CHASM (Cancer-specific High-throughput Annotation of Somatic Mutations) User Documentation

Downloading the CHASM software package:

The CHASM software package is intended for users with bioinformatics and machine learning expertise. Installing the package requires knowledge of Linux and MySQL and system administrative privileges. Additionally, mutations are required to be mapped onto the most recent assembly of the human genome. The package allows users to optimize CHASM classifier performance by:

- selecting which features to use to represent mutations
- modifying the CHASM training set
- adjusting Random Forest classifier training parameters
- constructing custom passenger mutation rate tables

Download the software package and the SNVBox database here:

http://wiki.chasmsoftware.org

If you are not an expert user, consider running CHASM over the web via the CRAVAT web-server at http://www.cravat.us.

Installing the CHASM software package:

Requirements:
- Linux operating system (32bit/64bit).
- At least 60 GB disk space.
- 1-2 GB RAM.
- MySQL server 5.0 or newer.
- Python MySQLdb module.

To install the CHASM software package:

- Change directory to the location where you will install CHASM with cd (yourlocation)
- Download the CHASM install pack for the latest release and move it to the selected directory. Extract the files using tar xvzf CHASMDL.tar.gz
- Create a CHASMDIR environment variable on your system that indicates the location where CHASM is installed. For example, the following line can be added to a .bashrc file: export CHASMDIR= (yourlocation)/CHASM.

For cshell add the line setenv CHASMDIR=(yourlocation)/CHASM to the .cshrc file.

- Download the latest release of the SNVBox MySQL database. This is a large file.
- Use the following commands from within MySQL to prepare for loading the database:
  - create database SNVBOX
  - grant ALL Privileges on SNVBOX.* to chasm_user@localhost identified by `dfltPass!';
  - grant RELOAD on *.* to chasm_user@localhost;
- Load the database into MySQL. At the command line run gunzip < SNVBox.sql.gz | mysql -u chasm_user -p SNVBOX and enter the password dfltPass! when prompted.
- Modify the chasm_classifiers.conf and snv_box.conf configuration files found in (yourlocation)/CHASM/ if necessary.

For additional details, please use the CHASM wiki http://wiki.chamsoftware.org