Documentation

Devyani Tanna
CS 302

Doxygen

- Doxygen is a program documentation generator
  - It provides a highly refined and organized presentation of progam documentation
- Doxygen is free
  - (GNU General Public License)
- Doxygen is cross-platform
  - Can be used on most Operating Systems
- Doxygen supports C++, C, C#, Objective-C, Java, Python, IDL, VHDL, Fortran, and D

Output

- Doxygen can provide the following outputs:
  - HTML
  - LaTex
  - RTF
  - XML
  - Man page
  - DocBook

Installation

- Debian or Ubuntu
  - sudo apt-get install doxygen
  - sudo apt-get install doxygen-gui
- There are several download sites, including the following that support the Debian or Ubuntu Linux distributions:
  - http://www.stack.nl/~dimitri/doxygen/download.html

Installation

- For the Latex installation
  - ○ sudo apt-get install texlive-latex-base
  - ○ sudo apt-get install texlive-fonts-recommended
  - ○ sudo apt-get install texlive-extra
    - ○ this works most of the time but if it doesn't, you can use the **texlive-full** selection shown next
  - ○ sudo apt-get install texlive-full
    - ○ this operation requires about 3 Gb of HD space and will take a while depending on your Internet connection and computer speeds; however, it may be the only way to be assured of fully correct operation of the "make pdf" action

Document

- Use the ProgramStandards document for instructions on:
  - how to document file headers (.h, .cpp)
  - how to document method or function headers

Document

- For more information on comment blocks, there are several references, including the following:

  - http://www.stack.nl/~dimitri/doxygen/manual/docblocks.html

  - https://www.stack.nl/~dimitri/doxygen/manual/commands.html
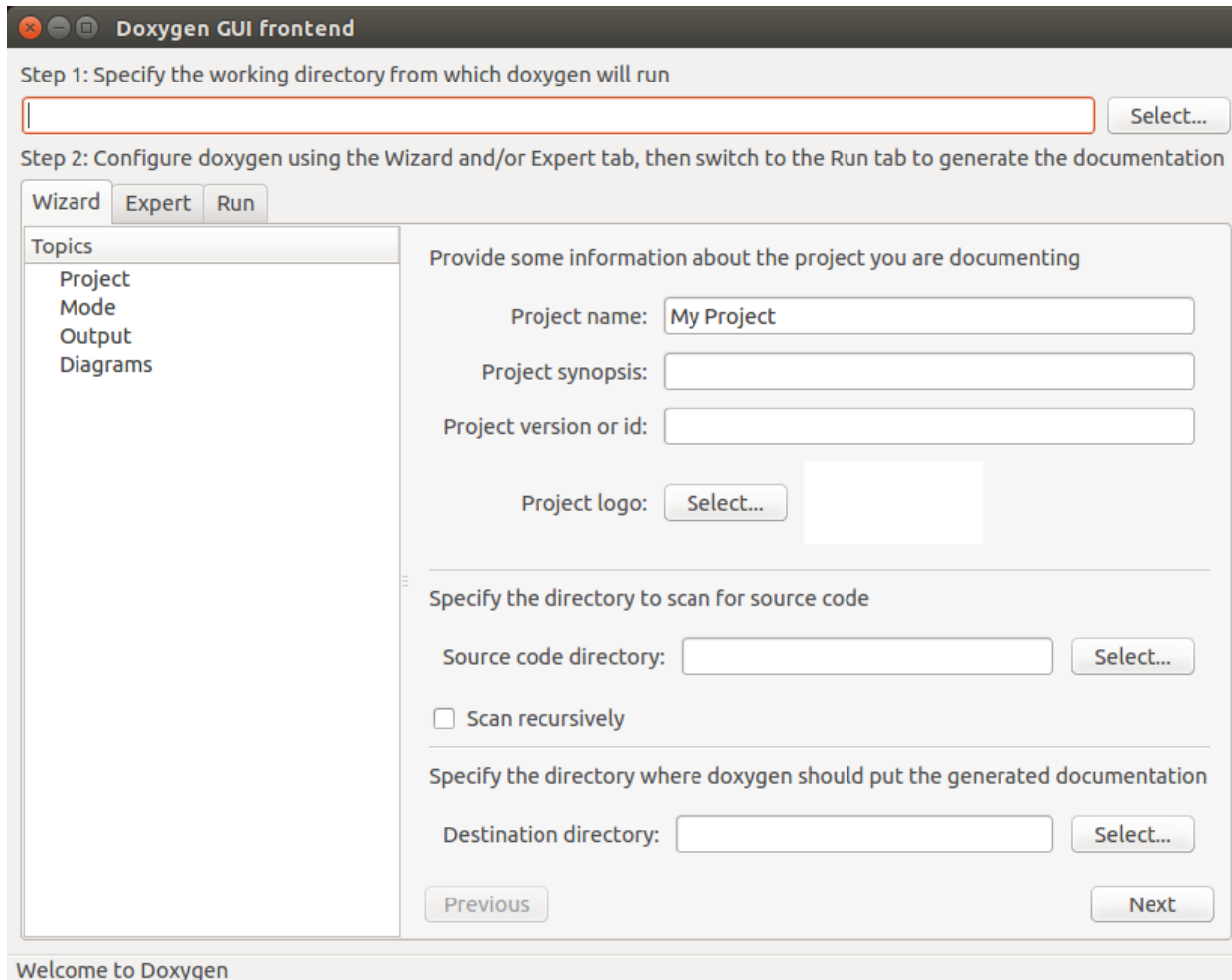
Usage (Option 1): Command Line

- Generate a configuration file
  - doxygen -g <config-file>
    - Default file: Doxyfile

- Edit configuration file as you see fit
  - You may use the following as a reference:
    - https://www.stack.nl/~dimitri/doxygen/manual/customize.html

- Generate the documentation
  - doxygen <config-file>

Usage (Option 2): doxywizard (GUI)

Type "doxywizard" in a terminal screen to open the following window

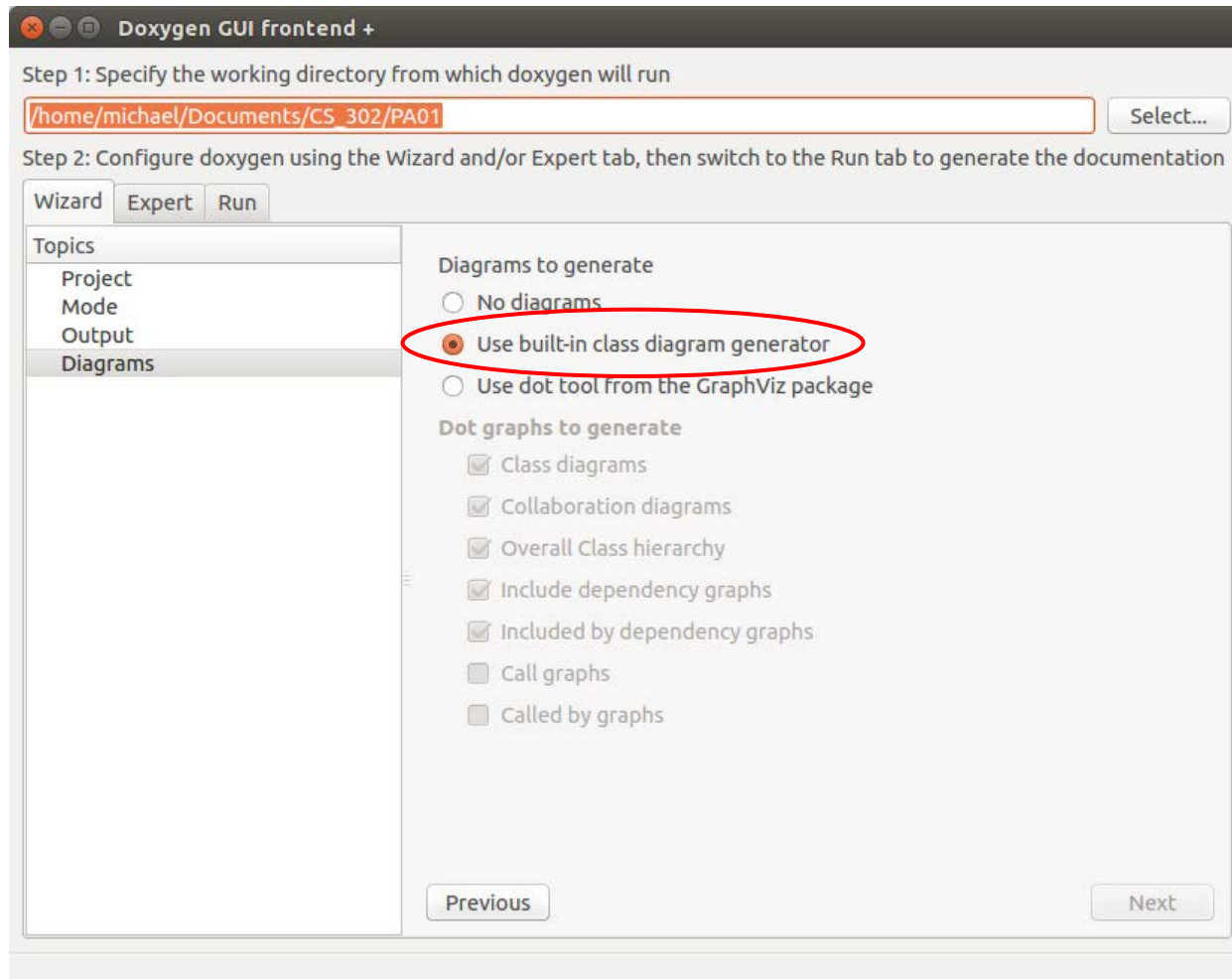# Doxywizard – Project Screen

Doxywizard – Mode Screen
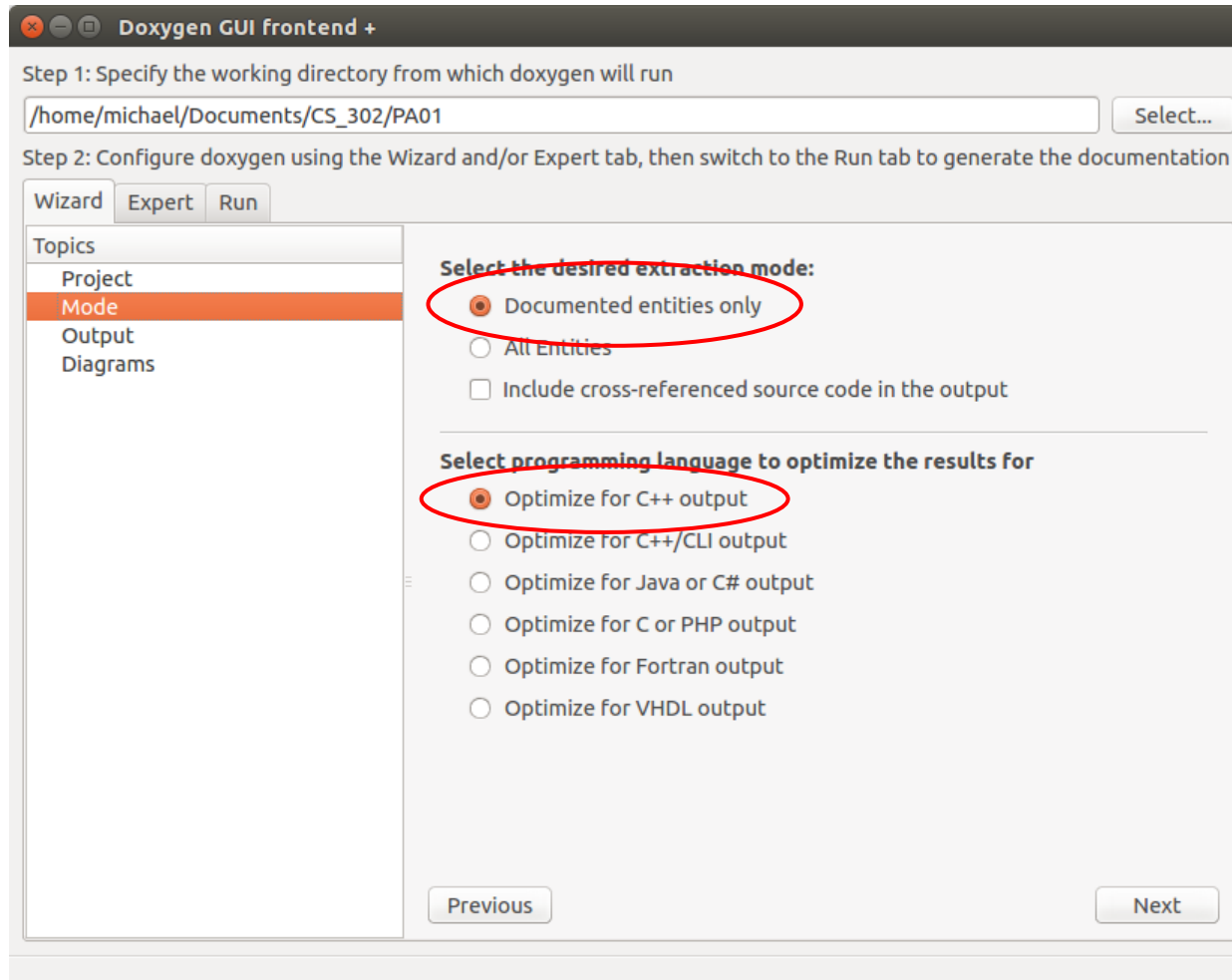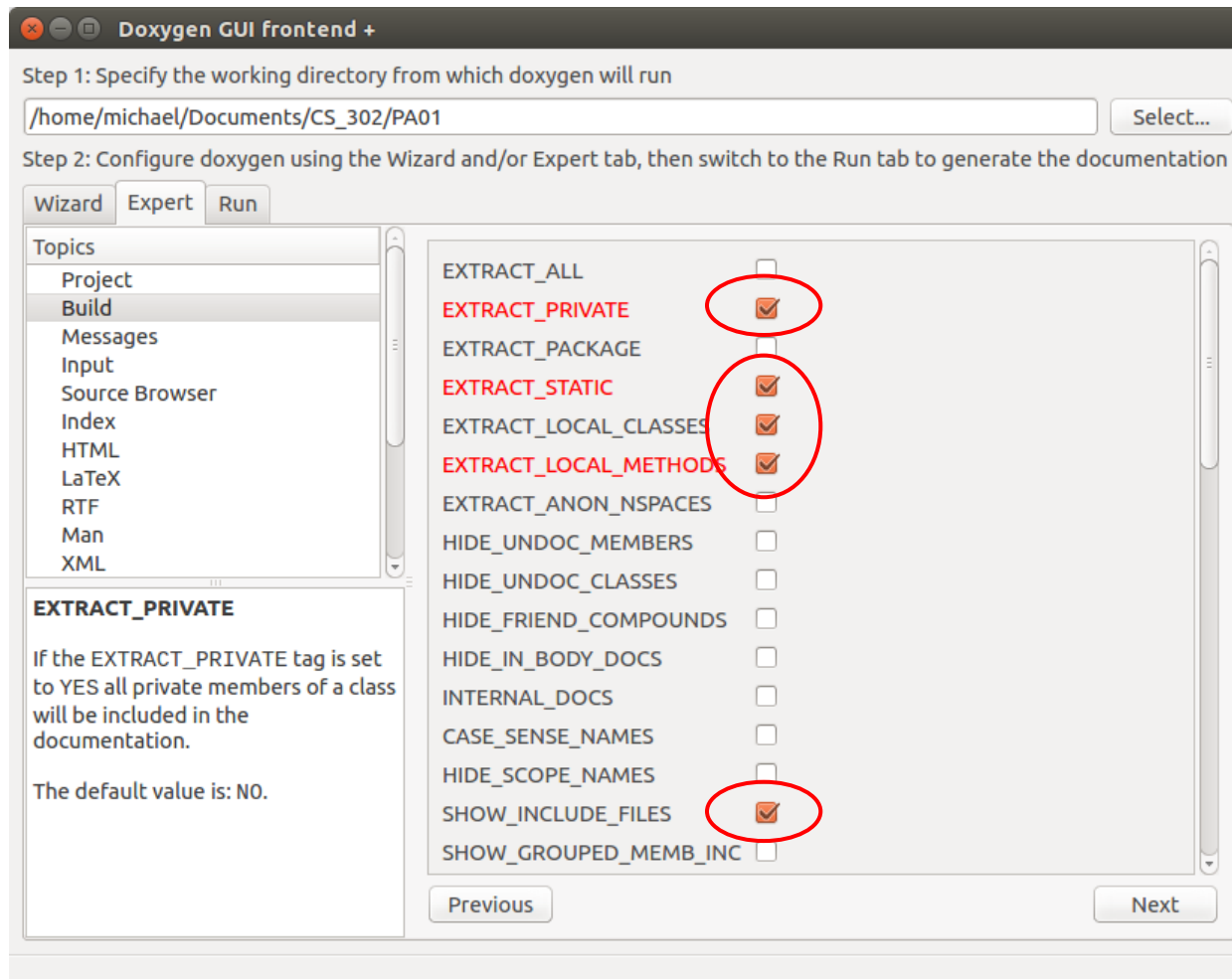
Doxywizard – Output Screen
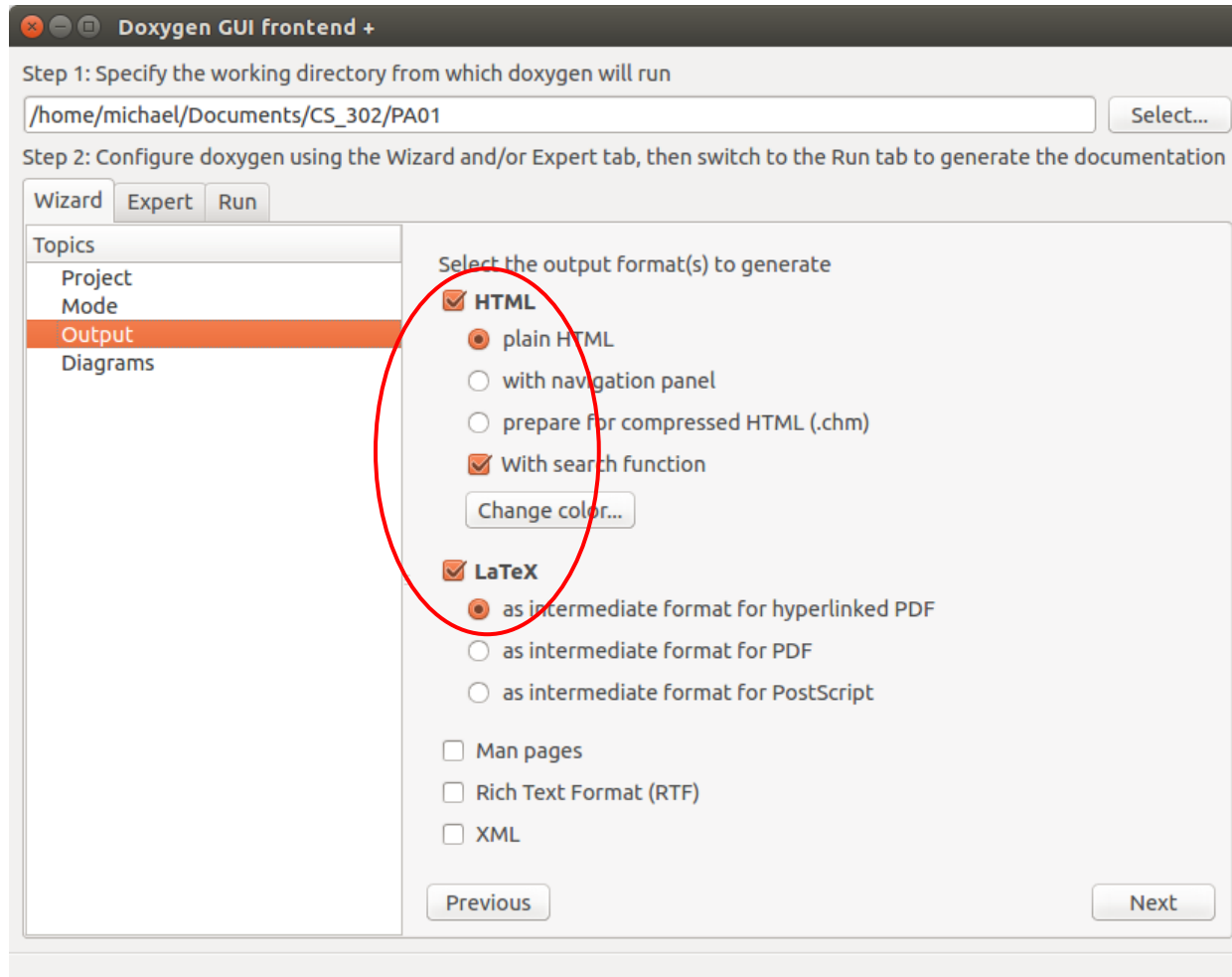
Doxywizard – Diagrams Screen

Doxywizard – Expert/Build Screen

There are other boxes below but they remain unchanged

Doxywizard – Expert/LaTeX Screen
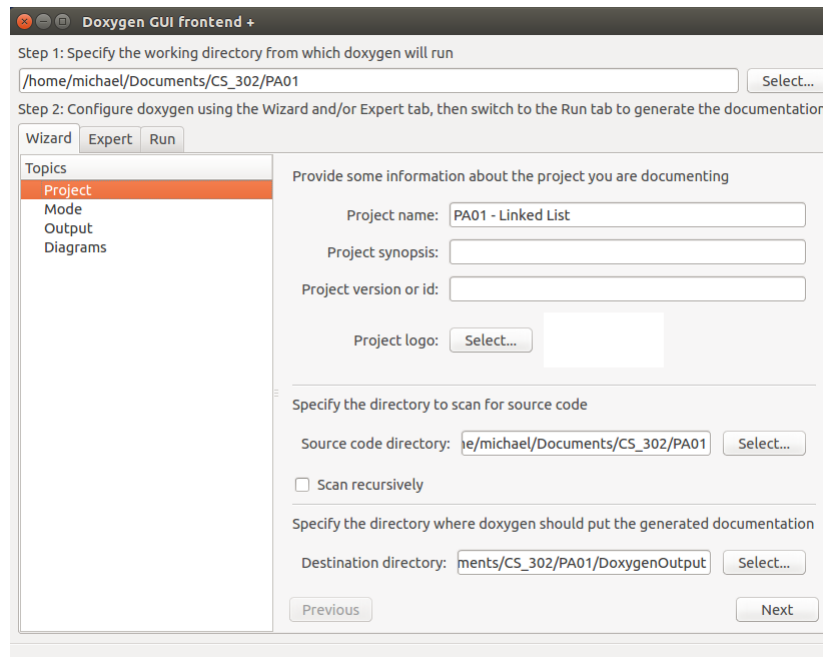
Doxywizard – Storing Configuration

Doxygen can be saved as is, and the files and names changed in later use so you won't have to reset the configuration each time you use it. When closing Doxywizard, save the configuration to a recognizable filename located in a common directory. When you reopen the wizard, type the filename as a command-line parameter (e.g., doxywizard myfilename)
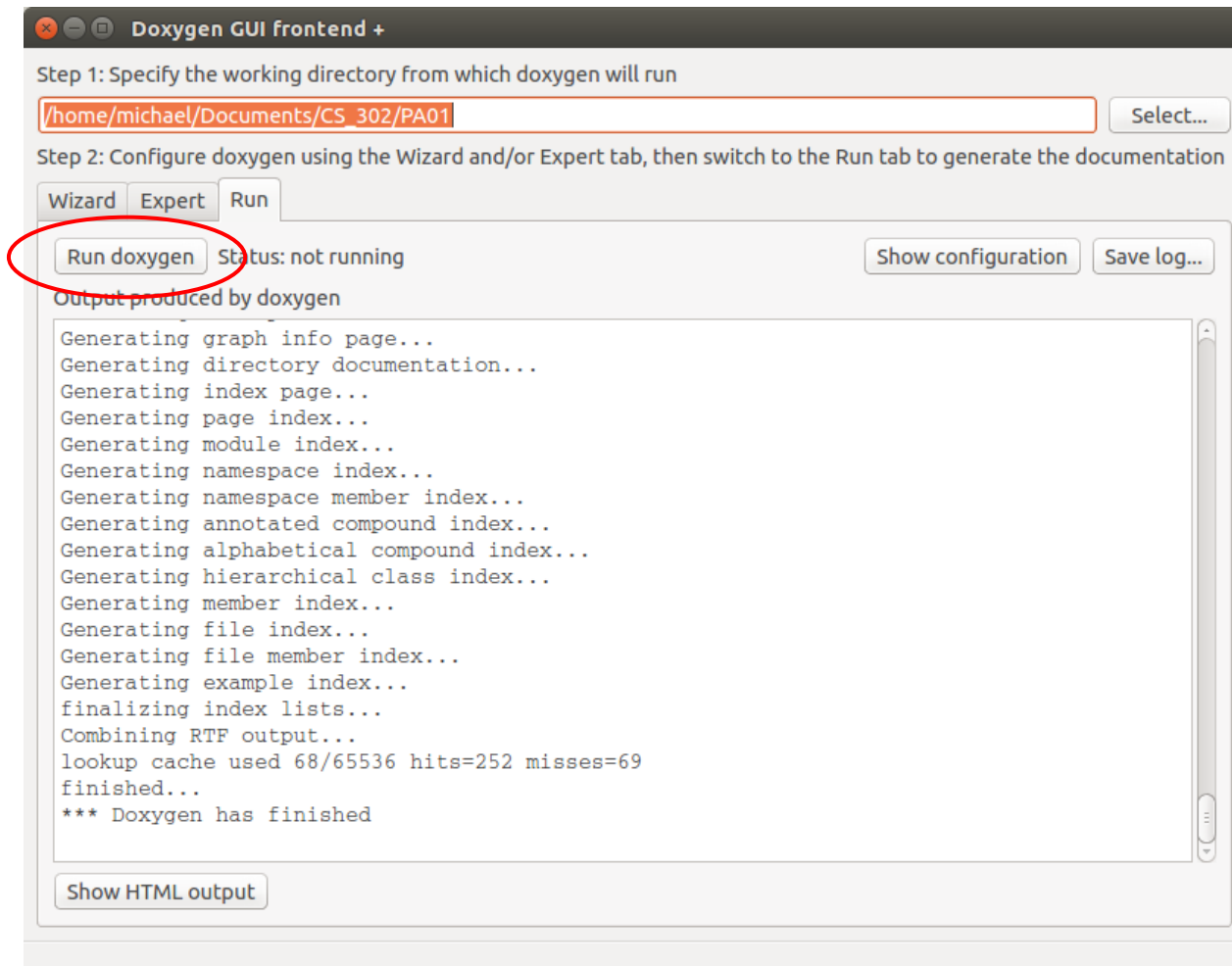
Doxywizard – Run Screen

Select "Run doxygen" to build the Doxygen files

HTML and LaTex

- After running the program, the Doxygen output folder will now contain two sub-folders
  - HTML
    - you may open index.html to view the documentation in a browser
  - LaTex
    - go to the LaTeX directory in a terminal window
    - type **make pdf** to get a PDF document
      - this may take a few seconds
    - this only works if all style files are available
      - i.e., the style files have been installed

Note: You must provide a PDF to the WebCampus upload along with your journal; if your own system does not create the PDF, you can use the ECC system(s)

Helpful Links – There Are Several

- Doxygen Main Page
  - http://www.stack.nl/~dimitri/doxygen/

- Subset of Doxygen Tags
  - http://www.d.umn.edu/~ berna228/cs1521/doxygenCommands.html#cmdbrief

- Example
  - http://cs.stmarys.ca/~porter/csc/common_341_342/doxygen/doxygen_example.cpp

- And Finally!
  - http://en.wikipedia.org/wiki/Doxygen

doxygen Documentation

End