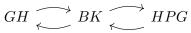
BuildKite: In My Daemon Node?

M. Cuffaro



Problem:



Problem

Our builds take a long time!

i But...

We have access to a HPC

- Solution: Buildkite!
 - CI/CD service trusted by CLiMA lab.
 - BK can watch our github repositories for changes.
 - When triggered, BK can execute scripts (such as SLURM)

How does BuildKite work?

i Gist

sources send POST requests to **agents** which execute **pipelines** consisting of **steps**.

source
$$\xrightarrow{\text{POST}}$$
 agent $\xrightarrow{\text{kicks off}}$ pipeline pipeline defined in repo/.buildkite/pipeline.yml

i How does the source know where to POST?

The repo's **webhook** specifies *where* to send the payload. The webhook is a function of the agent

Problem: How does BK mediate GH and HPG?

Daemons



Figure 1: Daemon

- ▶ Daemons are continuous background processes.
- HPC tolerates daemons with small footprints.
- ▶ We will host BuildKite agent as a daemon on this node

Architecture

1. Set-up: Agent

An agent is installed on the daemon node and started. It lies dormant...

2. Set-up: Install BuildKite onto Github

- ▶ The Github application allows repos to configure webhooks.
- During any of the subscribed events, Github sends a POST request to payload URL
- ▶ The daemon exposes an API to Github, waiting f

3. Set-up: Create Pipeline

Specify repository

4. Set-up: Webhook Manually

Go to pipeline dashboard > set up webhook



Pipelines are workflows executed by agents. They are specified

Repo

The agent receives the POST request and executes its steps:

steps:

- label: ":pipeline: Pipeline upload"
- command: buildkite-agent pipeline upload

This looks at the .buildkite folder.

steps:

```
- label: ":sunrise: wake up!"
command: echo "the sky is awake, so I'm awake, so we ha
```