

First Tutorial using BDQC on a Linux Platform

Updated: 2018-02-12 - Eric Deutsch

If you have questions or suggestions with this tutorial, please contact edeutsch@systemsbiology.org

0) Before you begin

This tutorial assumes that you will be running this tutorial on a modern Linux system with Perl. BDQC will also run on a Windows or OS X system that has Perl installed, although the details on how to set up and invoke the BDQC tools are slightly different than described on this tutorial. See other “FirstTutorial” documents for your software platform.

Make sure that you are connected to the Internet for this tutorial!

1) Install BDQC software and verify execution

- Either download the latest BDQC package from GitHub with wget:

```
cd
wget https://github.com/ini-bdds/bdqc/archive/master.zip
mv master.zip bdqc-master.zip
```
- **Or** manually with a web browser:
 - Go to: <https://github.com/ini-bdds/bdqc>
 - Click the green [Clone or download] button
 - Choose [Download ZIP] and save the bdqc-master.zip file in your home directory
- Unpack the zip file in your home directory

```
cd
unzip bdqc-master.zip
```
- Verify that the bdqc program is in the expected place:

```
ls $HOME/bdqc-master/analysis/bin
```
- If the result doesn't show a bdqc executable program, then fix before proceeding
- Put the BDQC bin directory in your PATH. For csh/tcsh like shells:

```
setenv PATH $HOME/bdqc-master/analysis/bin:$PATH
```
- Or for sh/bash like shells:

```
export PATH=$HOME/bdqc-master/analysis/bin:$PATH
```
- And then test that it executes:

```
bdqc -help
```
- If this fails with a 'module not found' error, you will have to install the missing perl modules to proceed, most likely to be JSON.pm, the only non-perl-core required module. Commands below may require sudo or root to install.
 - Easiest to install via CPAN:
 - perl -MCPAN -e shell
 - install JSON
 - Alternatively, install manually:
 - wget <https://cpan.metacpan.org/authors/id/I/IS/ISHIGAKI/JSON-2.97001.tar.gz>
 - tar xvfz JSON-2.97001.tar.gz
 - cd JSON-2.97001
 - perl Makefile.PL
 - make
 - make install
- And then run the basic self-test and module check:

```
bdqc --selftest
```

- If you do not get OK for all modules except for optional ones that explicitly state that their absence is okay, install the necessary modules as shown above.

2) Perform a test run

- Move in the testdata directory, unzip a test folder and run bdqc:

```
cd $HOME/bdqc-master/analysis/testdata
unzip test2_UniformQlogFiles_1outlier.zip
set test=test2_UniformQlogFiles_1outlier
bdqc --kbRootPath $test --data $test
```
- On the terminal output, you should see one file listed with 4 outlier flags
- Open up the output file [test2_UniformQlogFiles_1outlier.html](file:///Users/YOURUSERNAME/testdata/test2_UniformQlogFiles_1outlier.html) in your web browser to explore the output more interactively with something like:
file:///Users/YOURUSERNAME/testdata/test2_UniformQlogFiles_1outlier.html

Finis.