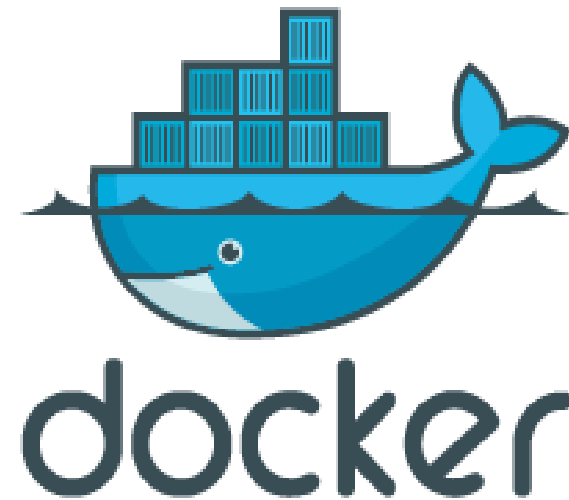


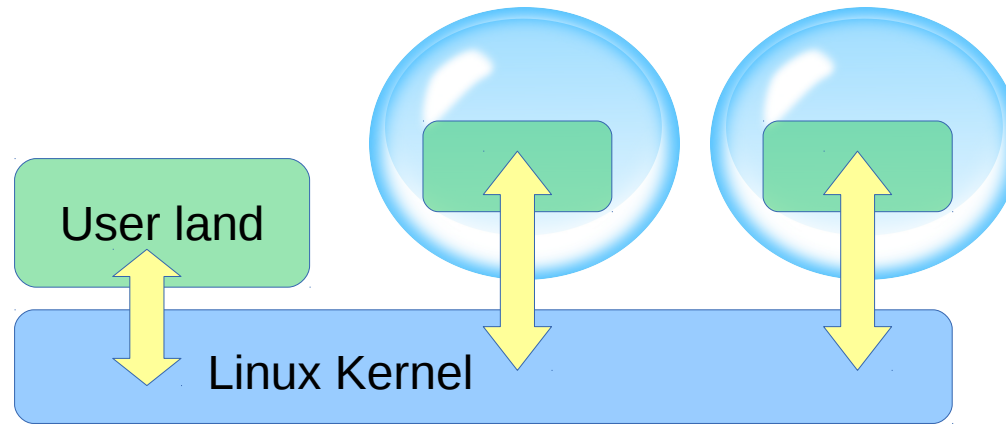


Wide Field Astronomy Unit (WFAU)

Docker deployment



What is a container ?



Linux name space = bubble

Container = portable unit

- Standard shape
- Standard connectors



What it is not



- Motherboard
- PCI bus
- Hard disc
- Network card
- Video card
- Screen
- Keyboard
- Mouse

- BIOS boot



Why use Docker ...

Rapid prototyping



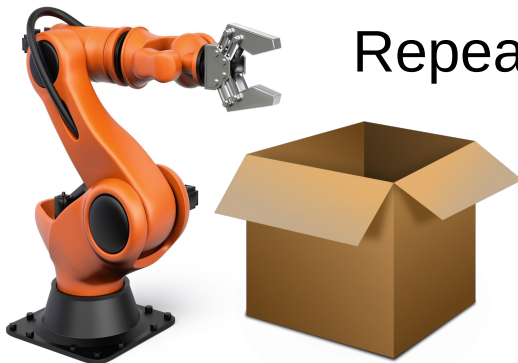
Flavour independent



Platform independent



Repeatable builds



Documented configuration



- Version info
- Dependencies





Dockerfile = recipe for making a container

```
FROM firethorn/java:8
MAINTAINER Dave Morris

#
# Expose Tomcat port
EXPOSE :8080

#
# Download the Tomcat tar file
ADD https://archive.apache.org/dist/tomcat...

#
# Unpack the tar file.
RUN tar -zxf ${TOMCAT_TARFILE}

#
# Run Tomcat
USER tomcat
WORKDIR /var/local/tomcat
CMD /var/local/tomcat/bin/catalina.sh run
```

Industrial recipe, not home cooking

- Standard format
- Machine readable
- Repeatable again and again

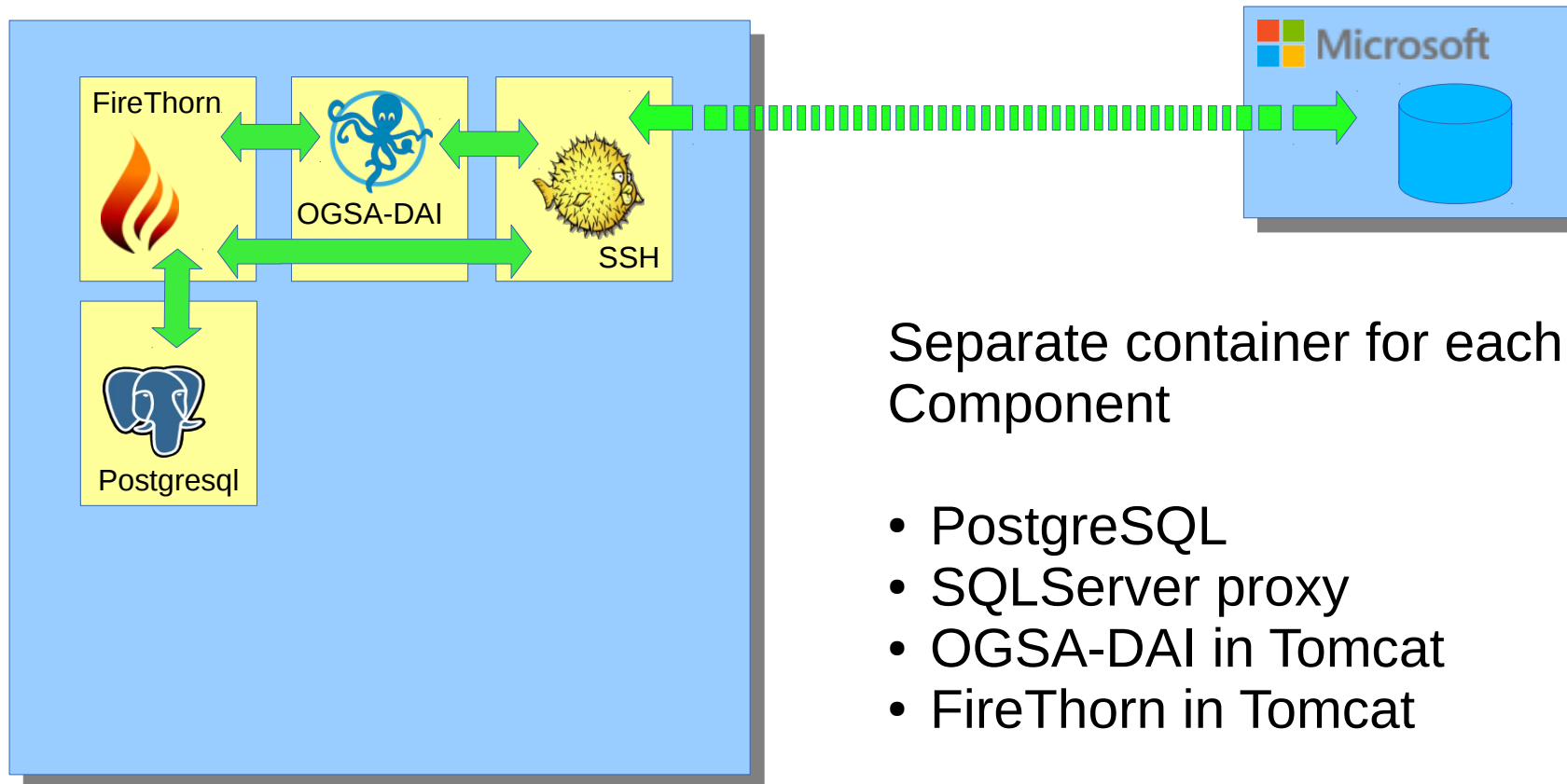


- Standard shape
- Standard connectors



Webapp – service deployment

Docker containers inside a virtual machine

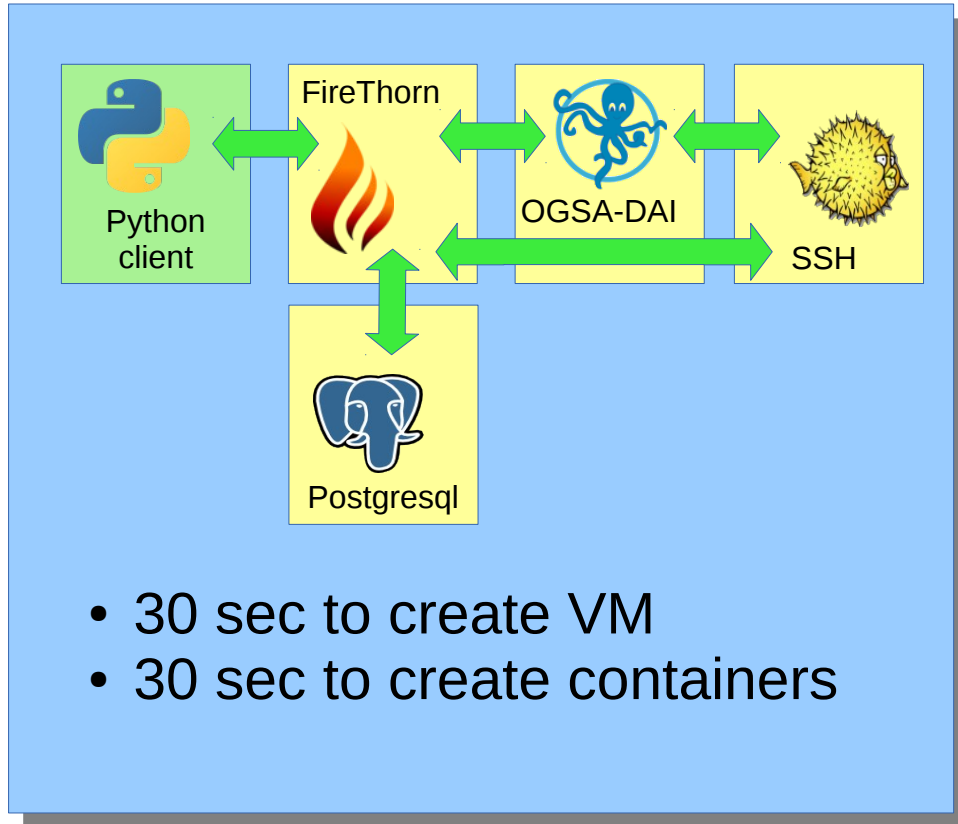


Separate container for each Component

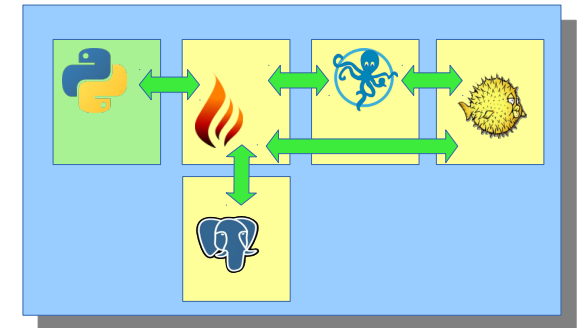
- PostgreSQL
- SQLServer proxy
- OGSA-DAI in Tomcat
- FireThorn in Tomcat

- Basic shell script to launch
- Not using Docker Compose (yet)

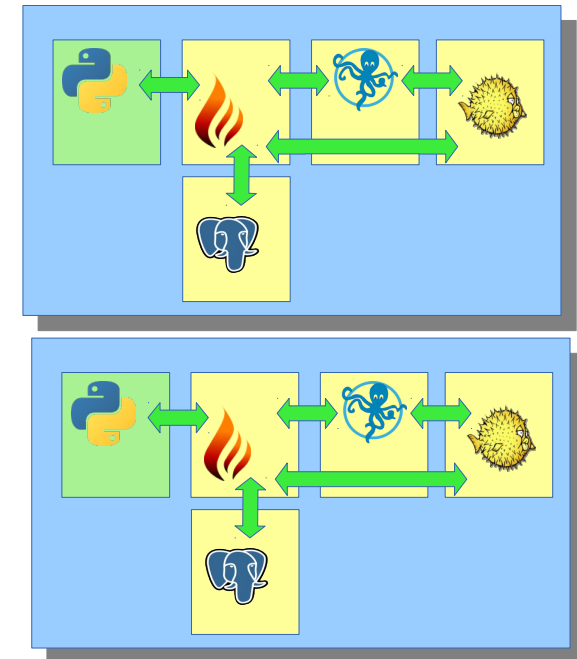
Reproducible testing (in testing)



Quick and easy developer testing

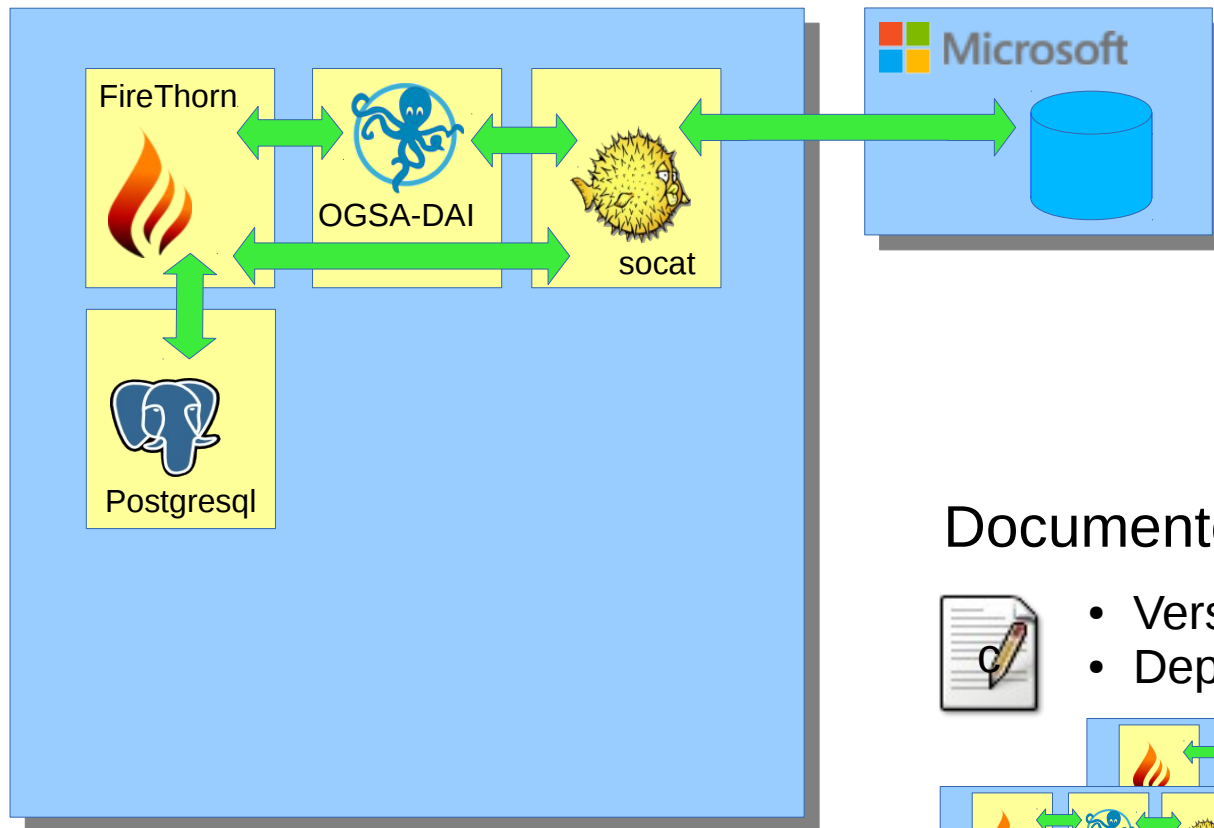


Long duration testing





Reproducible deployment (in development)



Documented configuration



- Version info
- Dependencies



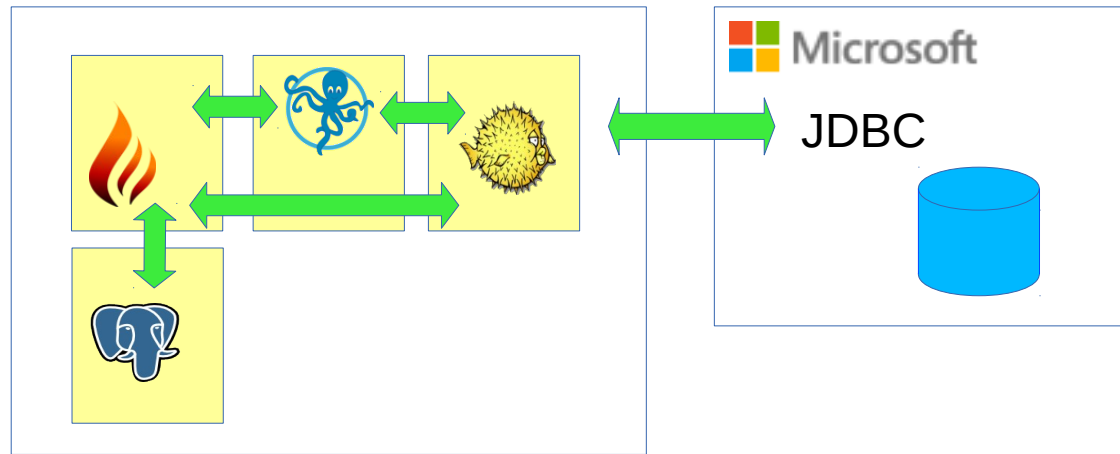
- Historical archive



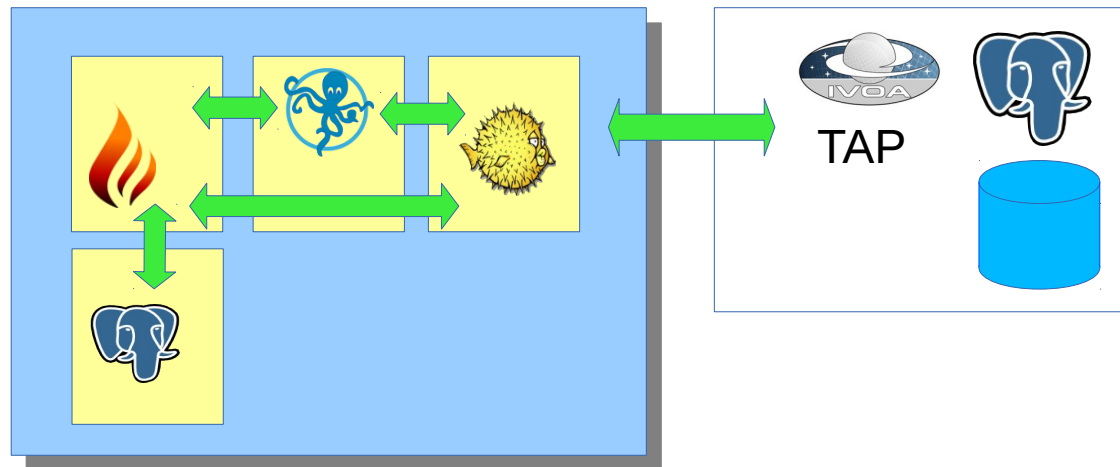
Two different deployment environments



'Bare metal'
deployment
in Edinburgh



Virtual machine
deployment
in Madrid





Maven - application deployment (in use)



Maven running in a container, deploying Java webapps into Tomcat containers



IvoaTex - application deployment (in use)



<https://github.com/ivoa/ivoatex>





Issues

Resource issues

Security issues

Tricks and tips

Ambassador – socat or ssh

Unix sockets – Docker, SSH and X

Normal user - notroot

