

Common Challenges in DevOps Change Management

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Best practices themselves are subjective.

Chef is flexible and you can make it do what you want.

Enable reconstruction of the business from nothing but a source code repository, application data backup and bare metal resources.

Code is tracked with version control.

Everything we do is in code.

Everything is checked into version control.

Very simply, the Chef Repository is a version controlled directory that contains cookbooks and other components relevant to Chef.

It contains Infrastructure as Code.



Spiceweasel is a tool for generating knife commands to build infrastructure from a simple YAML or JSON file.

- Documents all dependencies
- Preserves ordering of deploys
- Not an official Chef tool
- <http://bit.ly/spcws1>

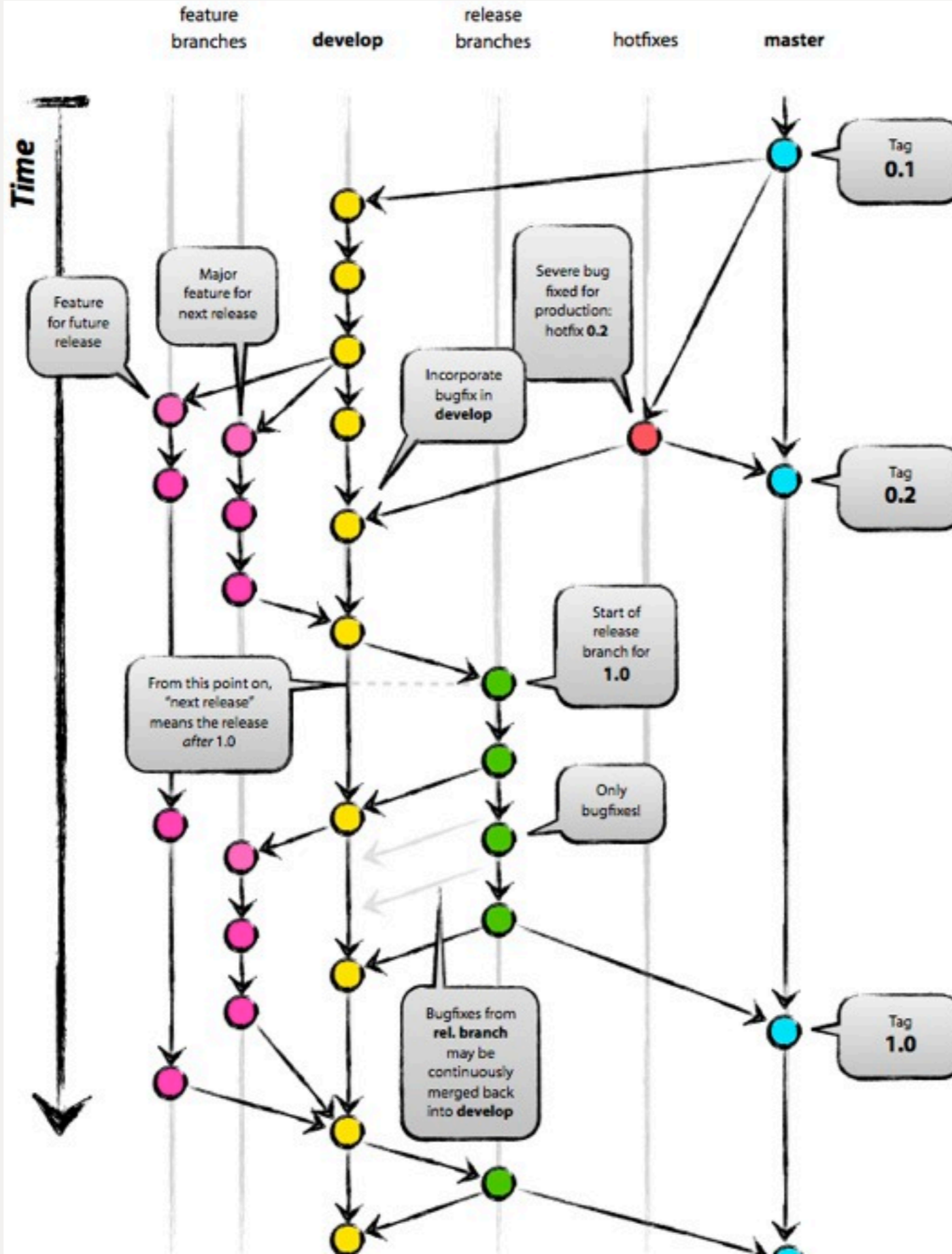
```
cookbooks:
- apache2:
  - 0.99.4
- apt:
  - 1.1.2
- mysql:
  - 1.0.5
- glance:
- nova:
- openssl:
  - 1.0.0
- rabbitmq:
  - 1.2.1
data bags:
- openstack:
  - glance
  - nova
roles:
- glance-single-machine:
- nova-multi-compute:
- nova-multi-controller:
nodes:
- controller:
  - role[nova-multi-controller]
  - -i ~/.ssh/mray.pem -x user --sudo -d ubuntu10.04-gems
- compute:
  - role[nova-multi-compute]
  - -i ~/.ssh/mray.pem -x user --sudo -d ubuntu10.04-gems
```

Decentralized Development

Vendor Branching

Parallel Deployments

Stable Releases with Hotfixes



Learn by doing.
It's hard to fake.
Lean into it.

Modifying configuration machines by hand is "doing it wrong".

- Not tracked in version control.
- If it's a Chef-managed Resource, it will get undone.

Do not configure individual nodes, use Roles.

- Nodes are ephemeral, they may not always exist.
- Nodes aren't stored in version control, Roles are.

Do not delete or remove Resources, start from scratch.

- **Reusing nodes is asking for trouble, since you don't know previous state.**
- **Reprovisioning servers is cheap.**

Do not use hard-coded IPs or hostnames, use search.

- Nodes are ephemeral, they may not always exist.
- Leverage the search capabilities of Chef.

Golden images are an anti-pattern.

- Tracking contents of images before they are managed is unnecessary effort.
- Start every node from a known minimal state.
- Caching is your friend.

Environments are how we manage versioned infrastructures with Chef. Different infrastructures such as production, staging, development, and testing managed from one Chef repository.

Control the flow of Cookbooks

- Development->QA->Production
- Freeze from change
- RBAC restrict who can deploy where

Role runlists tied to Environments

Environment attributes to override settings

The Chef Community is very friendly, don't be afraid to ask for help!

- IRC (200+ people)
- Mailing lists are active.
- Lots of GitHub activities.

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