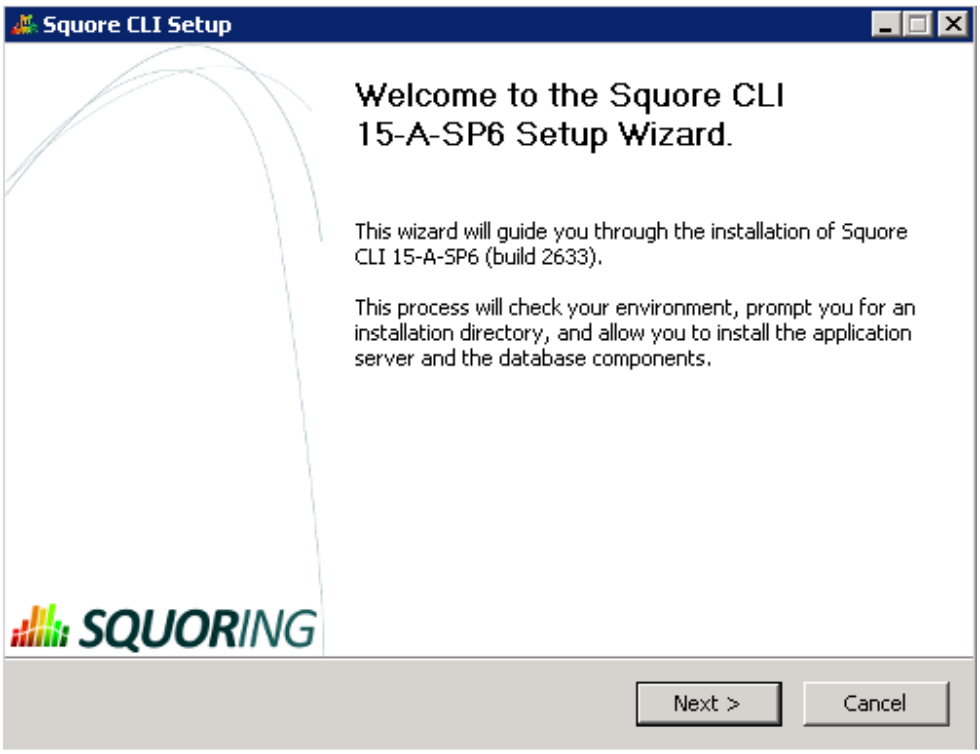
After completing synchronization with server without any error, the command window will close automatically.

IMPORTANT: --language="C" --extensions=".c;.h;.C;.H" is deprecated and should be replaced by --dp="type=SQuORE,languages=c:.c,.h,.C,.H;"
Projects using --language="AUTO" will fail with "InvalidProjectException: Language 'AUTO' is not available for this project". You can fix this issue by simply removing the --language parameter from your command line and Squore will detect the language automatically.

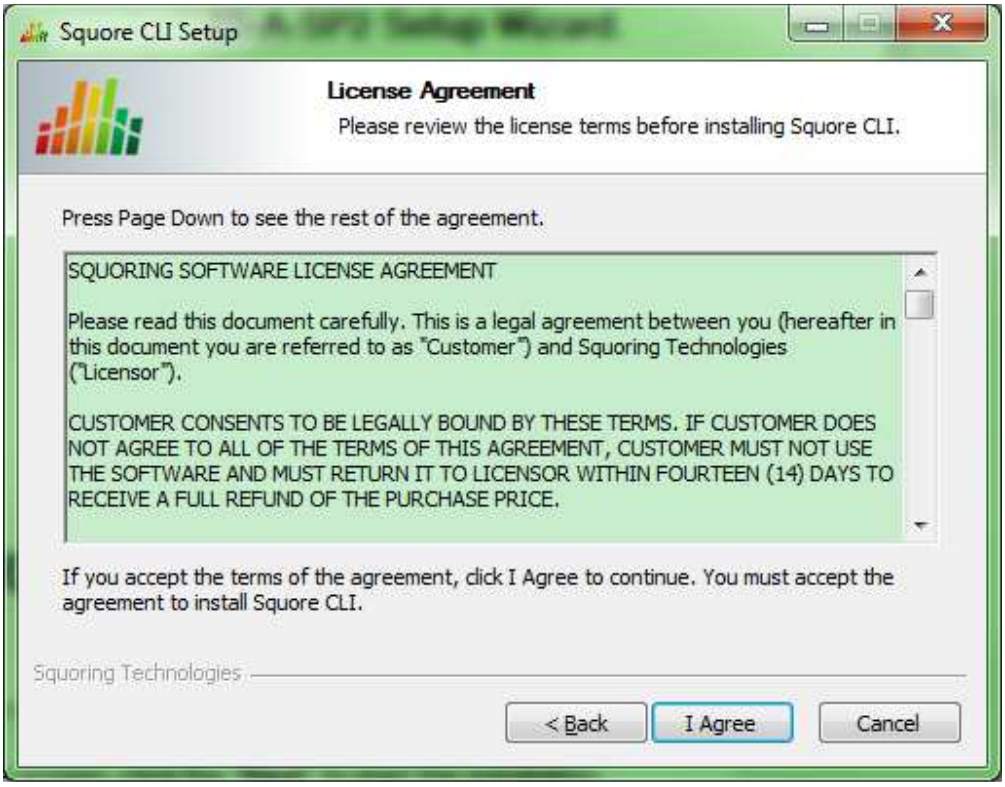
3. SQuORE CLI 2015 Installation

After verifying that you meet the pre-requisites detailed in the section called “Pre-requisites”, log on with an account that has administrator privileges and launch SQuORE CLI installer. Each of the wizard screens is documented below in the order that you will see them.

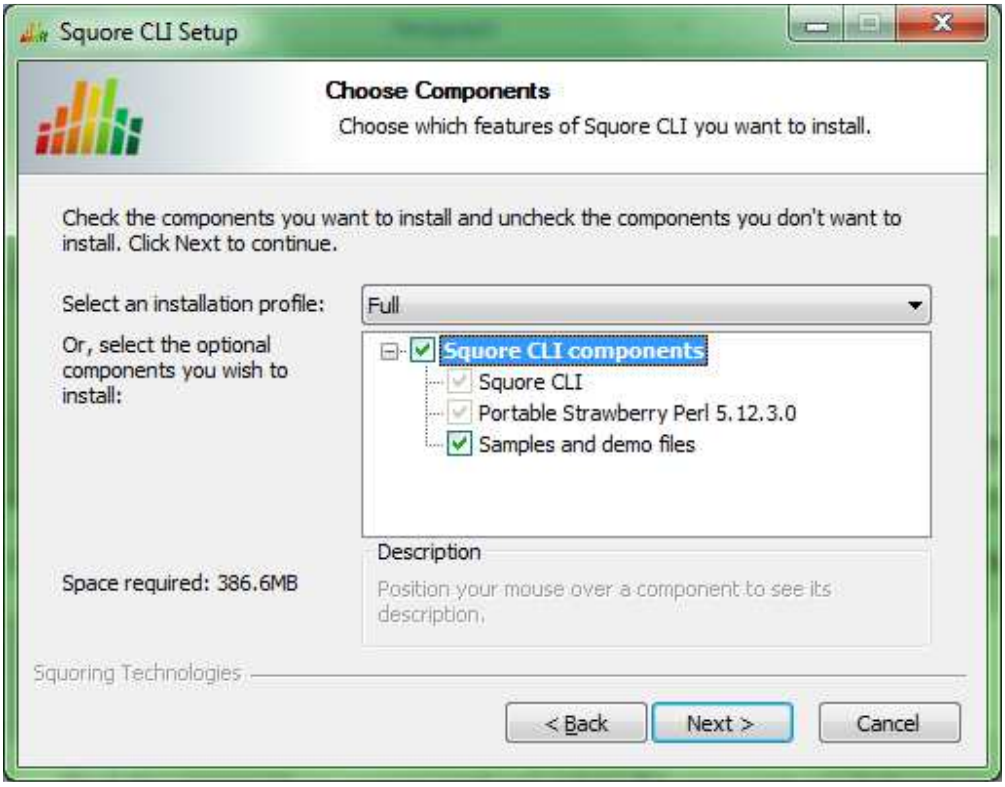
SQuORE CLI installer Welcome screen



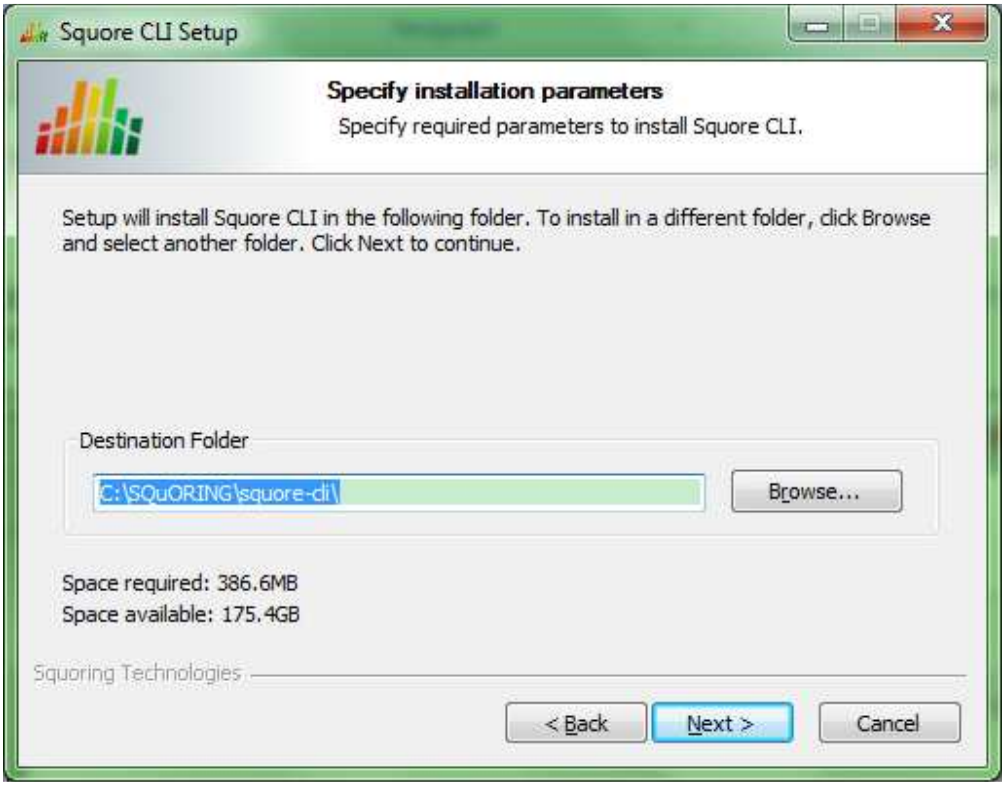
On the Welcome screen, click the "**Next**" to start the installation.



Click the" **I Agree**" button after reviewing the terms of the licence to continue the installation.



Select an installation profile Full and click "**Next**" to proceed to the next step of the installation.



Browse for the folder where you want to deploy SQuORE CLI and click "**Next**" to proceed to the next step of the installation.

Specify the path of the JDK installation (a JRE is also supported) on your system. If you have installed JDK, it will automatically find out the directory you installed, otherwise, it will leave it empty. If the "**Oracle JDK directory**" is empty, you need to install the JDK first, the installation package can be found in the release area.
Specify the details of SQuORE Server that the client should connect to.
Use one of the below link on which server you have account.
https://qfrwsqu1.eur.gad.schneider-electric.com:8543/SQuORE_Server
https://pfrwsqu1.eur.gad.schneider-electric.com:8543/SQuORE_Server
https://pfrwsqu2.eur.gad.schneider-electric.com:8543/SQuORE_Server
https://pfrwsqu3.eur.gad.schneider-electric.com:8543/SQuORE_Server
And then put **your windows log-in account and password**.

Tick the "**Update and synchronise with server**", the installer will attempt to retrieve the up-to-date client binaries from the server as well as the configuration. Click "**Next**" to start copying the installation files onto your hard disk.

If an error happens during the installation process, a log file is available in the destination folder you selected during the installation.

Click on “Finish” to complete the SQuORE CLI installation.

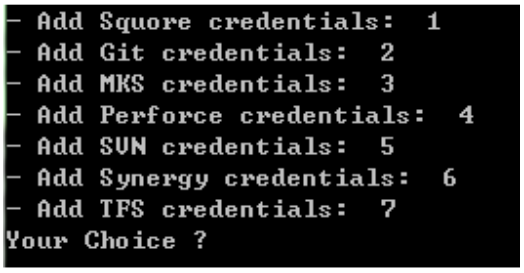
3.1 Post Installation Actions

After the CLI installation is successful, you can familiarise yourself will the structure of the installation directory, which partly matches the one of SQuORE Server:
– <INSTALLDIR>/addons A folder containing the data providers of the product.
– <INSTALLDIR>/bin A folder containing sample projects creation scripts and utilities.
– <INSTALLDIR>/configuration A configuration of the product containing the tools, wizards and analysis models.
– <INSTALLDIR>/docs A folder containing the Command Line Interface manual.
– <INSTALLDIR>/lib A folder containing the main engine and its client libraries.
– <INSTALLDIR>/samples A folder containing sample source code to be used with the sample launchers supplied in <INSTALLDIR>/bin.
– <INSTALLDIR>/share: A folder containing specific perl libraries used by the CLI to launch jobs.
– <INSTALLDIR>/tools A folder containing the perl and tclsh distributions on Windows. This folder does not exist in the Linux version, since the system installations of perl and tclsh are used.
– <INSTALLDIR>/config.xml An XML configuration file that the CLI uses to find its configuration.
SQuORE CLI also uses a data and a tmp folder, which can be modified by editing <INSTALLDIR>/config.xml.
Tip
After installing SQuORE CLI, the credentials for the user you specified during the installation have been saved, and the scripts in <INSTALLDIR>/bin will use the username and password specified.

3.2 Configuration to Create Projects

3.2.1 Saving Credentials to Disk

SQuORE CLI includes a small utility called add-credentials.bat that can save your credentials to disk. This avoids typing your password every time you create a project, and also avoids having to save the password in your script files.
To start saving credentials, simply run add-credentials.bat which is is located in <INSTALLDIR>/bin. You are presented with a choice of several types of credentials you can save:



Select 1 in order to save user credentials for SQuORE Server, then type the login and associated password.
Note that the saved credentials are only used by SQuORE CLI. When you use SQuORE's web interface, you will need to enter your password again to log in or browse source code.

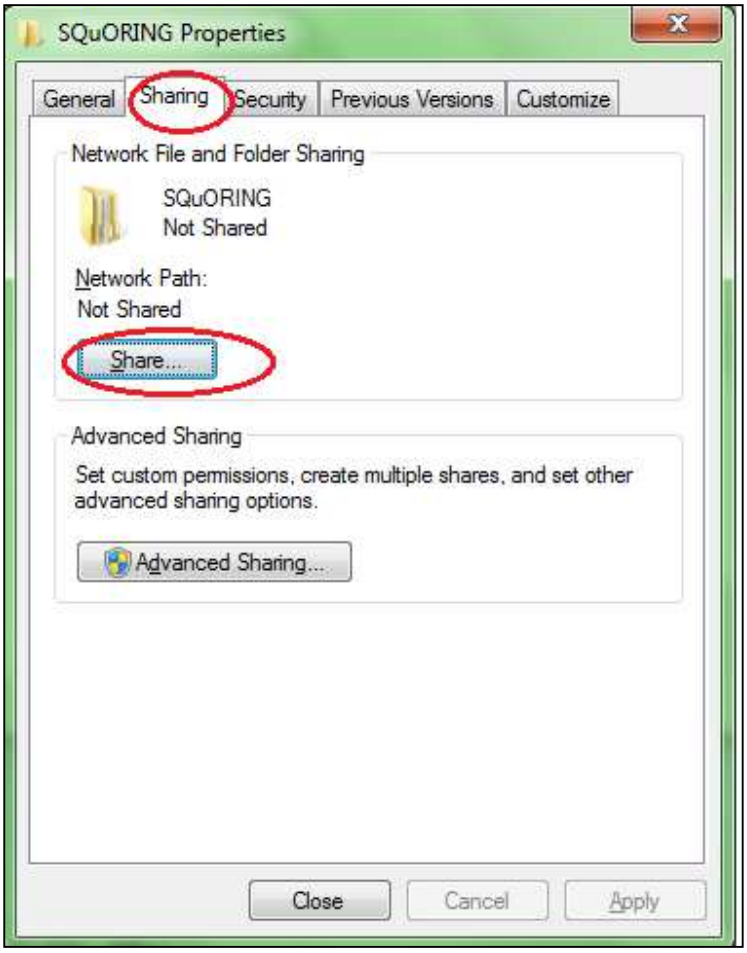
Important: Credentials are only saved for the current user executing this command! If you want to clear the credentials saved for a user profile, remove the file $HOME/.squorerc on linux or %USERPROFILE%\.squorerc on Windows.

3.2.2 Running the Script to Create a Project

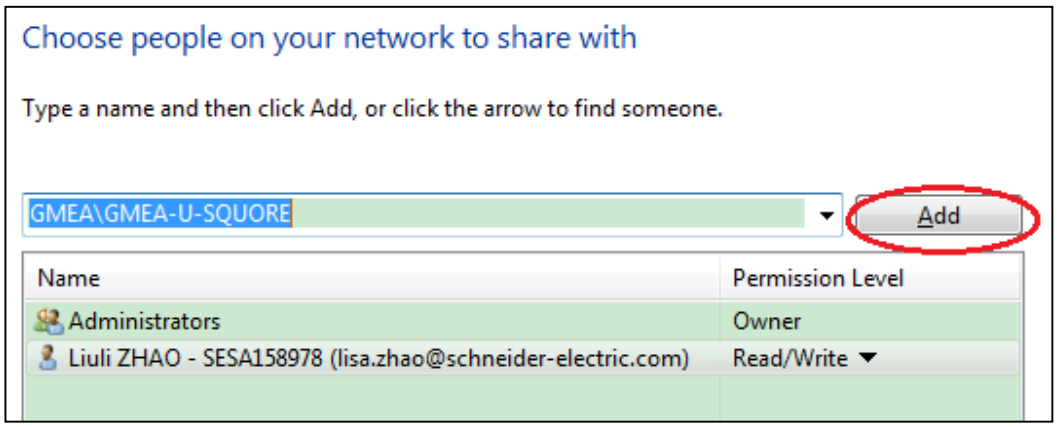
After saving credentials to disk, you can create a batch file and save it in <INSTALLDIR>/bin, if you click on “Samples and demo files” during your installation of CLI, you can also see some sample scripts in this folder.

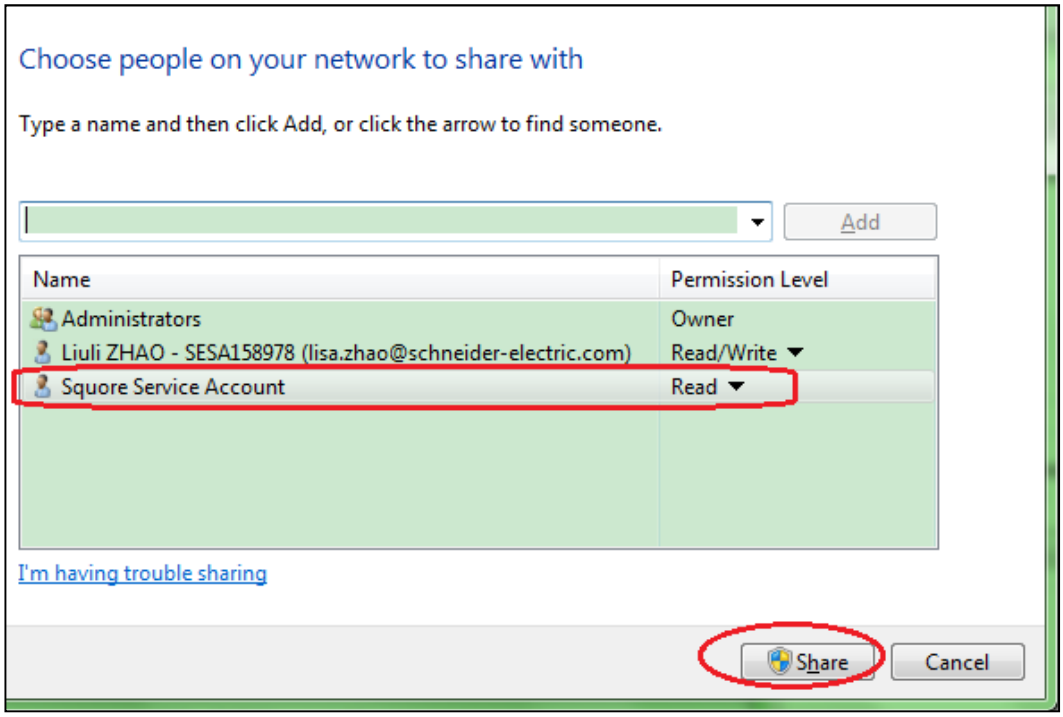
3.2.2.1 Repository Connector—Folder Path

The first step is to share the code folder to squore service account GMEA\GMEA-U-SQUORE to read files. Open the properties of the source folder, click on Sharing tag, and then click on “Share...”.



Share the folder to GMEA\GMEA-U-SQUORE





And then create the batch file according to the sample **"BatchLaunch_folder.bat"** in our FTP server –> Squore-2015 -> SampleScripts, below is the example content of BatchLaunch_folder.bat.

```
@echo off
setlocal

rem --
rem SQuORE batch file
rem --

set SQUORE_HOME=%~dp0..

set URL=https://pfrwsuq1.eur.gad.schneider-electric.com:8543/SQuORE_Server
set LOGIN=SESAXXXXX

rem get the current time for version
set version=V%date:~0,4%_%date:~5,2%_%date:~8,2%_%time:~0,2%_%time:~3,2%

cd /D "%SQUORE_HOME%"

if exist server (
     set COMMANDS=DELEGATE_CREATION
     set JAR=%SQUORE_HOME%\client\squore-engine.jar
) else (

     set COMMANDS=SYNCHRONISE;PROCESS_CREATION
     set JAR=%SQUORE_HOME%\lib\squore-engine.jar
)

java -Dsquore.home.dir="%SQUORE_HOME%" -jar "%JAR%" --url="%URL%" --
     name="Project Name" --login="%LOGIN%" --version="%Version%"  --
     wizardId="SCQM_25010"  --group="project_group_name" -r
     "type=FROMPATH,path=\\WXCN002SHZJ7046.apa.gad.schneider-
     electric.com\Code" --commands "%COMMANDS%"

endlocal
pause
```

HINT: After add parameter --group="project_group_name", all the related projects will display within the group, the group dashboard will also have a comparison of the projects.

3.2.2.2 Repository Connector—ClearCase

If you want to use ClearCase connector, the first step is to ensure you have ClearCase client explore and use dynamic view, as SQuORE only support ClearCase full client for dynamic view currently.

1. Editing the configuration file clearcase_conf.tcl in <INSTALLDIR>/Configuration/repositoryConnectors to check the path for Windows, disable the path for linux. Below is an example of the path for ClearCase of "clearcase_conf.tcl".

 # LINUX
#set cleartool "/usr/atria/bin/cleartool"

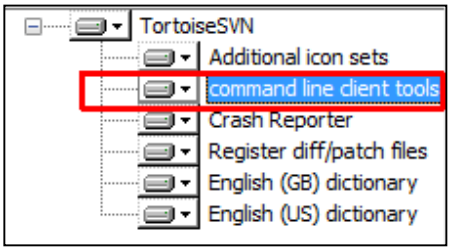
 # WINDOWS
#Change the below path according to your CC directory
set cleartool {C:\Program Files\IBM\RationalSDLC\ClearCase\bin\cleartool.exe}
…
…

2. Then you can find create a batch file according to the sample **"BatchLaunch_CC.bat"** in our FTP server -> Squore-2015 -> SampleScripts. Below is the content of BatchLaunch_CC.bat.

```
@echo off
setlocal

rem --
rem SQuORE batch file
rem --

set SQUORE_HOME=%~dp0..

set URL=https://pfrwsqu1.eur.gad.schneider-
     electric.com:8543/SQuORE_Server
set LOGIN=SESAXXXXX

rem get the current time for version
set version=V%date:~0,4%_%date:~5,2%_%date:~8,2%_%time:~0,2%_%time:~3,2%

cd /D "%SQUORE_HOME%"

if exist server (
     set COMMANDS=DELEGATE_CREATION
     set JAR=%SQUORE_HOME%\client\squore-engine.jar
) else (
     set COMMANDS=PROCESS_CREATION
     set JAR=%SQUORE_HOME%\lib\squore-engine.jar
)


java -Dsquore.home.dir="%SQUORE_HOME%" -jar "%JAR%" --url="%URL%" --
     name="Project Name" --login="%LOGIN%" --version="%version%" --
     wizardId="SCQM_25010" --group="project_group_name" -r
     "type=ClearCase,view_root_path=M:,vob_root_path=test_vob,view=view_
     tag,server_display_view=,sub_path=" --commands "%COMMANDS%"

endlocal
pause
```

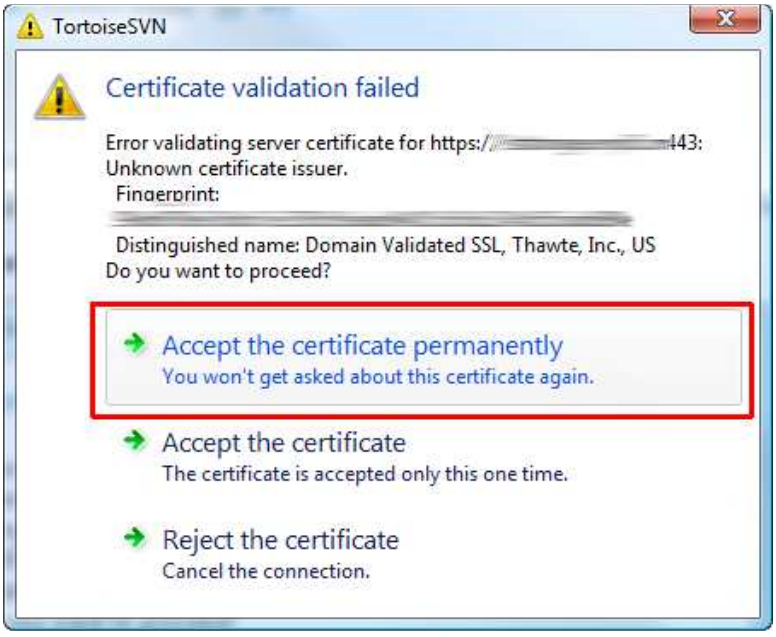
3.2.2.3 Repository Connector—Subversion (SVN)

If you want to use the Subversion (SVN) connector, you need to ensure that you have a Subversion client installed on your PC and that your PC has access to the TeamForge SVN repository you wish to connect to.
When installing SVN with TortoiseSVN (available for free on http://tortoisesvn.net/), you must explicitly choose to install the "command-line interface", which is not installed by default!



To check whether the command line client tools are properly installed, you may open a command line prompt and enter the command “svn” – Windows should be able to resolve the name and display something like this:

Also, if you use SVN via HTTPS protocol (e.g. on https://teamforge.schneider-electric.com), you need to do a manual checkout once and accept the certificate permanently in the warning being displayed!



This step needs to be done once for each user account doing the SVN import into SQuORE – you may then remove the checkout again from your computer.

In SQuORE versions before 2013, the user was forced to provide user account information in clear text in the build scripts – due to security reasons, this way of working with SQuORE was not recommended. A new

feature in SQuORE 2013 allows saving the password encrypted in a repository with no need for the user to supply the password for his login in clear text in the script.

So, after installing the SQuORE CLI on your computer (this step will also synchronize it with the current database model repository on your SQuORE server), you need to add your credentials for both SQuORE and SVN.

To do so, open a command line and navigate to the binary folder of your SQuORE installation. In this example we will pretend that the CLI has been installed in D:\SQuORE_CLI_2013B_SP3.
Navigate to the “bin” folder in this installation folder and enter the command “add-credentials.bat”:

Choose “3”, add the complete URL of the project you want to have analyzed and finally enter your SVN / TeamForge account and password information:

Whenever you want to have additional SVN repositories built using SQuORE, you will need to enter their URL and login data as well using the “add-credentials.bat” tool.

IMPORTANT: Credentials are only saved for the current user executing this command!
If you want to clear the credentials saved for a user profile, remove the file `$HOME/.squorerc` on linux or `%USERPROFILE%\.squorerc` on Windows.

IMPORTANT: When changing your Windows account’s password, please be sure to change the password in your SQuORE CLI installation as well for all SVN URLs as they are based on the Active Directory account’s password!
To do this, run “add-credentials.bat” again and re-enter all the SVN URL information with the new password for this account.

After setting up your CLI environment like this, you can go on using your scripts to have the source code being analyzed – it is important that you tell SQuORE, that you don’t provide any credentials for the build. Example batch files are already stored in the \bin folder of your SQuORE CLI installation.

HINT: Using the SQuORE web pages you can also easily extract the command line syntax you require for your build runs on your PC and modify the example scripts accordingly – to do so, pretend to create a new project on the web page, configure everything until you get to the last page ("confirmation") and expand the "Project parameters for CLI use" section – switch to "Windows (Batch)" and copy & paste the output into your batch file – you can then cancel this project creation in the web page.

Using batch files, the command looks like in the example below (may differ depending on the database model you use – the important parts to be modified are written in bold letters):

```
java -Dsquore.home.dir="%SQUORE_HOME%" -jar "%JAR%" --url="%URL%" --
    commands="%COMMANDS%" --name="Project2" --color="rgb(192,128,0)" --
    version="v2" --login="SESAxxxx" --wizardId="HIS" --
    group="project_group_name" --language="CPP" --
    extensions=".cpp;.CPP;.c;.C;.h;.H"  --
    repository="type=SVN,url=https://teamforge.schneider-
    electric.com/svn/repos/src/trunk/DemoProject/Argos,useAccountCredentials=PE
    RSONAL_CREDENTIALS,username=SESAxxxxx"
```

The first blue colored login is your SQuORE user account, the second green colored login information is the one for SVN.

If you choose to use the XML file format by using the *--projectConfFile="abc.xml"* switch in the batch file, the integration looks like this:

```
    <Repository type="SVN" alias="Node1">
     <Param name="url" type="TEXT" value="https://teamforge.schneider-
         electric.com/svn/repos/src/trunk/DemoProject/Argos" />
     <Param name="useAccountCredentials" type="TEXT" value="
         PERSONAL_CREDENTIALS" />
     <Param name=" username" type="TEXT" value="SESAxxxxx" />
    </Repository>
```

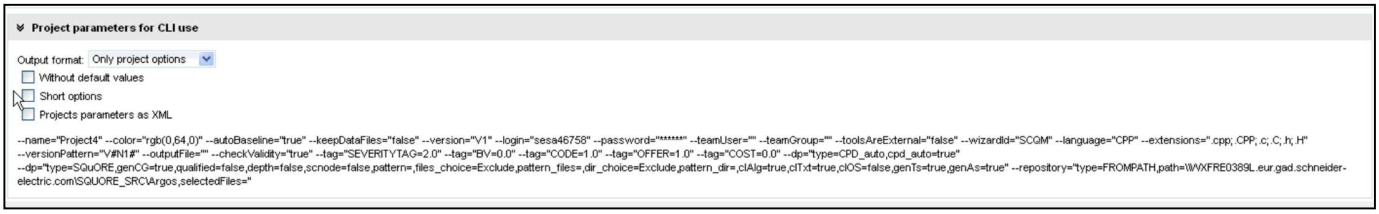
Explanation: As you already specified the user information in the credentials tool (the SQuORE CLI compares the URL information and retrieves the user account from its database if you entered the same URL using the "add-credentials" tool, so this serves as some kind of identifier), there is no need to provide this information anymore as long as the URL is completely identical, so please be sure to have the "useAccountCredentials" parameter set to "PERSONAL_CREDENTIALS" and only the login name to be set to your TeamForge account – no password is then required for SVN.

Important: Using the batch file in CI environments, automatically running them requires you to replace the "--version" parameter by the parameter "--versionPattern" which looks like this:
--versionPattern="V#N1#"
Doing so automatically counts the Version number up in SQuORE.

Here is an example batch file showing the syntax for both cases – static and dynamic information:

```
@echo off
setlocal

rem --
rem SQuORE batch file
rem --

set SQUORE_HOME=%~dp0..
set URL=https://qfrwsqu1:8543/SQuORE_Server
set LOGIN=SESA123456



cd /D "%SQUORE_HOME%"

if exist server (
    set COMMANDS=DELEGATE_CREATION
    set JAR=%SQUORE_HOME%\client\squore-engine.jar
) else (
    set COMMANDS=SYNCHRONISE;PROCESS_CREATION
    set JAR=%SQUORE_HOME%\lib\squore-engine.jar
)

rem below an example for static versioning (--version parameter set)
rem also a specific revision for SVN has been set
java -Dsquore.home.dir="%SQUORE_HOME%" -jar "%JAR%" --url="%URL%" --name="Earth" --
    login="%LOGIN%" --version="V1" --language="C" --wizardId="SCQM_25010" --
    group="project_group_name" --extensions=".c;.C" --color="rgb(130,196,240)" -t
    COST="60" -t BV="80" -r "type=SVN,url=https://teamforge.schneider-
    electric.com/svn/repos/src/trunk/DemoProject/Argos,rev=36,useAccountCredentials=PERS
    ONAL_CREDENTIALS,username=SESA123456" --commands "%COMMANDS%"

rem below an example for dynamic versioning (e.g. for script runs, to use the current
    time for version)
rem also no specific revision for SVN was set - this always dynamically takes the HEAD
    revision (latest version) for the build

rem get the current time for version
set version=V%date:~0,4%_%date:~5,2%_%date:~8,2%_%time:~0,2%_%time:~3,2%

java -Dsquore.home.dir="%SQUORE_HOME%" -jar "%JAR%" --url="%URL%" --name="Earth" --
    login="%LOGIN%" --version="%version%" --language="C" --wizardId="SCQM_25010" --
    extensions=".c;.C" --color="rgb(130,196,240)" -t COST="60" -t BV="80" -r
    "type=SVN,url=https://teamforge.schneider-
    electric.com/svn/repos/src/trunk/DemoProject/Argos,useAccountCredentials=PERSONAL_CR
    EDENTIALS,username=SESA123456" --commands "%COMMANDS%"

endlocal
pause
```

HINT: For detailed parameters in the command, you can find the description in chapter 3 of document "SUM_CLI_squoring-2015-A-SP7" in <INSTALLDIR>/docs
A simple way to retrieve the parameters is to create a project from the GUI, you will see the detailed parameters in the last page of a project creation

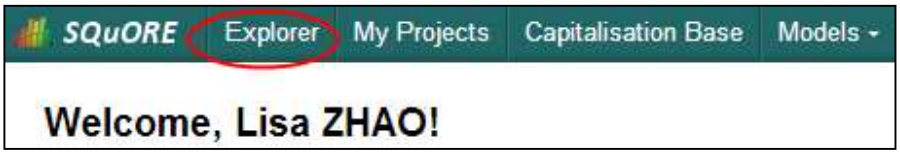

Project parameters for CLI use
Output format: Only project options
Without default values
Short options
Projects parameters as XML
--name="Project4" --color="rgb(0,64,0)" --autoBaseline="true" --keepDataFiles="false" --version="V1" --login="sesa46758" --password="*******" --teamUser="" --teamGroup="" --toolsAreExternal="false" --wizardId="SCQM" --language="CPP" --extensions=".cpp;.CPP;.c;.C;.h;.H" --versionPattern="V#N1#" --outputFile="" --checkValidity="true" --tag="SEVERITYTAG=2.0" --tag="BV=0.0" --tag="CODE=1.0" --tag="OFFER=1.0" --tag="COST=0.0" --dp="type=CPD_auto,cpd_auto=true" --dp="type=SQuORE,genCG=true,qualified=false,depth=false,scnode=false,pattern=,files_choice=Exclude,pattern_files=,dir_choice=Exclude,pattern_dir=,clAlg=true,clTxt=true,clOS=false,genTs=true,genAs=true" --repository="type=FROMPATH,path=\\WXFRE0389L.eur.gad.schneider-electric.com\SQUORE_SRC\Argos,selectedFiles="

3.2.3 View Project Report

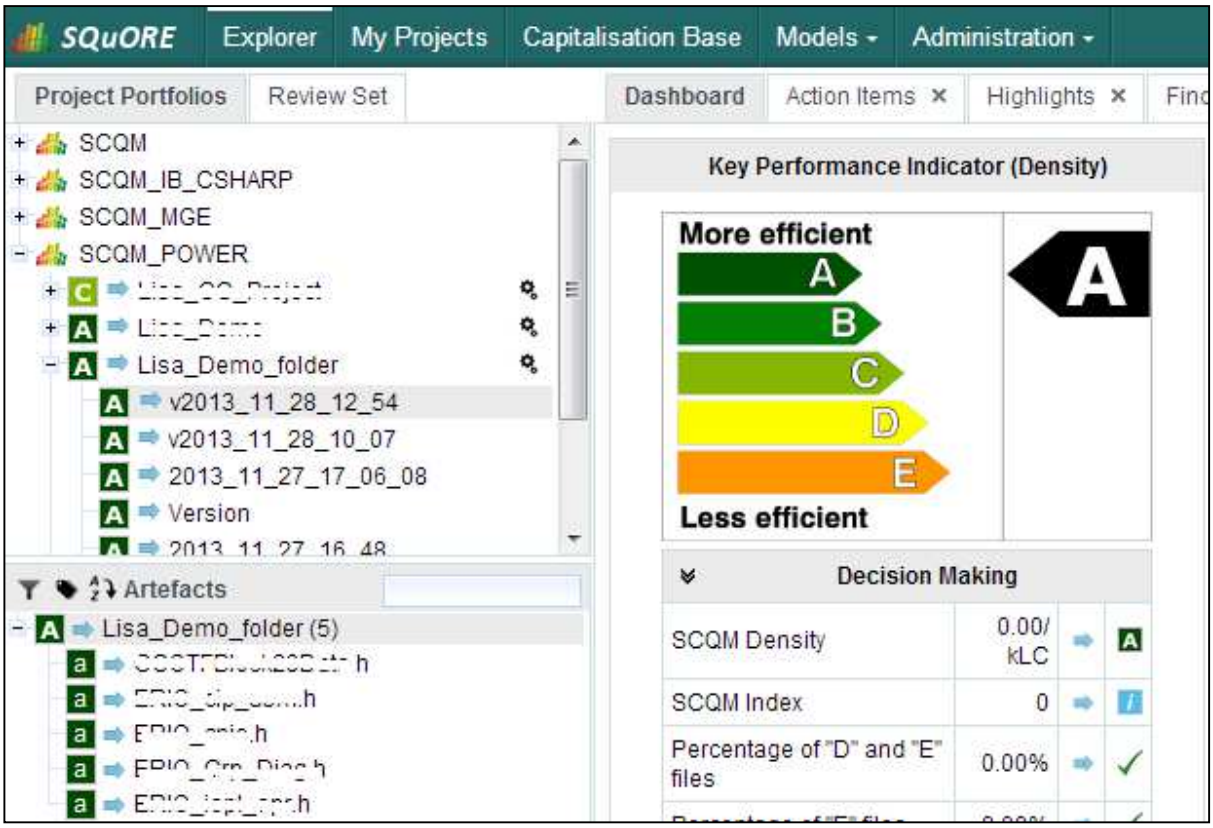
After creating project successfully on the CLI command, you can visit the SQuORE web page to see the report.

1. Use one of the below link on which server you have account.
   https://qfrwsqu1.eur.gad.schneider-electric.com:8543/SQuORE_Server
   https://pfrwsqu1.eur.gad.schneider-electric.com:8543/SQuORE_Server
   https://pfrwsqu2.eur.gad.schneider-electric.com:8543/SQuORE_Server
   https://pfrwsqu3.eur.gad.schneider-electric.com:8543/SQuORE_Server
   And then put your windows log-in name and password.

2. After log-in, click on “Explore” tab on the Welcome page.



3. Spread the Quality Model you use during the project creation (e.g. SQCM), then you will find the project name you created during CLI.



3.2.4 Versions Management

By default, you will get a draft version of new analysis.

- A draft version is a snapshot of your data at a given time. You can use it to compare the evolution of your project against the last baseline created. There is therefore **ONLY one** draft version available per project (the latest version), which Squore creates automatically if your previous version was a baseline.
- A baseline version, on the other hand, is permanently saved and will not be overwritten the next time an analysis is launched.

So, if you want to keep a version you must baseline it. How to baseline a version is described in the Chapter 8 of SQuORE user guide.
http://ocp.schneider-electric.com/Global/OCP/OCPLibra.nsf/luAllByIDAdmin/AAFR-A9LKV6/$file/SQuORE-User-Guide-2015A.pdf

3.2.5 SQuORE in a Continuous Integration Environment

As continuous integration environments are very specific, a dedicated install will be done by IPO/R&D Systems and SQuORING.

4. User Guides

Here are two ways to find the detailed CLI manual.

1. On your local computer in <INSTALLDIR>/docs/ SUM_CLI_squoring-2015-A-SP7.pdf.
2. On the web page. After log-in to the web page, you can click on the "?" => "User Guides"=>"Read it" under "Command Line Reference"