

Installing PETSc on EC2/Linux

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This is part of a longer instructions to install Defmod but walks you through a PETSc install if you want to compile from source. This should also work for any Linux machine.

Instructions for installing Defmod on Amazon's Elastic Compute Cloud (EC2):

1. Launch an Ubuntu (Server, 14.04 LTS) based instance (e.g., t2.micro) and login using your key:

```
ssh -X -i "key" ubuntu@xxx.xxx.xxx.xxx
```

2. Fix '/etc/hosts' (keeps MPICH happy):

```
sudo sh -c 'echo 127.0.1.1 `hostname` >> /etc/hosts'
```

3. Download GNU compilers and other required tools/utilities:

```
sudo apt-get update
sudo apt-get upgrade
sudo apt-get install gcc gfortran libblas-dev liblapack-
dev cmake mercurial
```

4. Download, configure and install PETSc with METIS:

```
wget http://ftp.mcs.anl.gov/pub/petsc/release-
snapshots/petsc-3.6.3.tar.gz
tar -xzf petsc-3.6.3.tar.gz
cd petsc-3.6.3
export PETSC_DIR=`pwd` PETSC_ARCH=arch-linux2-c-opt
./configure --with-cc=gcc --with-fc=gfortran --download-
mpich --download-metis --with-debugging=0
make all
```

INSTALLING PETSC ON EC2/LINUX

```
export PATH=$PATH:$PETSC_DIR/$PETSC_ARCH/bin
```

Note: If CMake complains about missing C++ compiler during the configure step above, then edit

```
$PETSC_DIR/$PETSC_ARCH/externalpackages/metis-5.1.0-p1/CMakeLists.txt  
and change "project(METIS)
```

to

```
project(METIS C)
```