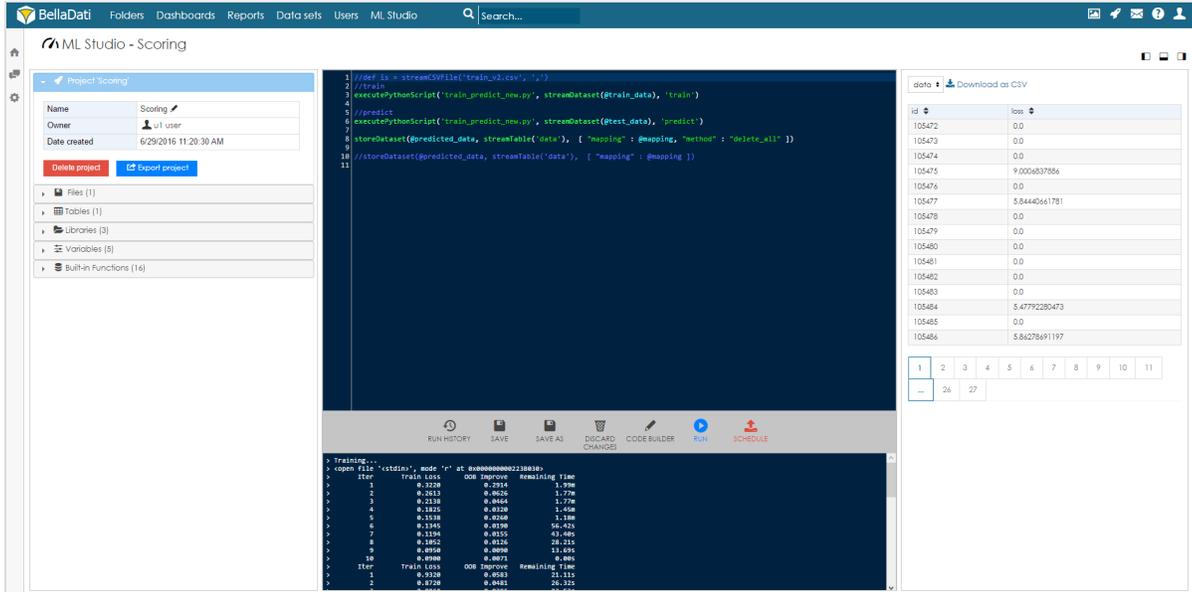


# Exploring workspace

One of the key advantages of BellaData ML Studio is a graphical user interface. Thanks to the GUI the user can easily work with the projects. The screen is divided into several parts:

- Control sidebar on the left
- Preview sidebar on the right
- Code editor
- Main controls
- Console.



## Control Sidebar

Control sidebar contains all basic properties and options of the project:

- Project information
- Files
- Tables
- Charts
- Libraries
- Variables
- Built-in functions

## Preview Sidebar

Preview sidebar allows the user to quickly see resulting tables and charts.

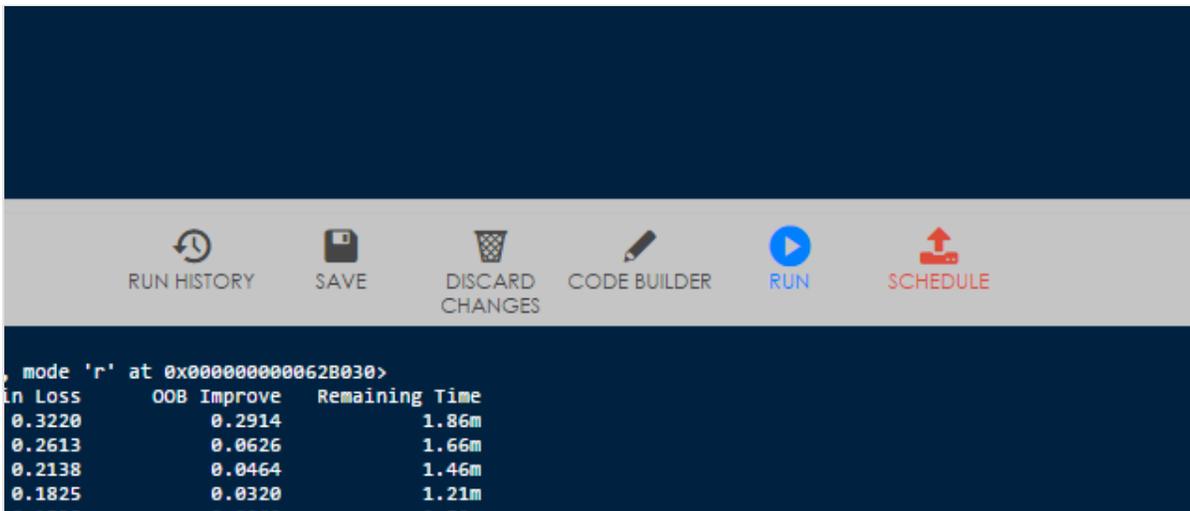
## Code Editor

Code editor allows the user to edit or write his own machine learning scripts in Groovy language. The user can take advantage of the auto-complete function (by default Ctrl + Space) which will help him build his code.

## Main Controls

Main controls are used for basic interactions with the project. These controls are available:

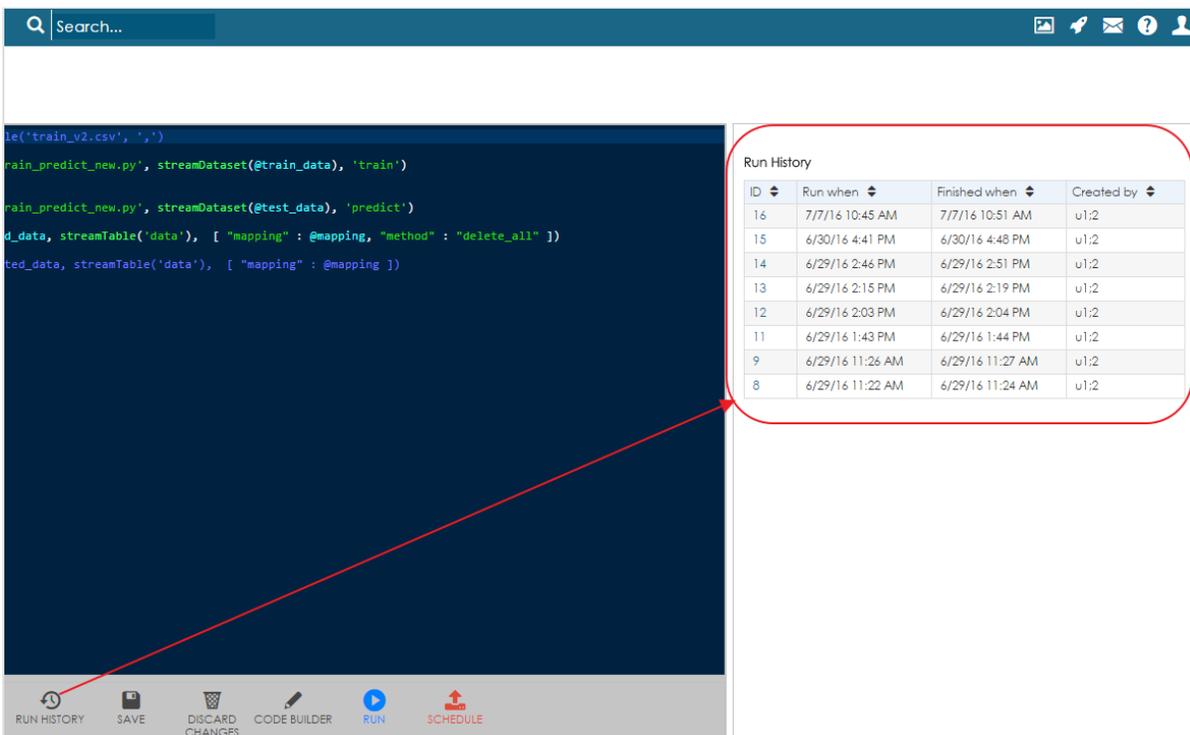
- Run history - see below.
- Save - saves the project.
- Save as - saves as new project
- Discard changes - deletes all changes done in current session.
- Code builder
- Run
- Schedule



## Run history

Run history opens in the left sidebar and it contains list with information about each run:

- ID
- Run when
- Finished when
- Created by



It is possible to click on the ID to get more information about selected execution. A pop-up window opens which provides details about the time of execution, the user who launched the execution. The user can also see executed code and the console output.

### Execution details

Created when	7/26/16 12:51 PM	Created by	u1
Started when	7/26/16 12:51 PM	Finished when	7/26/16 12:52 PM

Script

```
1 def rows = 0
2 //readCSVFile('train_v2.csv', ',', '', 10) {
3
4 readXLSFile('samplexls.xls', 2){
5   rows + +
6   println row
7   println index
8   println columns
9   println values[1]
10 }
```

Console output

```
> com.belladati.bi.imp.xls.XLSRow@1c7699eb
> 1
> [Ljava.lang.String;@666a20e6
> B2
> com.belladati.bi.imp.xls.XLSRow@126c565b
> 2
> [Ljava.lang.String;@3d6684c6
> B3
> 2
> 2

Processed in 33021ms.
Result is null.
```

Close

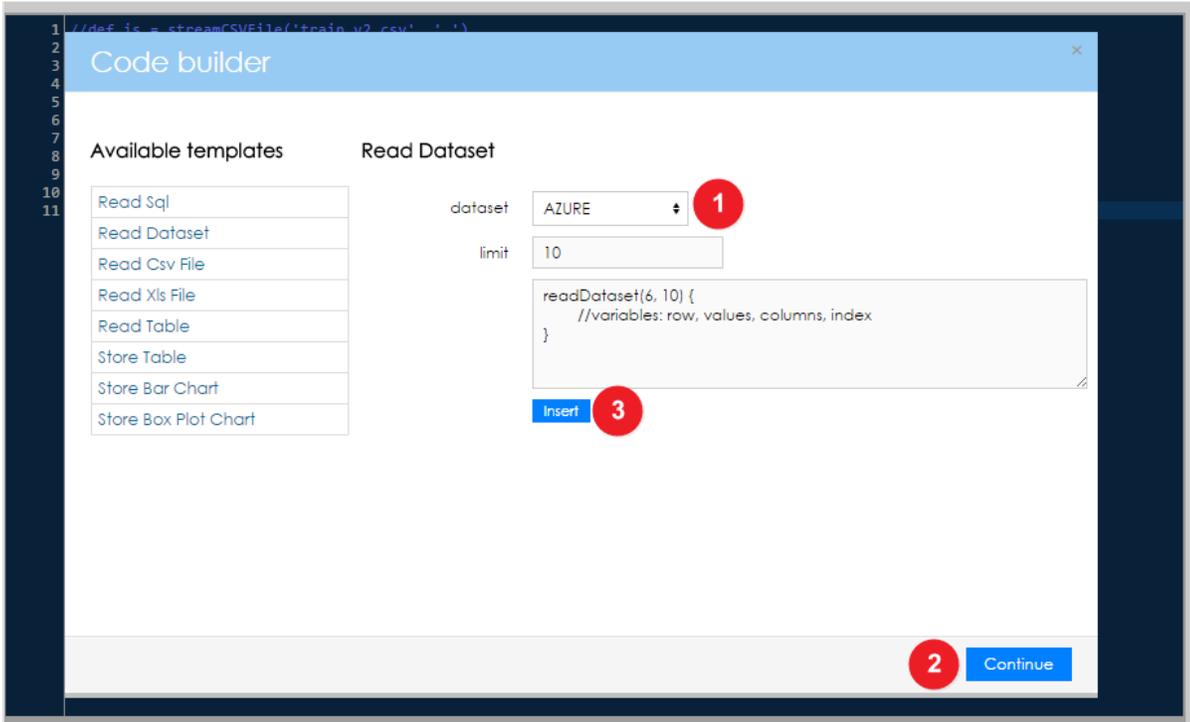
```
> 36-36
> DateTime
> 36-40
> DateTime
```

## Code builder

Code builder allows the user to quickly construct different parts of code by using predefined templates. Following templates are available:

- Read Sql
- Read Dataset
- Read Csv File
- Read Xls File
- Read Table
- Store Table
- Store Bar Chart
- Store Box Plot Chart

After selecting one of the templates, the user needs to fill in the parameters (for example file, database connection, sql query etc.) and then click on **Continue**. A code snippet will be generated which can be inserted to the code by clicking on **Insert**.



## Run

Project can be immediately executed by clicking on button Run.

## Schedule

It is also possible to schedule the execution of the project. The user can set the time and date when the project will be executed.

