Setting up a server in 5 minutes with boinc-server-docker

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What is Docker?

Docker serves many of the same purposes of a Virtual Machine, but is functionally very different (and in many ways, better).
Demo1
3rd most starred repository when searching "BOINC" on Github*
Several thousand “pulls” of the boinc-server-docker images on Docker Hub
My point: people find boinc-server-docker helpful and actually use it.
How it works

• Containers
  – MySQL
  – Apache
  – Makeproject
    • During build: BOINC server compiled && ./make_project
    • During run: Files copies to project volume && ./update_versions

• Volumes (which store data)
  – Results (/results)
  – Database (/var/lib/mysql)
  – Project (/root/project)
FROM debian:jessie

MAINTAINER Marius Millea <mariusmillea@gmail.com>

# install necessary packages
RUN apt-get update && apt-get install -y \
    curl \
    dh-autoreconf \
    git \
    libcurl4-gnutls-dev \
    libmysqlclient-dev \
    libssl-dev \
    m4 \
    make \
    php5-cli \
    php5-mysql \
    pkg-config \
    python \
    python-mysqldb

# get source and compile server
COPY boinc /root/boinc
RUN cd /root/boinc && ./autosetup && ./configure --disable-client --disable-manager && make

# build configuration
ENV USER=root PROJHOME=/root/project
```

# make project
RUN cd /root/boinc/tools \\
    && ./make_project --url_base http://127.0.0.1 \\
    --project_host boincserver \\
    --db_host mysql \\
    --db_user root \\
    --no_db \\
    --no_query \\
    --project_root $PROJHOME \\
    boincserver \\
    && sed -i -e 's/Deny from all/Require all denied/g' \\
    -e 's/Allow from all/Require all granted/g' \\
    -e '/Order/d' $PROJHOME/boincserver.httpd.conf \\
    && echo "admin:zJiQQ30oIfehM" > $PROJHOME/html/ops/.htpasswd \\
    && chmod g+w $PROJHOME/download \\
    && rm -r $PROJHOME/log_boincserver

# project files
RUN mkdir $PROJHOME/html/stats_archive
COPY db_dump_spec.xml $PROJHOME/
COPY html $PROJHOME/html
COPY bin $PROJHOME/bin

# finish up
WORKDIR $PROJHOME
COPY postbuild.py /root/
CMD /root/postbuild.py
```
So how do I make my own project?

(most people I’ve seen do this on GitHub have done it “wrong”)
Advantages of boinc-server-docker

- “Batteries included but replacable”
- Super fast to spin up and delete servers
- Test locally => put in production confidently
- Server configuration is under version control
- Can run server on Windows and Mac via Docker Toolbox
Challenges

- The server needs a release schedule
- Multiple hosts not currently supported
  - Docker is *built* for this thanks to `docker scale` and multi-host networking, I just haven’t implemented it yet
Uses for BOINC

- My opinion: When a user searches for “how do I run my own server” this should be *the* solution presented
- Maybe boinc-server-docker can be used in creating tests