Buildbot

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ZenMate DevOps Day 3

Users

- Chromium
- Webkit
- Firefox
- Python

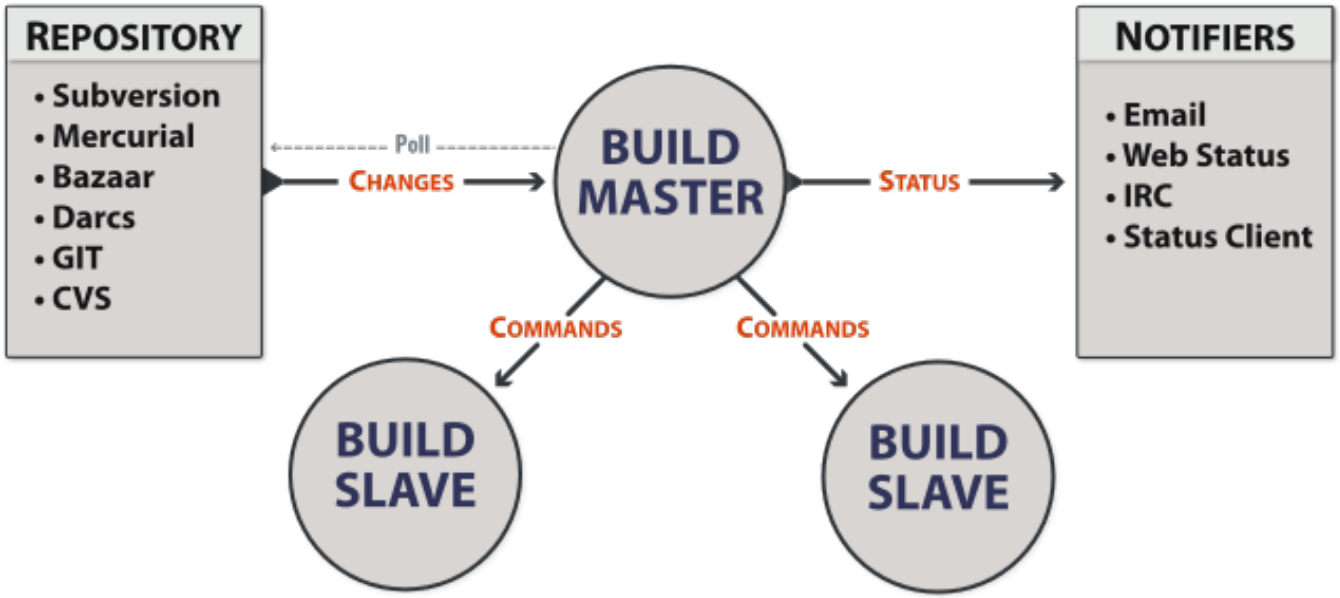
Outline

- Architecture
- Control Flow
- Installation
- Configuration

Architecture

- The Buildbot consists of a single buildmaster and one or more buildslaves, connected in a star topology
- The buildmaster makes all decisions about what, when, and how to build
- Slaves execute commands decided by the master

Architectural overview



Scale: Buildbot at Mozilla

- 40 masters
- thousands of slaves

Control Flow

- Developer pushes changes to a repository - Change Sources
- Buildmaster distributes changes to the slaves - Schedulers
- Slaves follow build steps - Builders
- Info such as build started, step started, build finished are displayed - Status Targets
- Other status targets are fired when the build ends. Email/slack notifications, deployments, . . .

Installation

- apt-get install buildbot buildbot-slave
- buildbot create-master -r /var/lib/buildbot
- buildslave create-slave -r /var/lib/buildbot/slaves BASEDIR MASTERHOST:PORT SLAVENAME PASSWORD
- buildbot start /var/lib/buildbot
- buildslave start /var/lib/buildbot/slaves

Configuration

- No web-based configuration
- One python script (master.cfg)

master.cfg: slaves and sources

```
c = {}
c['slaves'] = [
  BuildSlave("example-slave", "pass"), ... ]

c['change_source'] = [
  GitPoller("git@github.com:zenmate/zenops-api.git",
            branch="master", pollinterval=60), ...]
```

master.cfg: build factories

```
factory = BuildFactory()

factory.addStep(
    Git(repourl="github.com:zenmate/zenops-api.git",
        mode='incremental'))

factory.addStep(ShellCommand(command=["make", "test"]))
```

master.cfg: schedulers and builders

```
c['schedulers'] = [
  Periodic(name="periodic",
           builderNames=["zenops-api", "devicecache"],
           periodicBuildTimer=30),
  ...
]

c['builders'] = [
  BuilderConfig(name="zenops-api",
                slavenames=["example-slave"],
                factory=factory_zenops),
  ...
]
```

Conclusions

- Mature, FOSS systems for CI
- Very flexible
- Python-based configuration