Dockerfiles

- Recipe for building images
- Sequence of commands
- Steps cached so quick to modify
- Usually start from existing image
- Will discuss in detail during tutorial

```
FROM ubuntu:16.10
MAINTAINER joezuntz@googlemail.com
#Joe's note to himself.  Compile this with: docker build -t joezuntz/cosmosis-base
#then docker push joezuntz/cosmosis-base

# Basic compilers and tools dependencies
RUN apt-get update -y && apt-get install -y gcc g++ gfortran wget make python-dev \
    pkg-config curl \
    && apt-get clean all

# Manual installation of mpich seems to be required to work on NERSC
RUN mkdir /opt/mpich && cd /opt/mpich \
    && wget http://www.mpich.org/static/downloads/3.2/mpich-3.2.tar.gz \
    && tar xvzf mpich-3.2.tar.gz &&  cd mpich-3.2 && ./configure && make -j4 \
    && make install && rm -rf /opt/mpich

# The environment variables needed by the CosmoSIS build and runtime.
ENV GSL_INC /usr/include
ENV GSL_LIB /usr/lib/x86_64-linux-gnu
ENV CFITSIO_INC /usr/include
ENV CFITSIO_LIB /usr/lib/x86_64-linux-gnu
ENV FFTW_LIBRARY /usr/lib/x86_64-linux-gnu
ENV FFTW_INC_DIR /usr/include
ENV MINUIT2_LIB /usr/local/lib
ENV MINUIT2_INC /usr/local/include

# Run a bash login shell if no other command is specified.
CMD ["/bin/bash", "-l"]
```

Tutorial 3: Dockerfiles

- Create an empty directory and a file in it called Dockerfile:

```
FROM  ubuntu:latest
LABEL maintainer="your_email@example.com"
RUN  apt-get update && apt-get install -y python3 python3-pip
```

- From that directory run

```
docker build -t my-image .
```