Versioning Vagrant in Atlas

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Introducing Vagrant

- Vagrant is used to virtualize server environments
  - Hypervisors host the virtualized servers
    - Vagrant is **not** a hypervisor
    - Several hypervisors are supported:
      - VirtualBox
      - VMWare
  - Server state is managed as Virtual Machine (VM) Images
    - Images for Vagrant are termed **Boxes**
- Server environments can be provisioned
  - System packages and services are automatically installed
  - Provisioning can be complex or simple
    - BASH scripting
    - Ansible
    - Puppet
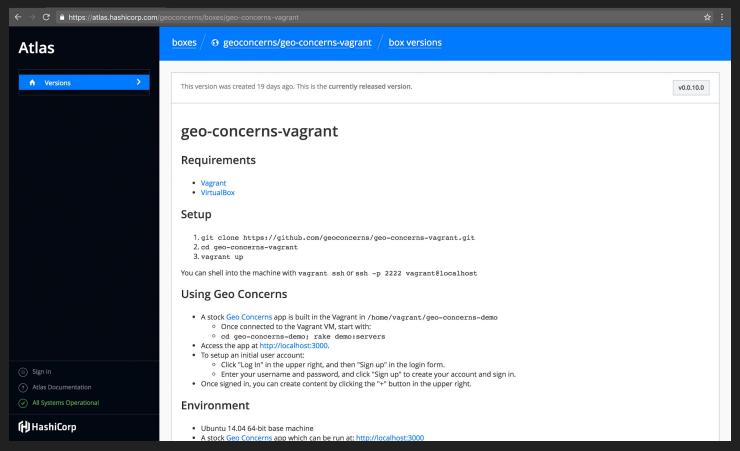
VAGRANT

Infrastructure at Lafayette College

- We do not use Vagrant
  - We use VM's provisioned using the Red Hat Enterprise Virtualization Suite
- Reproducing environments is costly
  - Requires consistency in server environments
- `fcrepo_wrapper` and `solr_wrapper`
  - Superb for development
  - Limited utility for performance testing
  - Not recommended for production releases of complex Hydra Heads

Infrastructure using Vagrant

- Vagrant Boxes for GeoConcerns
  - Boxes were restructured in the most recent GeoConcern sprint
  - Boxes needed to support new releases of the `geo_concerns` Gem
  - **This bound releases of the Gem to releases of Boxes**
- Vagrant Development at Lafayette College
  - Provisioning and testing Boxes is underway
    - Support for Puppet in provisioning has been successful
  - But we still required that Boxes be rebuilt between testing iterations

Atlas

- Atlas is a Box storage service
  - Vagrant can download "released" Boxes from Atlas
  - These Boxes are built and versioned
- Boxes can be shared
  - This is nearly universal to Vagrant projects
- A Box on Atlas can serve as a Base Box
  - The Base Box provides the initial environment
  - Steps in the build process can be decoupled

https://atlas.hashicorp.com/geoconcerns/boxes/geo-concerns-vagrant

Atlas Beyond Vagrant

- Docker
  - Docker is a popular alternative to virtualizing an entire machine
  - Vagrant can deploy Docker Containers "inside of a Box"
    - This can reduce the Vagrant Box to a Docker host
    - GeoConcerns currently uses this approach

Atlas Beyond Vagrant

- Packer
    - Vagrant is used frequently for development environments in projects
    - Packer is an alternative to Vagrant optimized for Base Boxes (e. g. minimal installs of Ubuntu)
    - Can build using an ISO for an operating system
    - Like Vagrant, exports Boxes to Atlas

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Thank You for Your Attention