Introduction to Cloud Provisioning with Terraform

Introductions

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A better way?

- Terraform released in July 2014
- Built to make provisioning infrastructure declarable and flexible
  - a universal workflow
  - strong ecosystem of supported integrations
- YAML and JSON… are often frustrating
  - HCL introduced

Terminology: a crash course

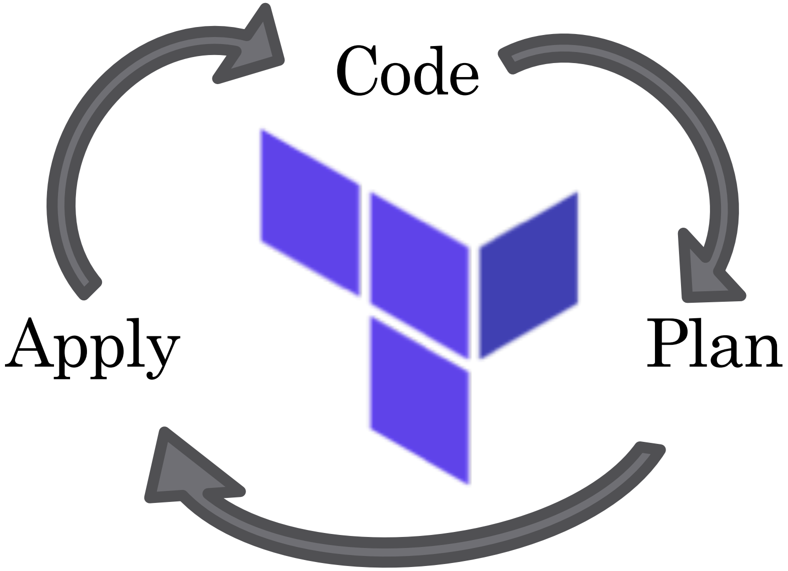
- *Providers* offer technology integrations and functionality
  - largely by wrapping third-party APIs

- *Resources* and *Data Sources* are made available via a *Provider* and are the building blocks used to codify and manage our infrastructure
  - made reusable via *Modules*

- Terraform has *State* which is at the heart of it’s declarative nature and ability to manage the lifecycle of resources under it’s control

- Terraform *Variables* serve as parameters to resources or modules
  - can be set at runtime, determined by a data source, or be configured on a per-environment basis to help keep code reusable and flexible

Terraform Workflow



Code

Plan

Apply

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Scenario

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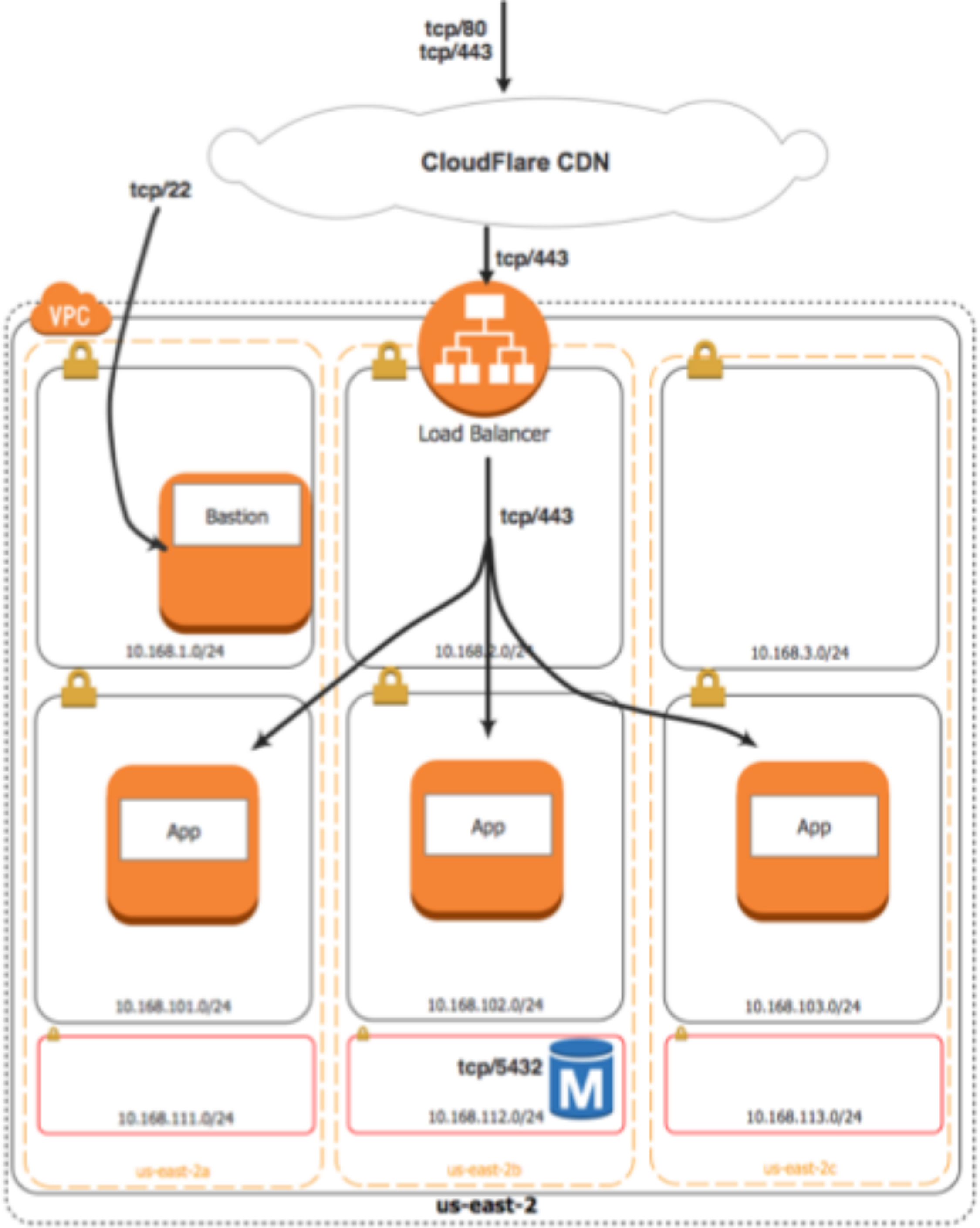
tcp/80
tcp/443
CloudFlare CDN
tcp/22
tcp/443
VPC
Load Balancer
tcp/443
Bastion
10.168.1.0/24
10.168.2.0/24
10.168.3.0/24
App
App
App
10.168.101.0/24
10.168.102.0/24
10.168.103.0/24
tcp/5432
M
10.168.111.0/24
10.168.112.0/24
10.168.113.0/24
us-east-2a
us-east-2b
us-east-2c
us-east-2

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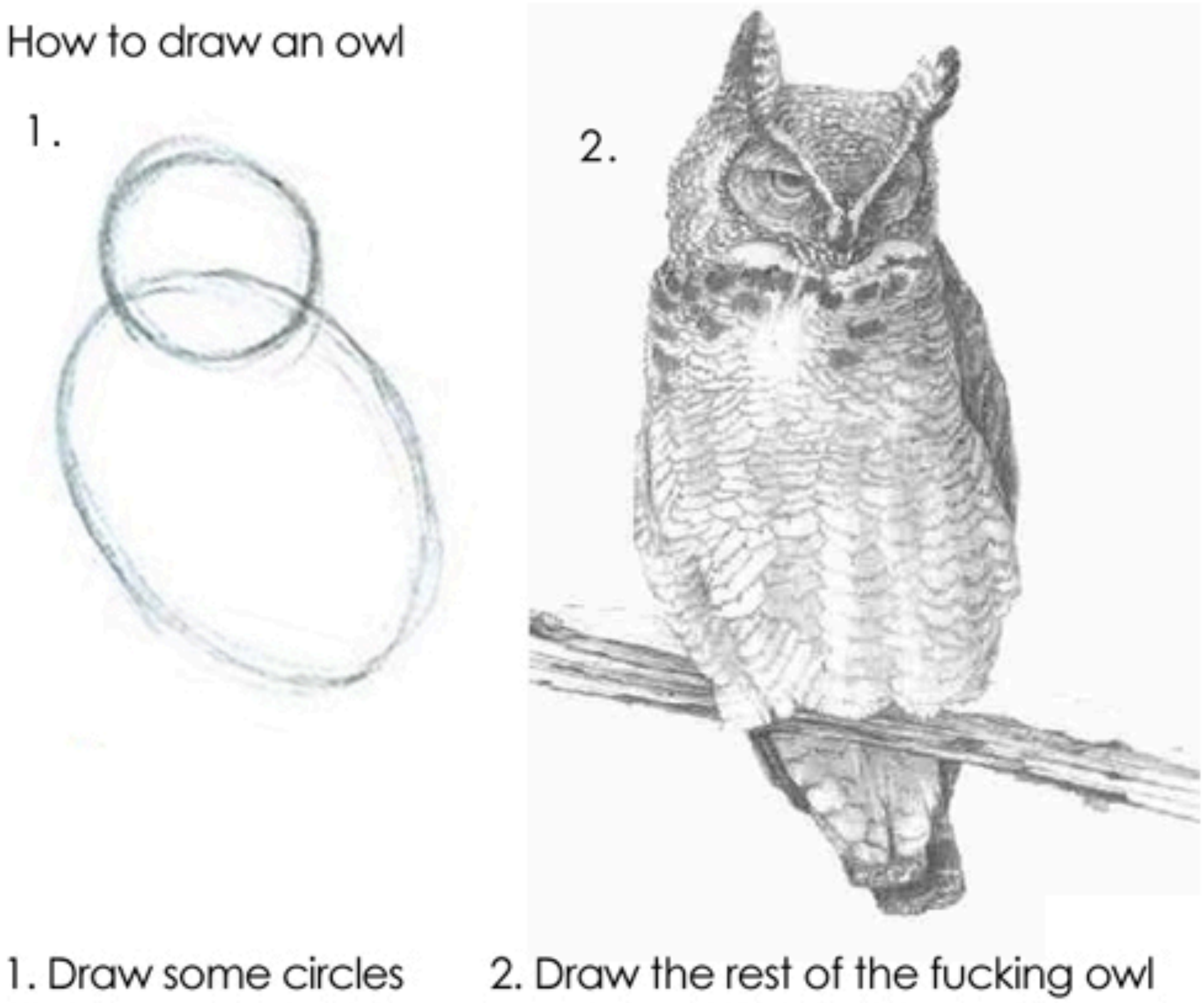
Okayokay… but

How?


How to draw an owl
1.
2.
1. Draw some circles
2. Draw the rest of the fucking owl

Milestone 1

Flag on the Moon

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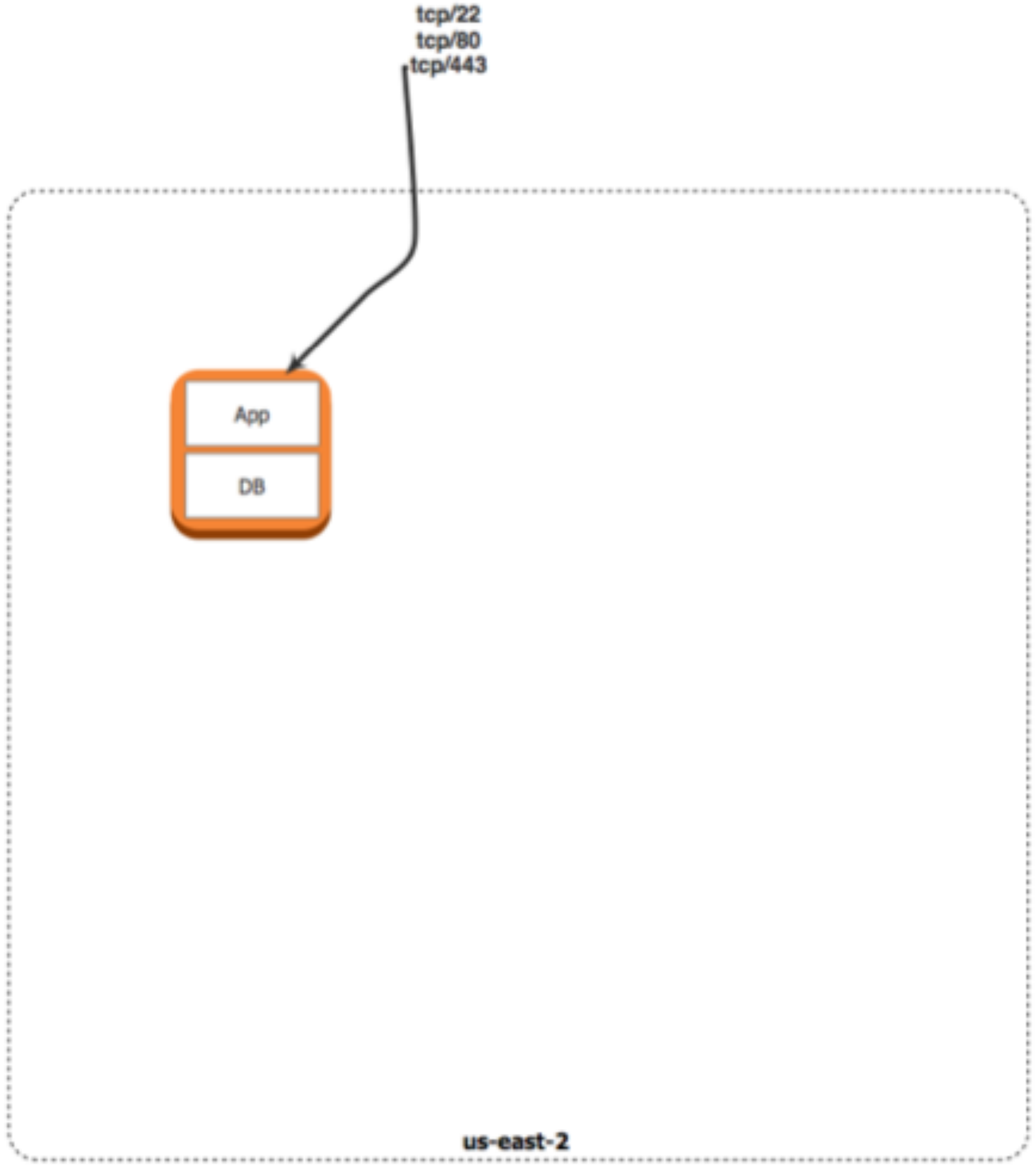

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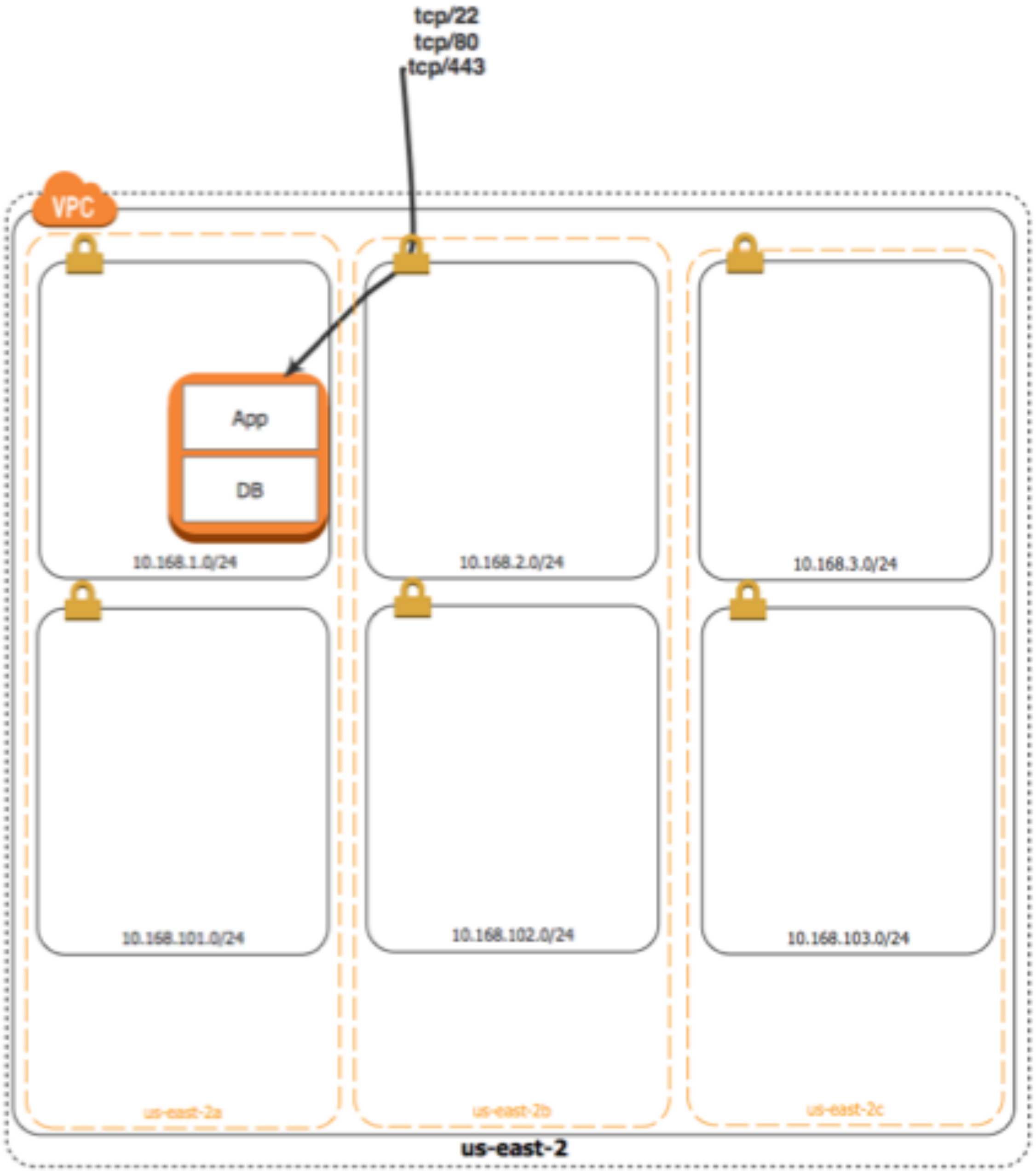
Milestone 2

VPCs with a little help from our friends?


tcp/22
tcp/80
tcp/443
VPC
App
DB
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10.168.101.0/24
10.168.102.0/24
10.168.103.0/24
us-east-2a
us-east-2b
us-east-2c
us-east-2

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Milestone 3

Scalin’ up, and scalin’ out

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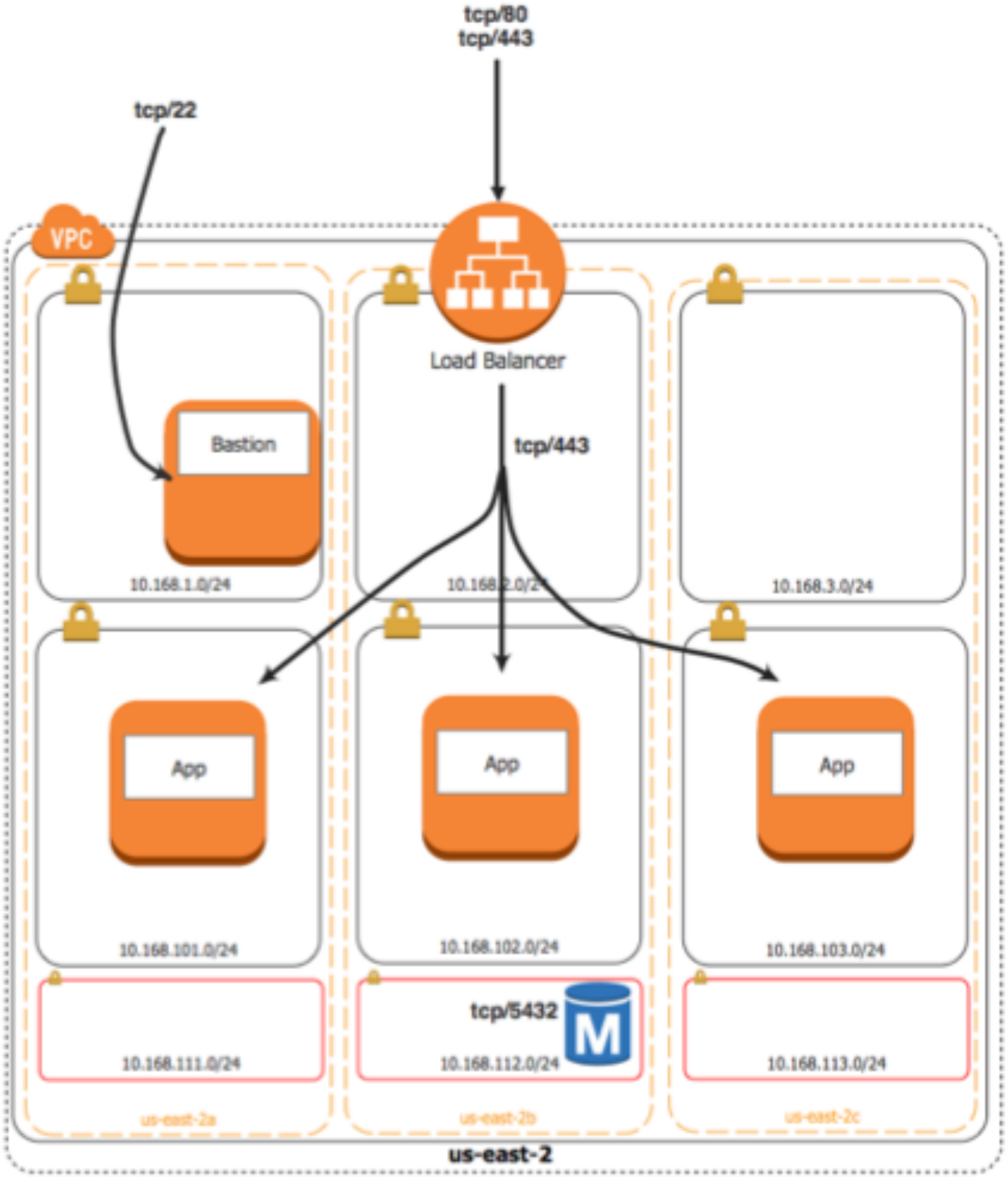
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us-east-2a
us-east-2b
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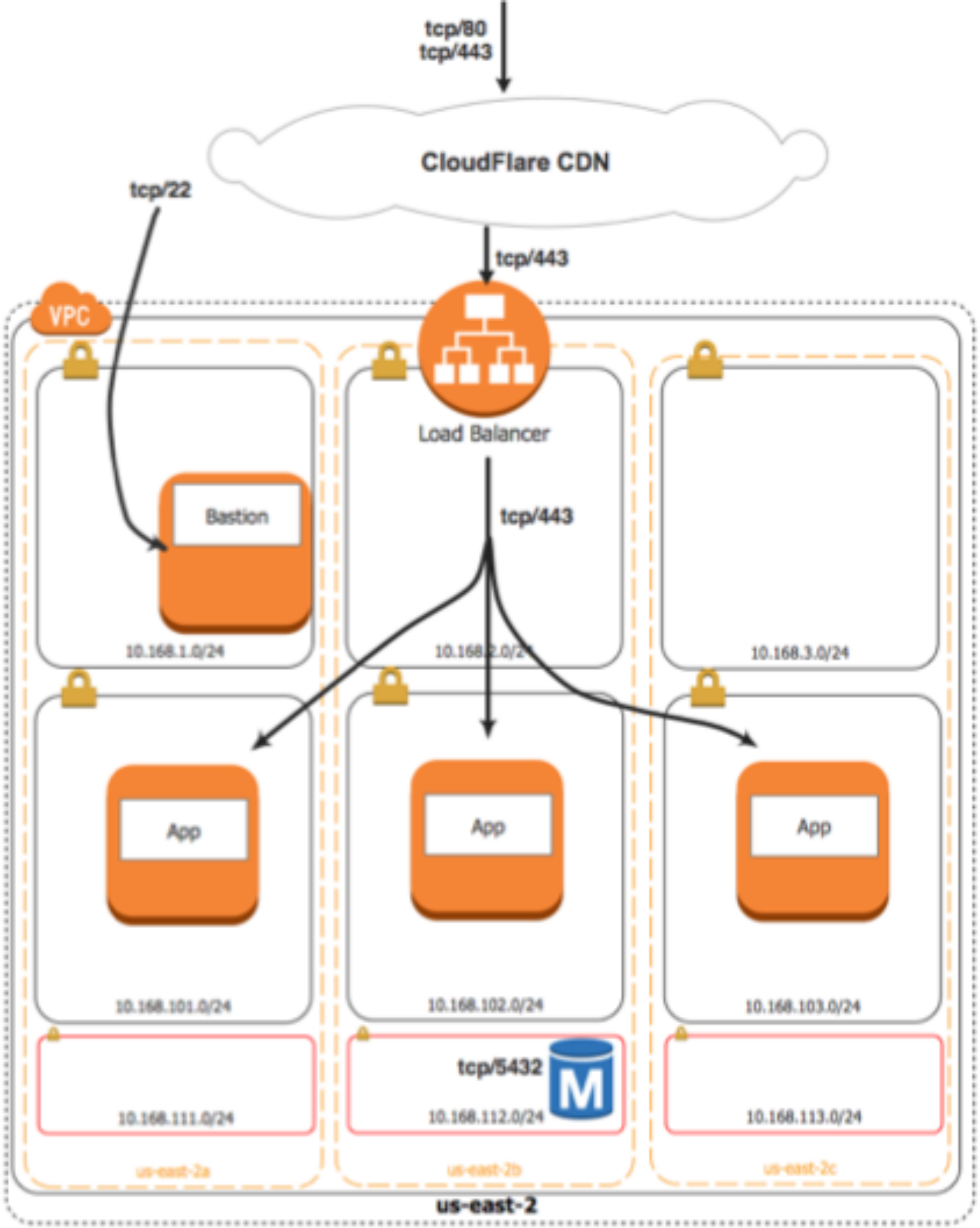
Milestone 4

#goals?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us-east-2

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Next steps

- Browse the documentation for the AWS Provider
  - Or for your cloud platform of choice
- Read up on Remote State management
  - Essential for working in team!
- Browse the Public Module Registry at registry.terraform.io
  - Many modules serve as a great starting place for your own code
- Try writing your own “app” module
- Have fun!

Questions?

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https://github.com/jharley/terraform-intro

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