**A guide for Installing CheckM:**

CheckM Repository and Installation guideline:

<https://github.com/Ecogenomics/CheckM>

<https://github.com/Ecogenomics/CheckM/wiki/Installation#how-to-install-checkm>

Dependencies:

1. HMMER and PRODIGAL:
   1. HMMER: ‘wget’ HMMER
      1. Refer to readme for install instruction.
   2. Prodigal: clone the git
      1. Refer to readme for install instruction.
2. Pplacer:
   1. We tried the pplacer packaged version, compiled our own version, and used the CONDA install. None of the options worked. The description of the version to be compiled is provided as follows.
   2. Clone the git ‘https://github.com/matsen/pplacer.git’ from the link.
   3. Install the required libraries:
      1. <https://matsen.github.io/pplacer/compiling.html>
      2. OPAM:
         1. <http://opam.ocaml.org/doc/Install.html>
            1. Install all dependencies:

Camlp4-extra

Gawk

Libgs10-dev

Libsqlite3-dev

Libz-dev

M4

Make

Ocaml

Patch

* + - 1. <http://opam.ocaml.org/doc/Install.html>
         1. We used the Ubuntu package (towards the bottom).
      2. Additional OPAM Requirements:
         1. Opam-requirements.txt

csv.1.2.2

ounit.1.1.2

xmlm.1.1.1

mcl.12-068oasis4

batteries.2.1.0

ocaml-gsl.0.6.3

sqlite3.1.6.3

camlzip.1.05

* + - 1. Initializing OPAM Switches:

Install Bubblewrap and unzip

chmod u+s /usr/bin/bwrap

***Bubblewrap doesn’t work with WSL…***

opam switch list-available

ocamlc -version

<https://ocaml.org/learn/tutorials/up_and_running.html>

Tried to compile it and also used a compiled version: <https://matsen.github.io/pplacer/compiling.html>

***The switch cannot be set for some reason.***

opam switch create beta ocaml-base-compiler.4.12.0 --jobs=1

1. Set HMMER, Prodigal, and Pplacer in the system path:
   1. export PATH=$PATH:/<associated\_directory>
2. Install numpy, matplotlib, pysam, checkm-genome.
3. Download data required from the checkM wiki and set the path as shown to that data.