

Continuous Deployment using Ansible



Justin Menga

FULL STACK TECHNOLOGIST

@jmenga pseudo.co.de

Introduction

Continuous Deployment using Ansible

- Todobackend CloudFormation Template
- Ansible Deployment Playbook
- Continuously Deploying to AWS

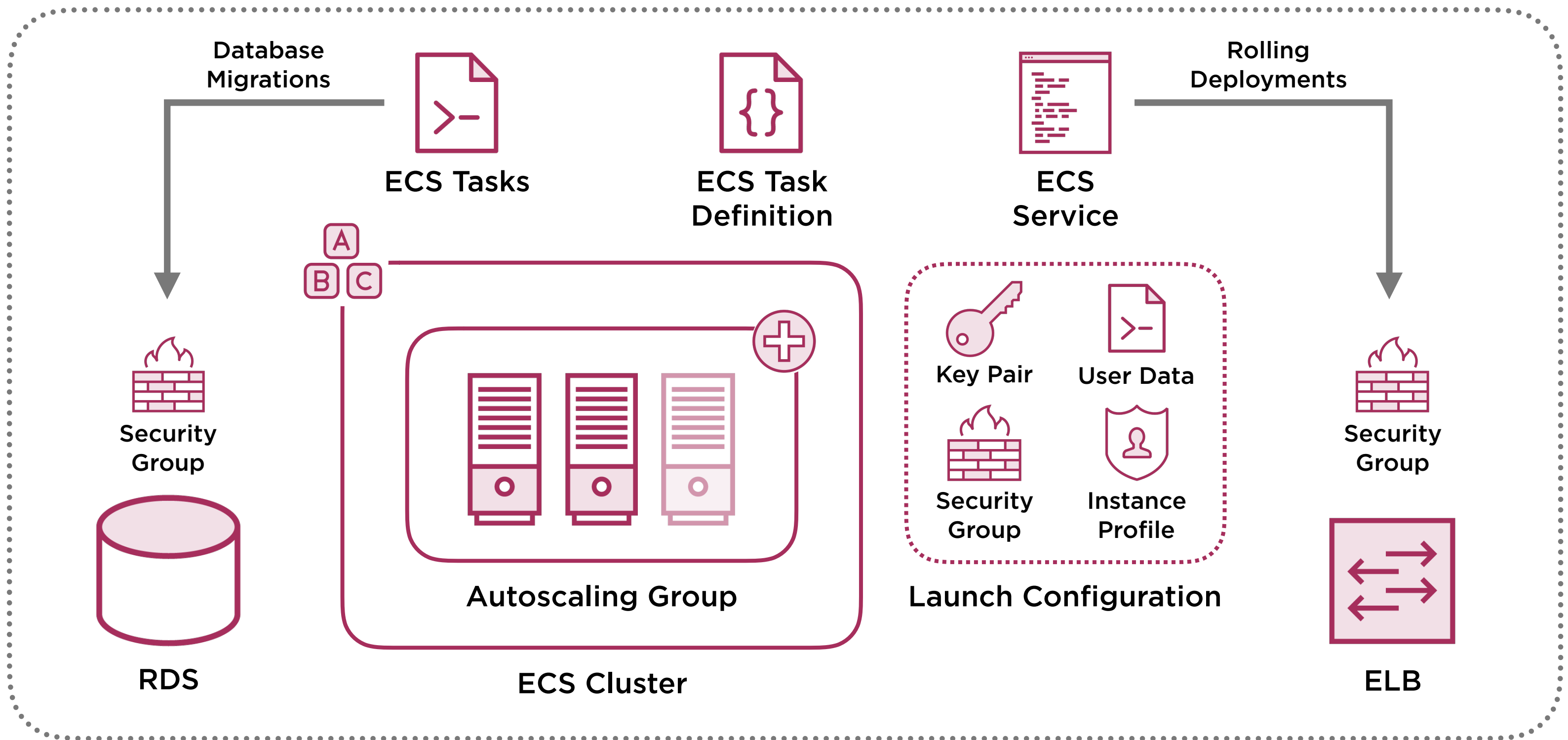
Demo

Creating the Application Stack

- Stack Design
- Configuring Autoscaling
- Configuring RDS
- Configuring the Elastic Load Balancer
- Configuring the EC2 Container Service

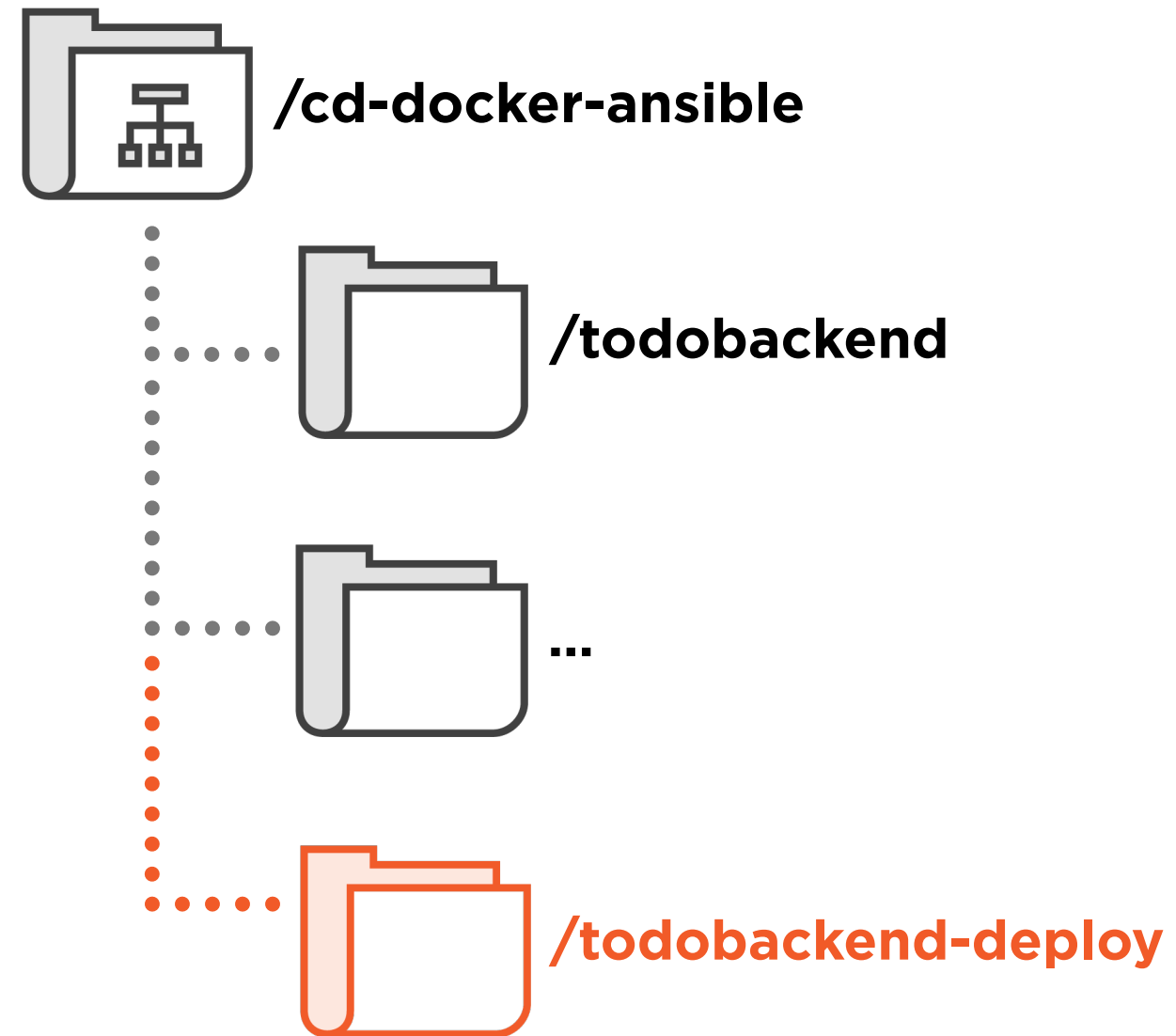
Stack Design

Todobackend Application Stack



Configuring Autoscaling

Course Folder Structure



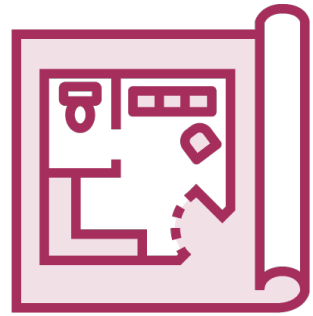
Configuring RDS

Configuring the Elastic Load Balancer

Configuring the EC2 Container Service

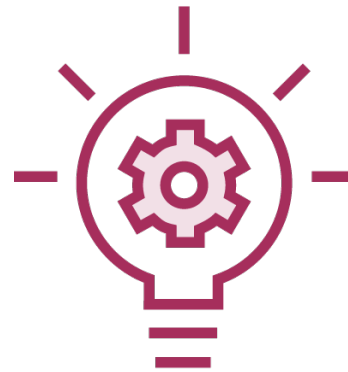
Todobackend Stack Creation

CloudFormation Stack



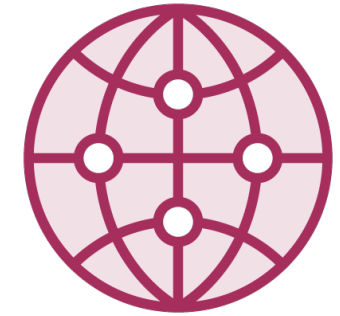
1. Create Stack

EC2 Container Tasks



2. Run Database Migrations
3. Collect Static Files

EC2 Container Service



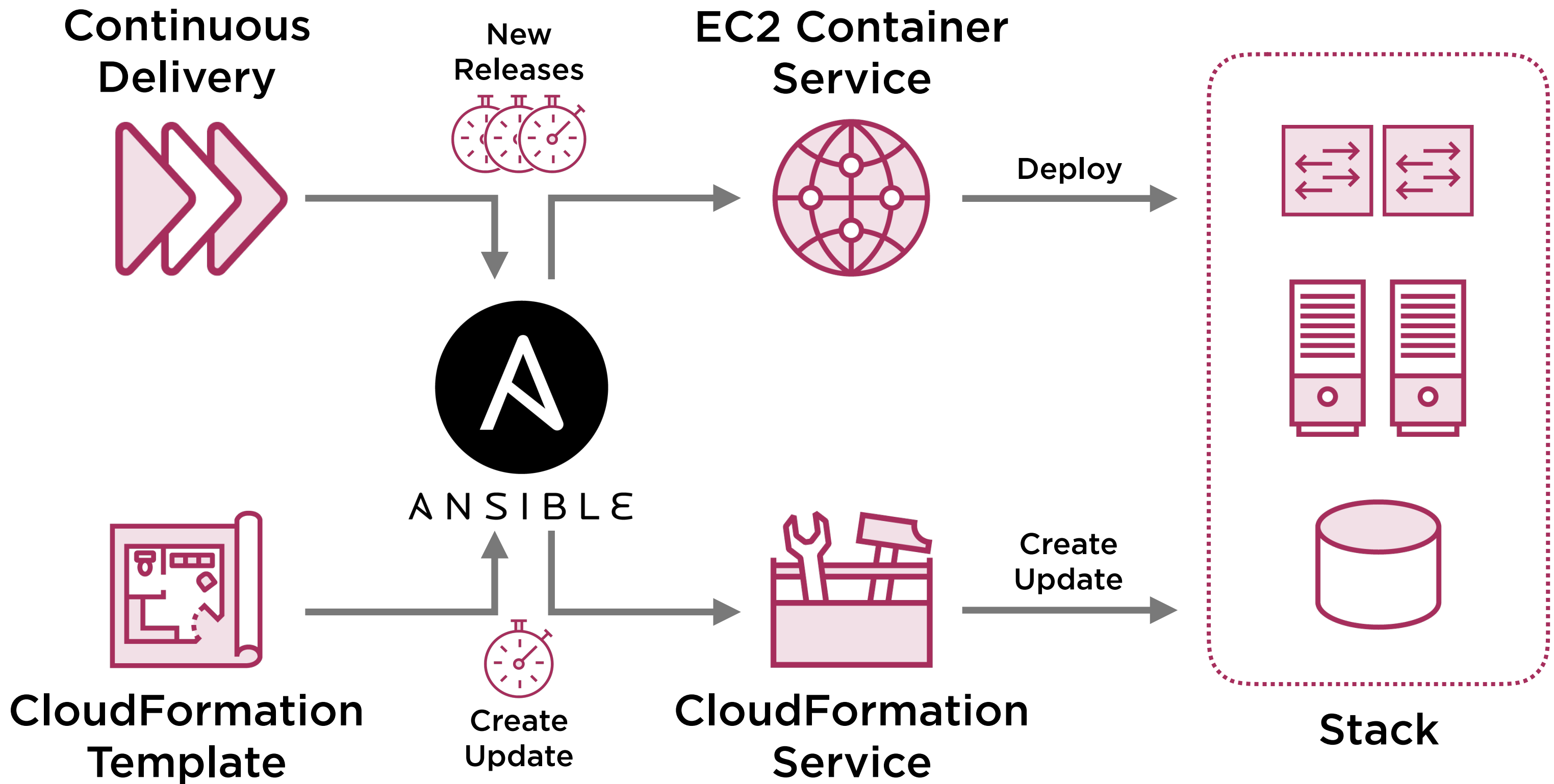
4. Start Application

Demo

Creating an Ansible Deployment Playbook

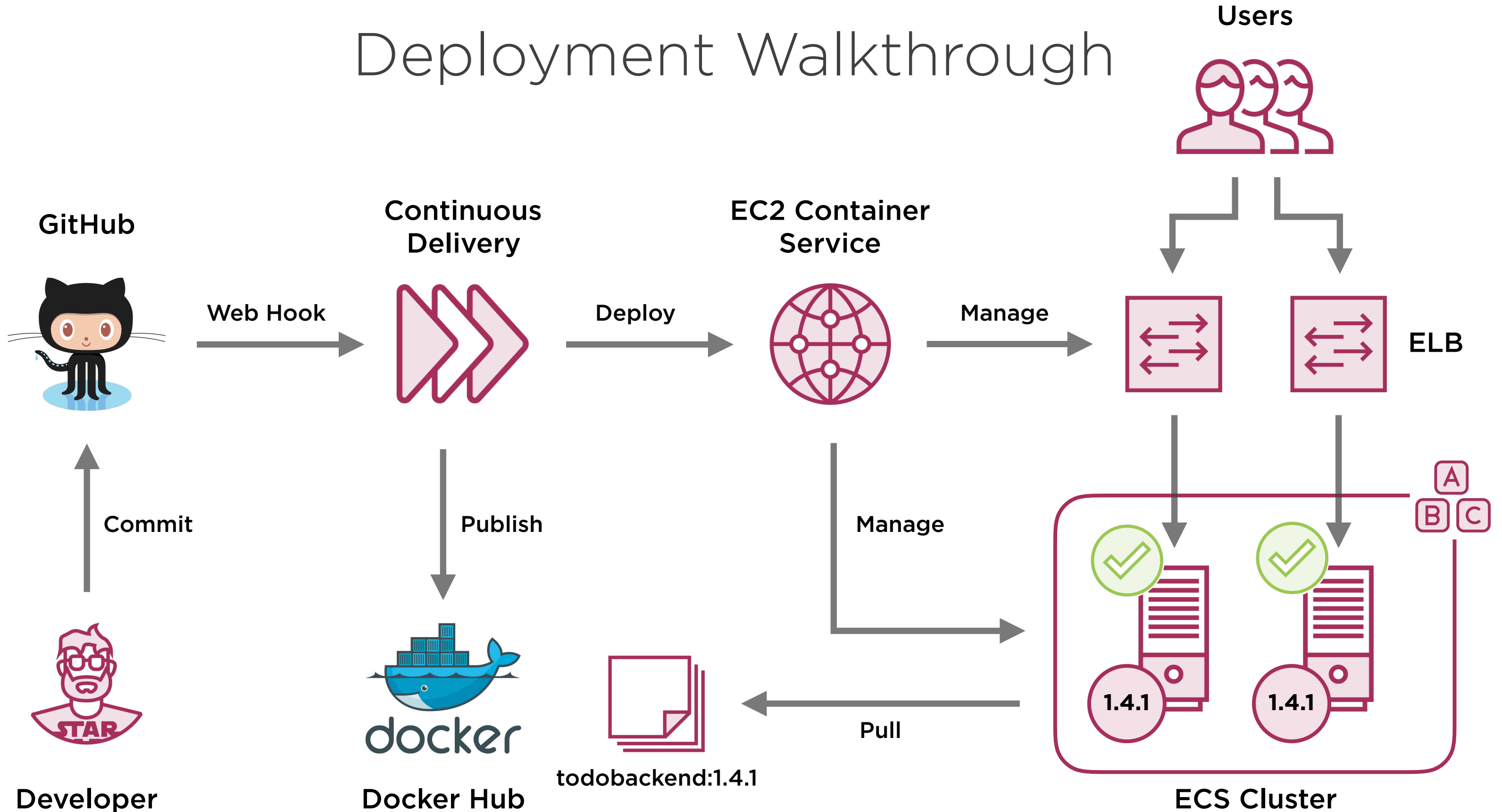
- Deployment Overview
- Configuring Access to AWS
- Creating the Playbook
- Testing the Playbook

Deployment Strategy

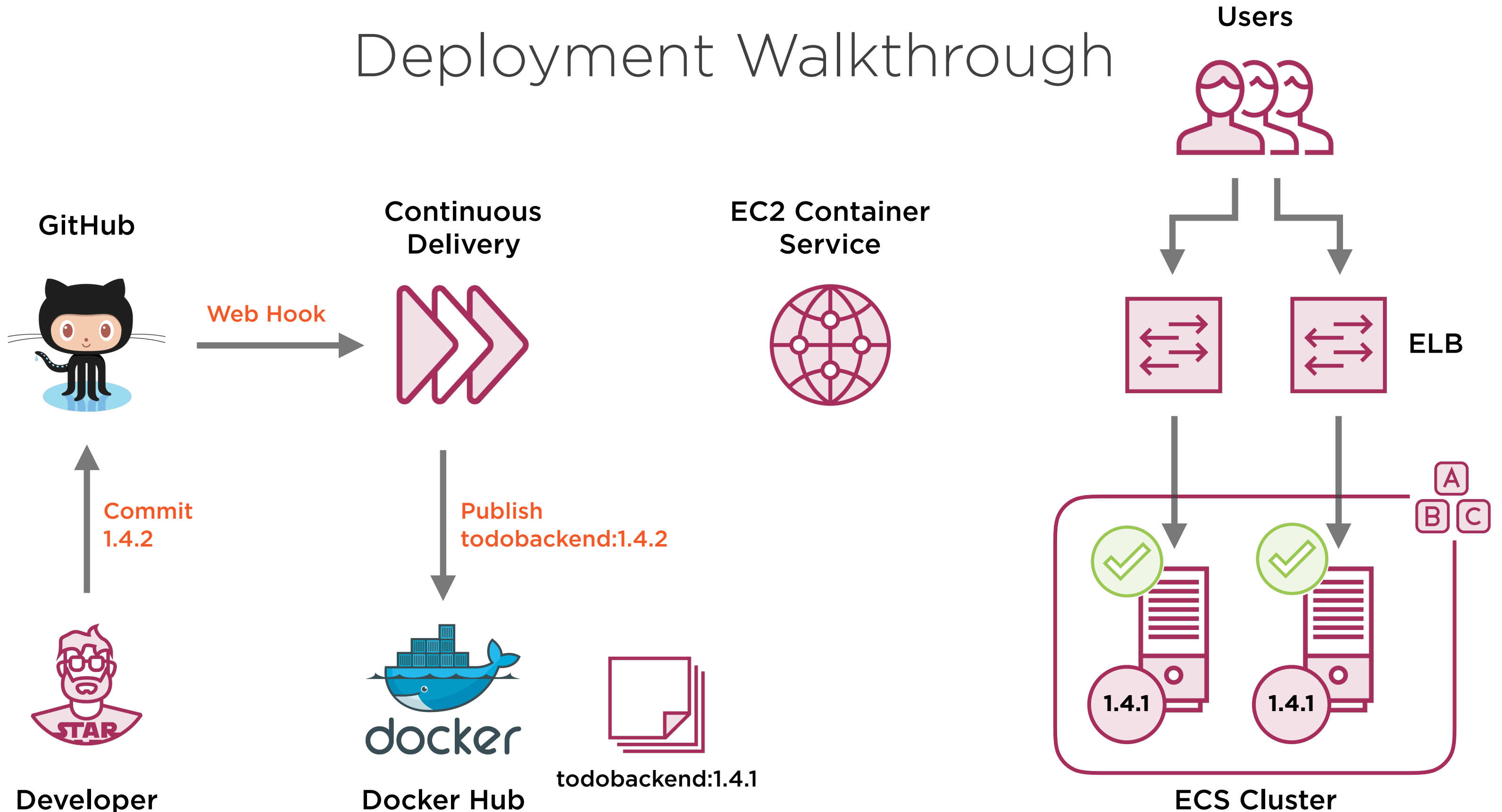


Deployment Walkthrough

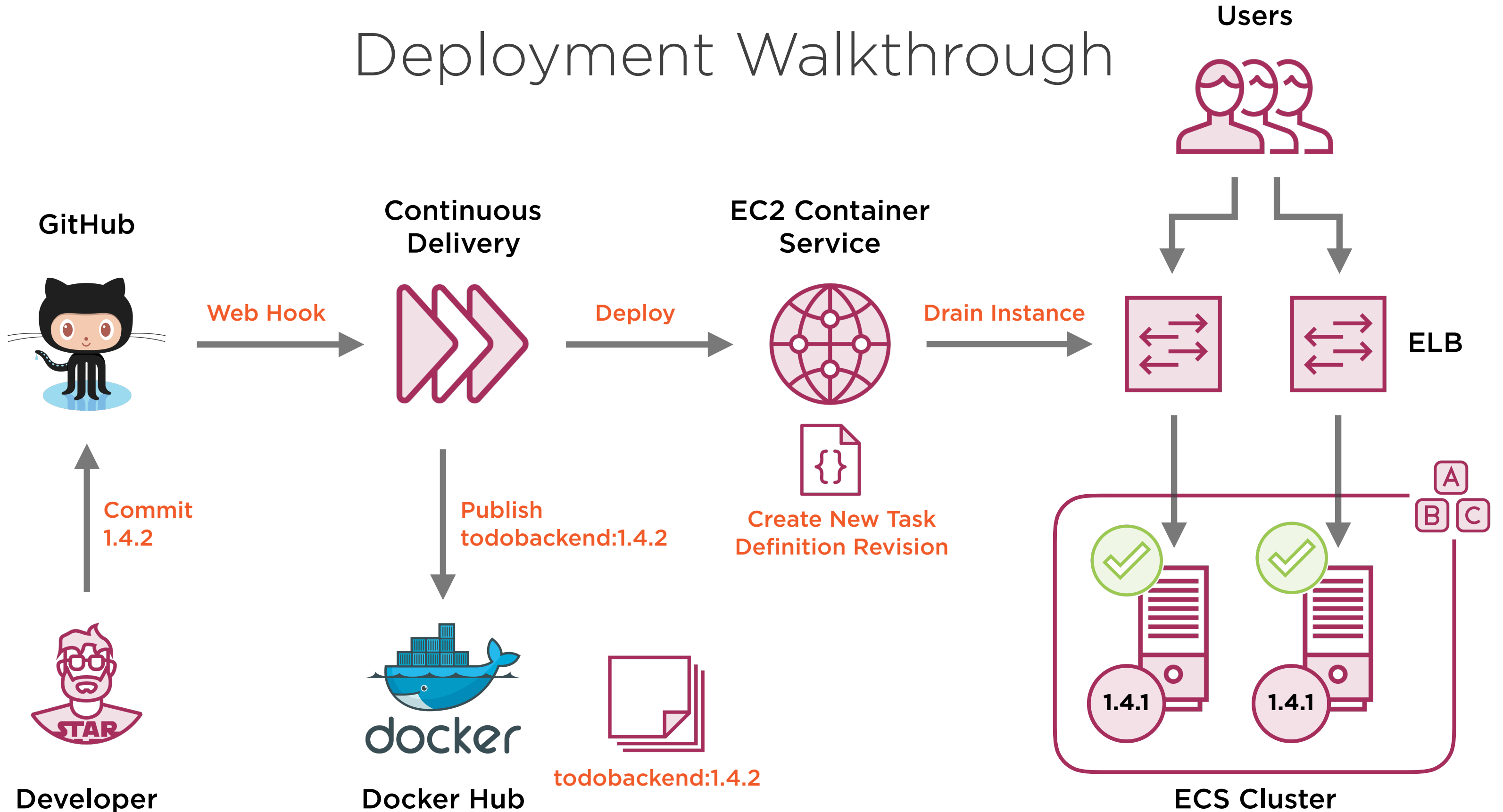
Deployment Walkthrough



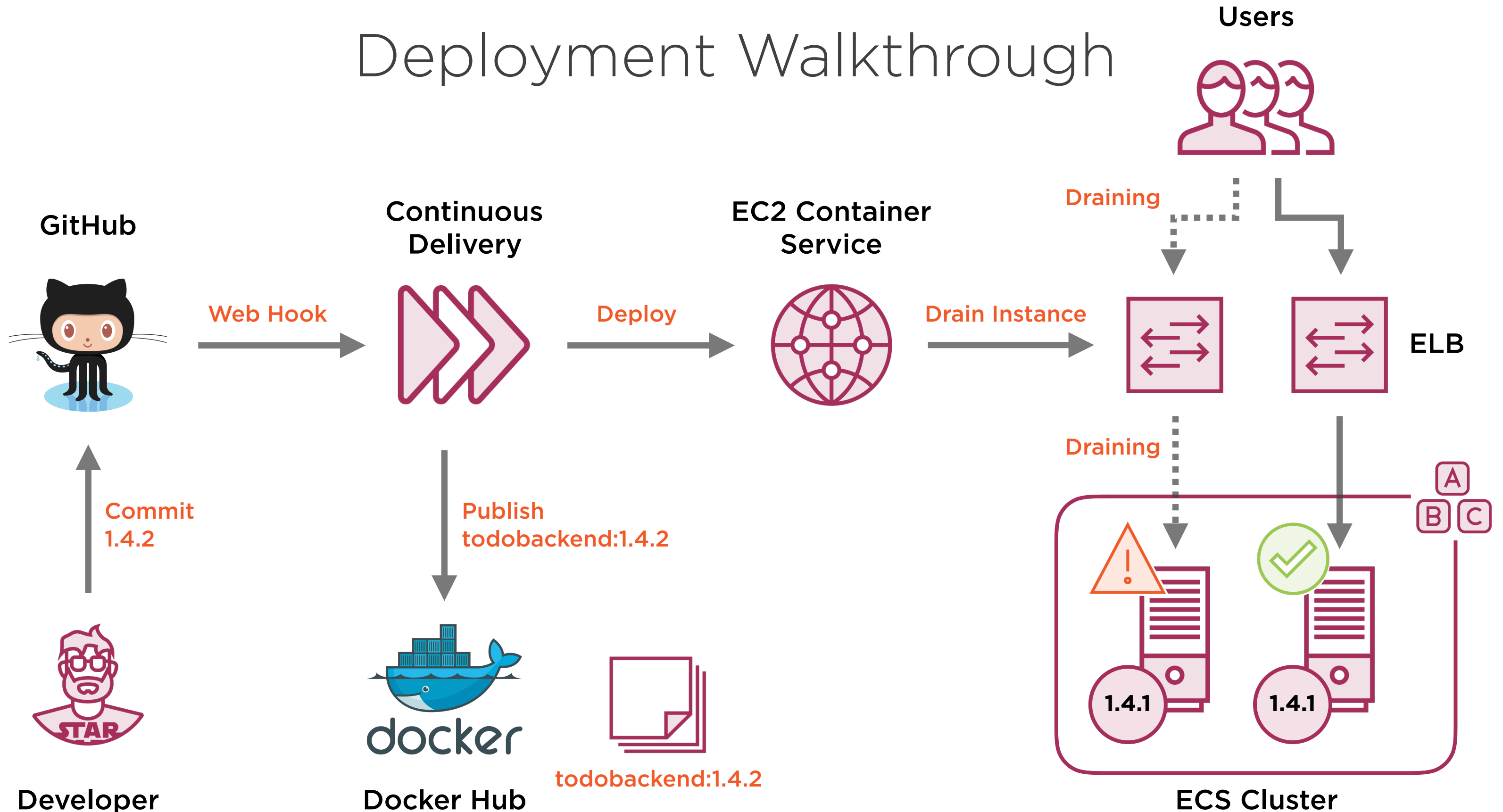
Deployment Walkthrough



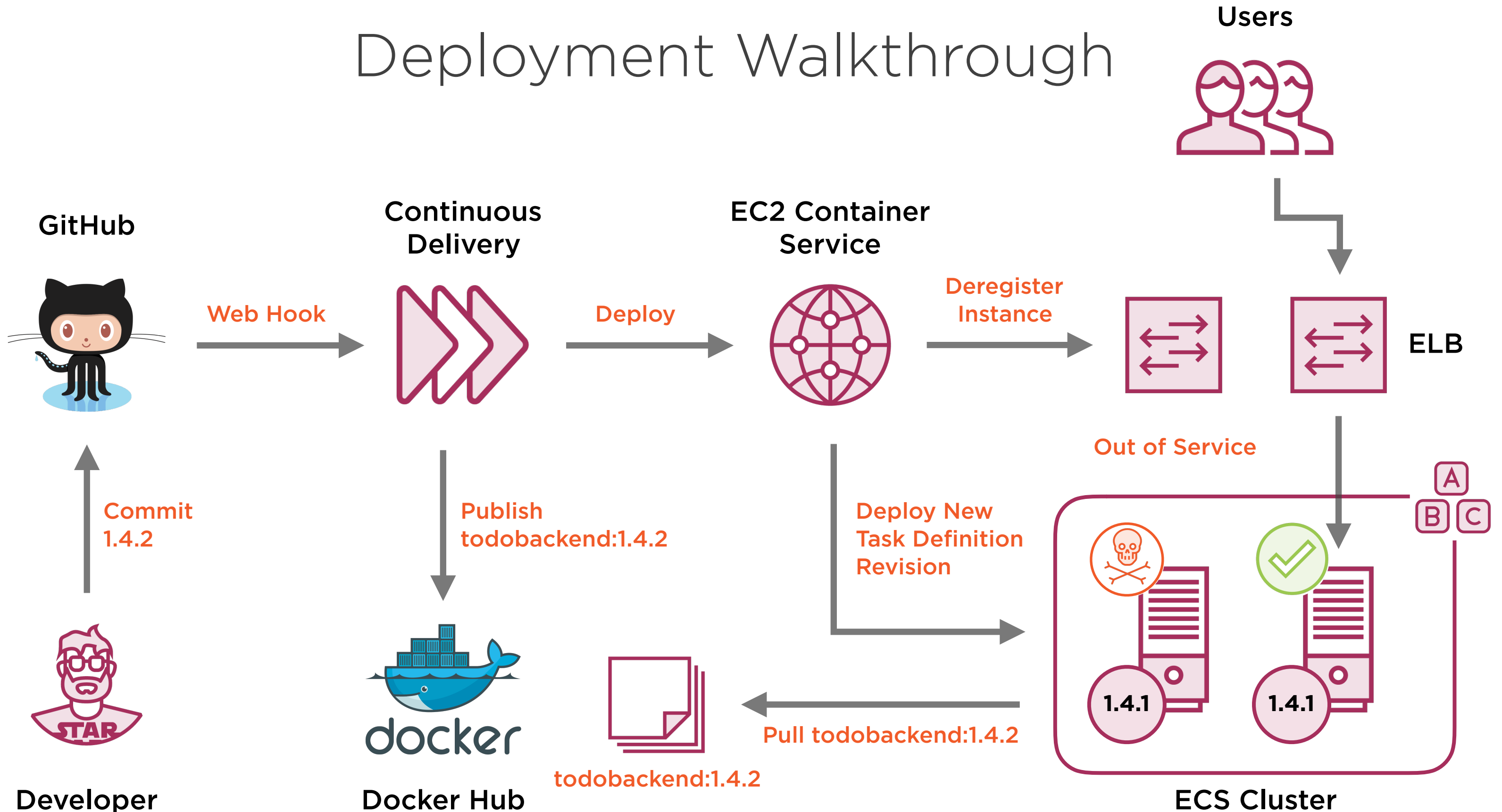
Deployment Walkthrough



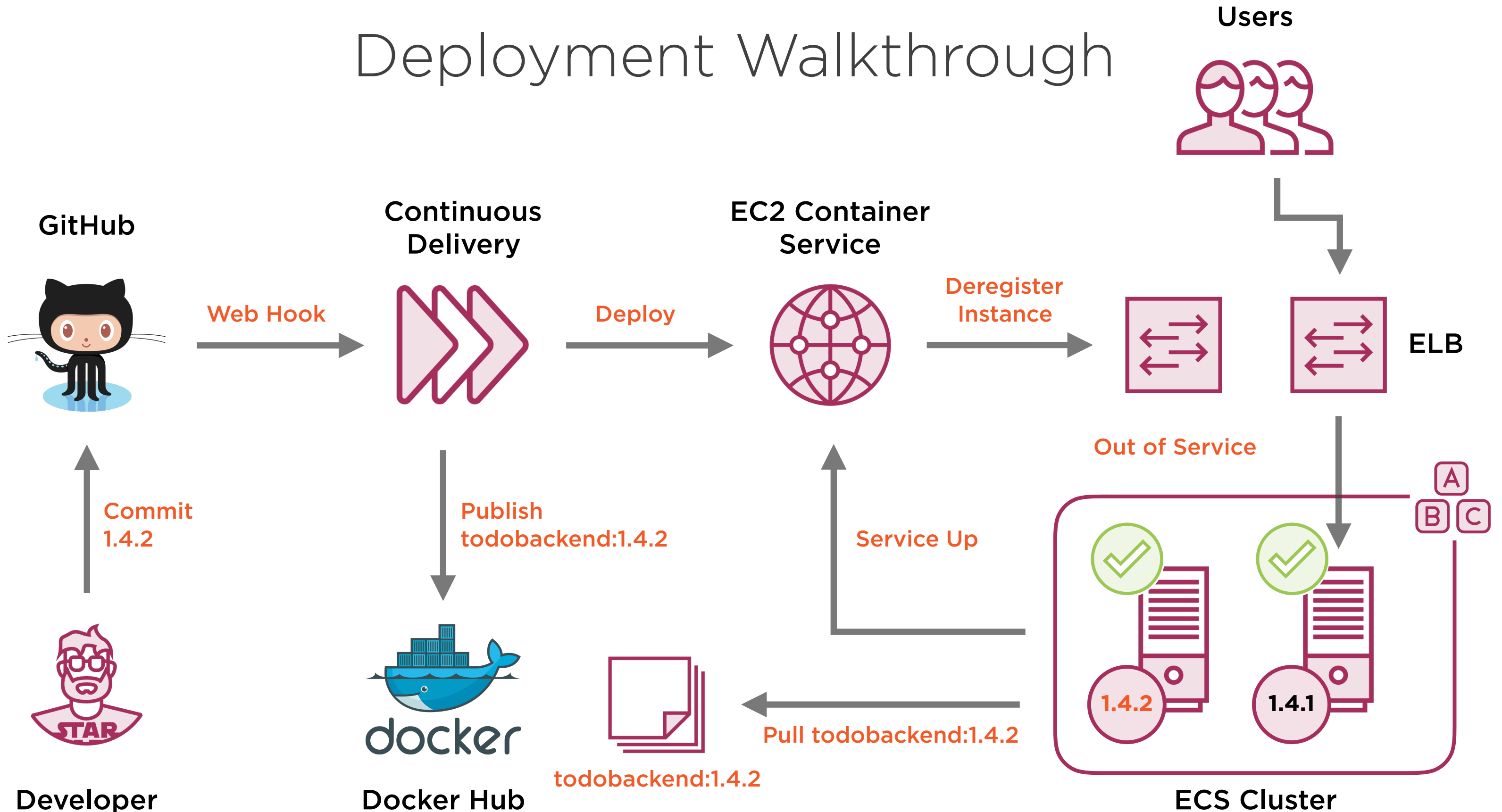
Deployment Walkthrough



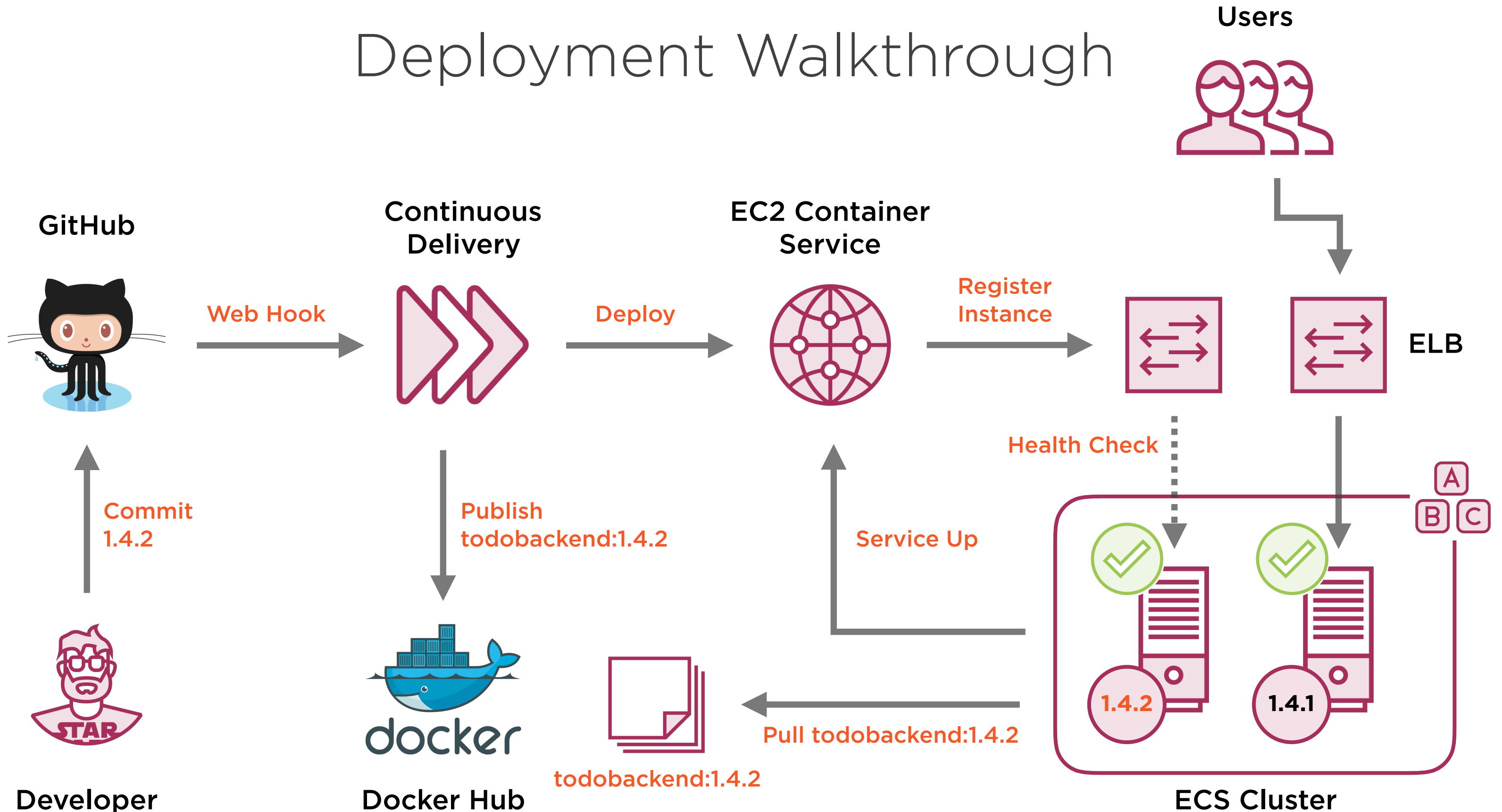
Deployment Walkthrough



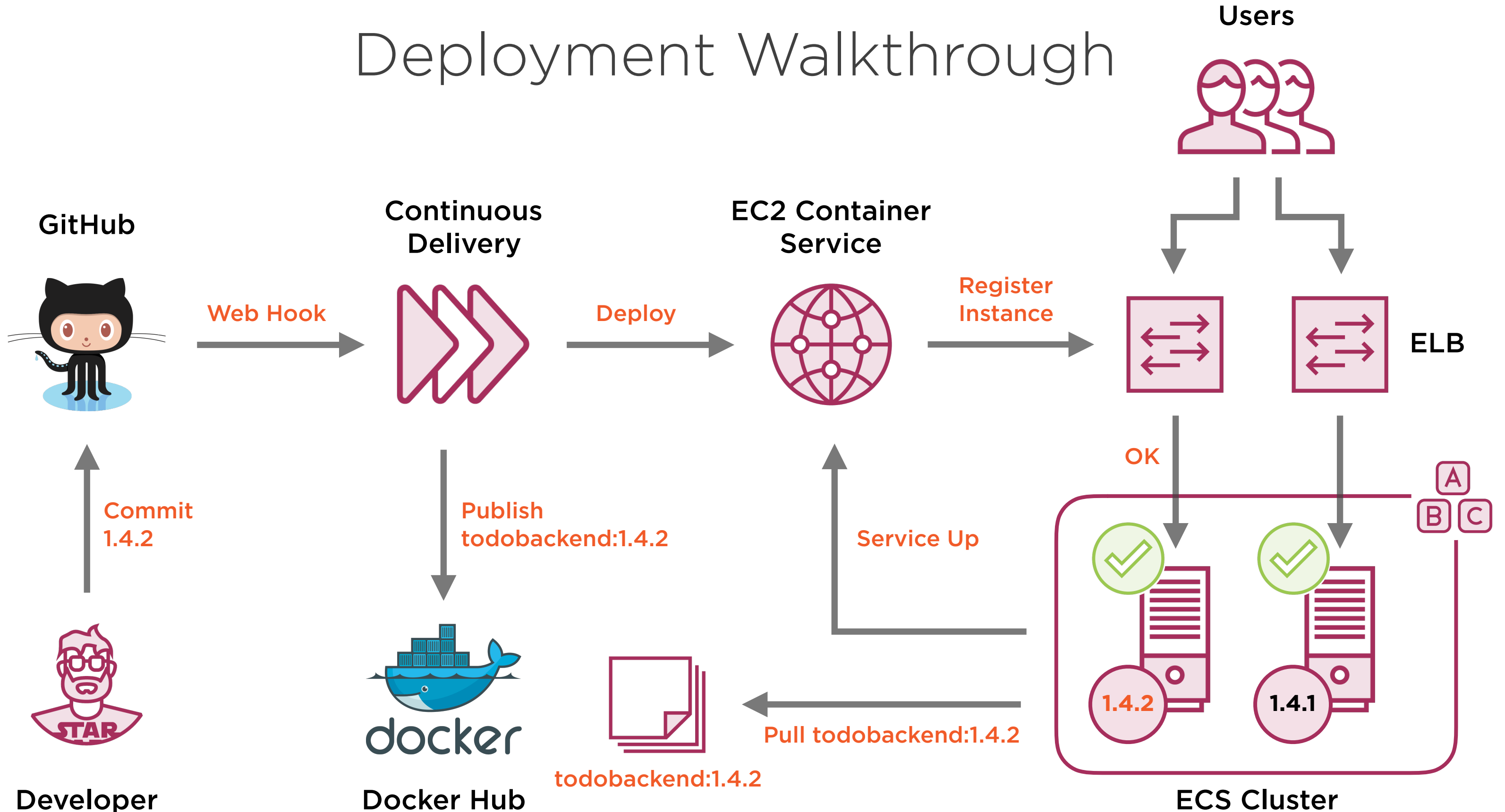
Deployment Walkthrough



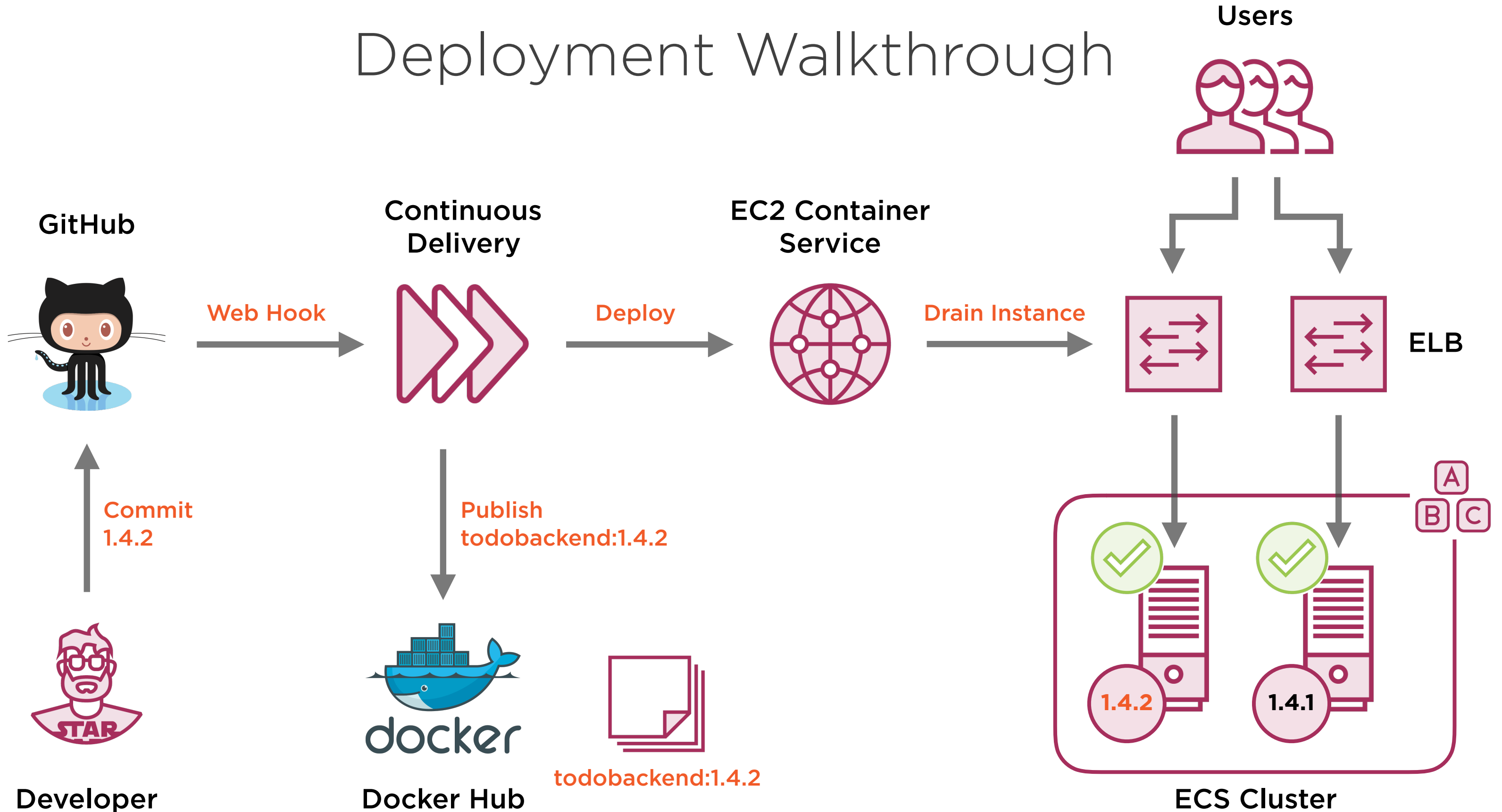
Deployment Walkthrough



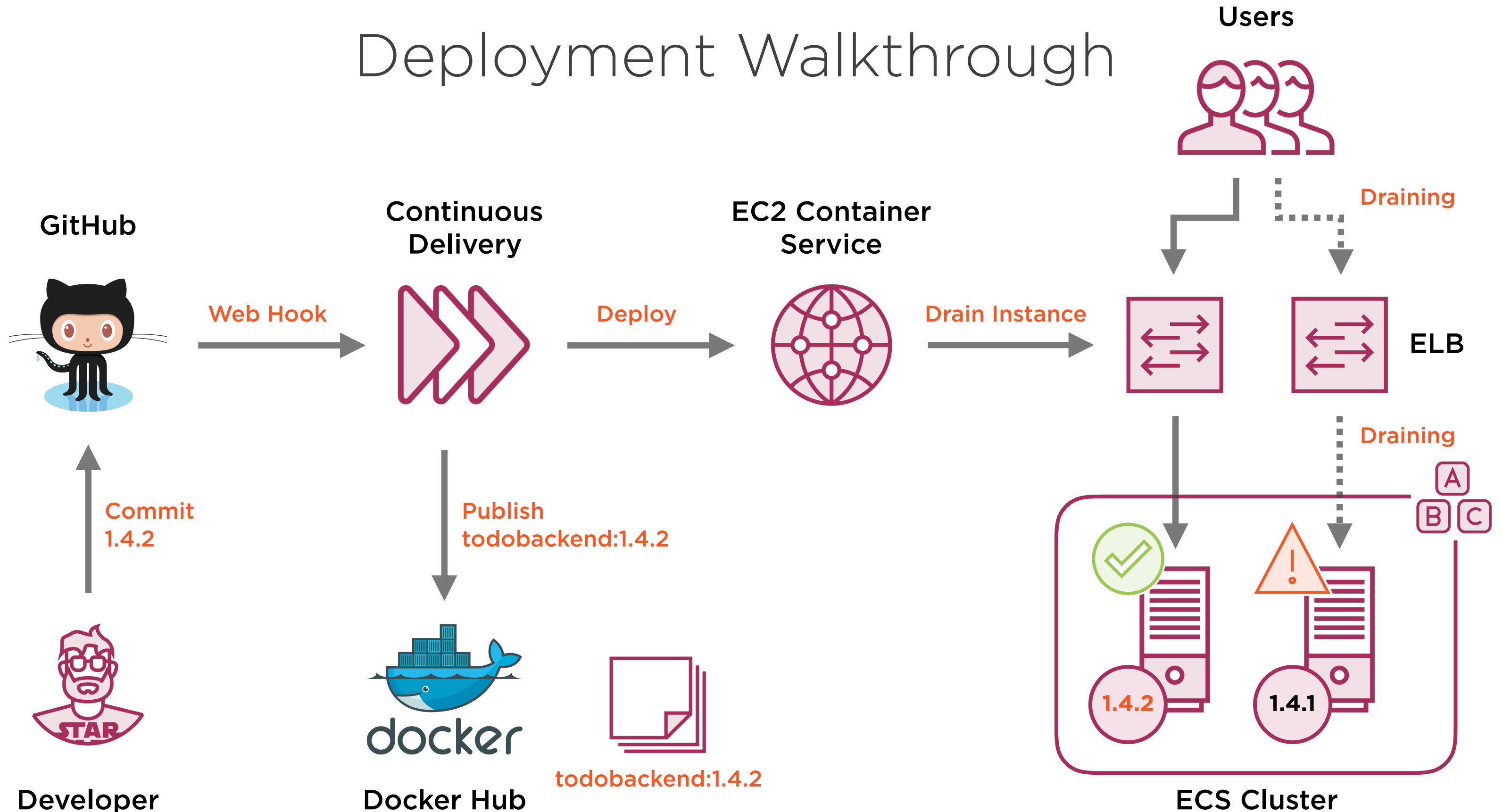
Deployment Walkthrough



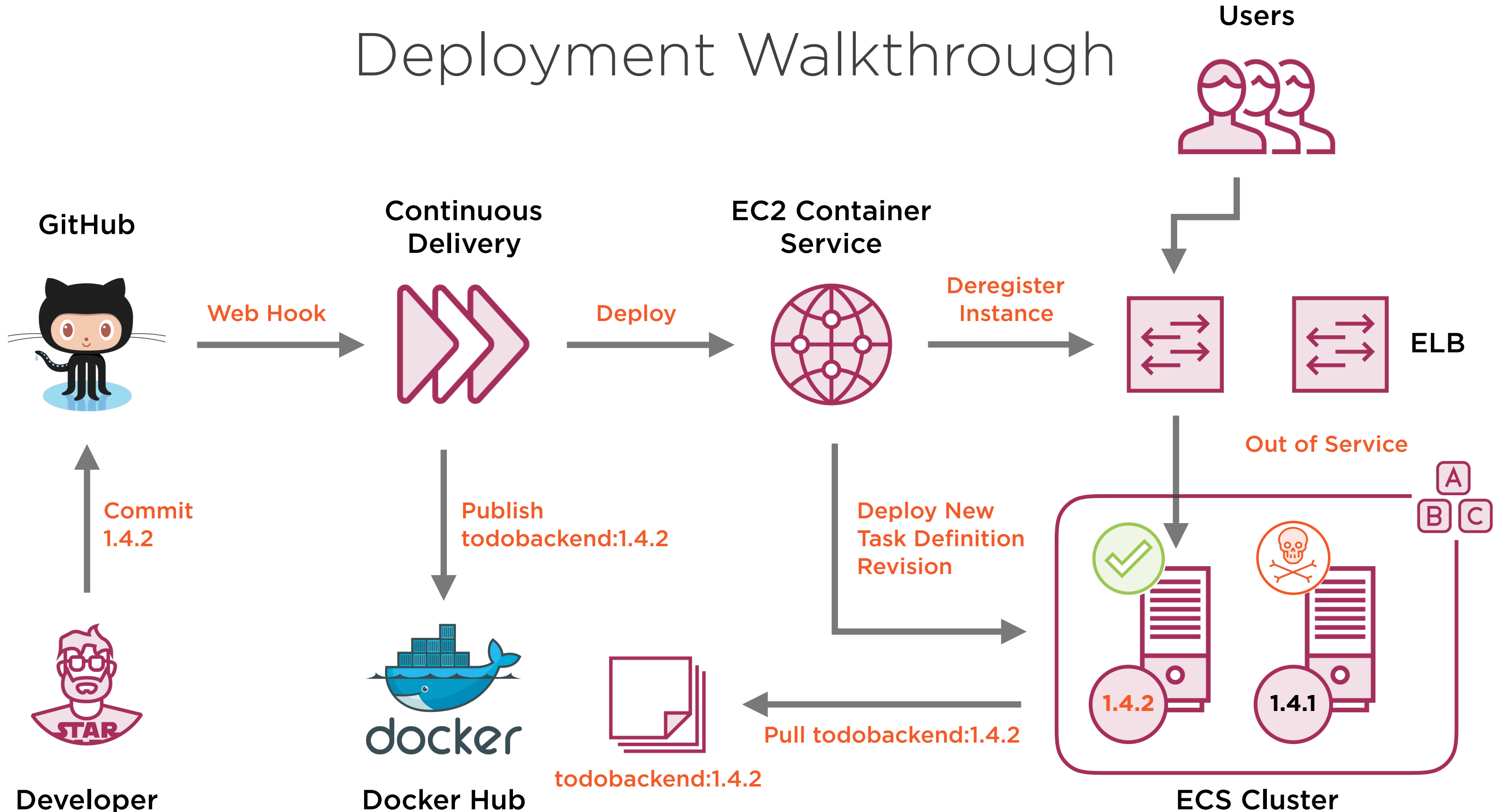
Deployment Walkthrough



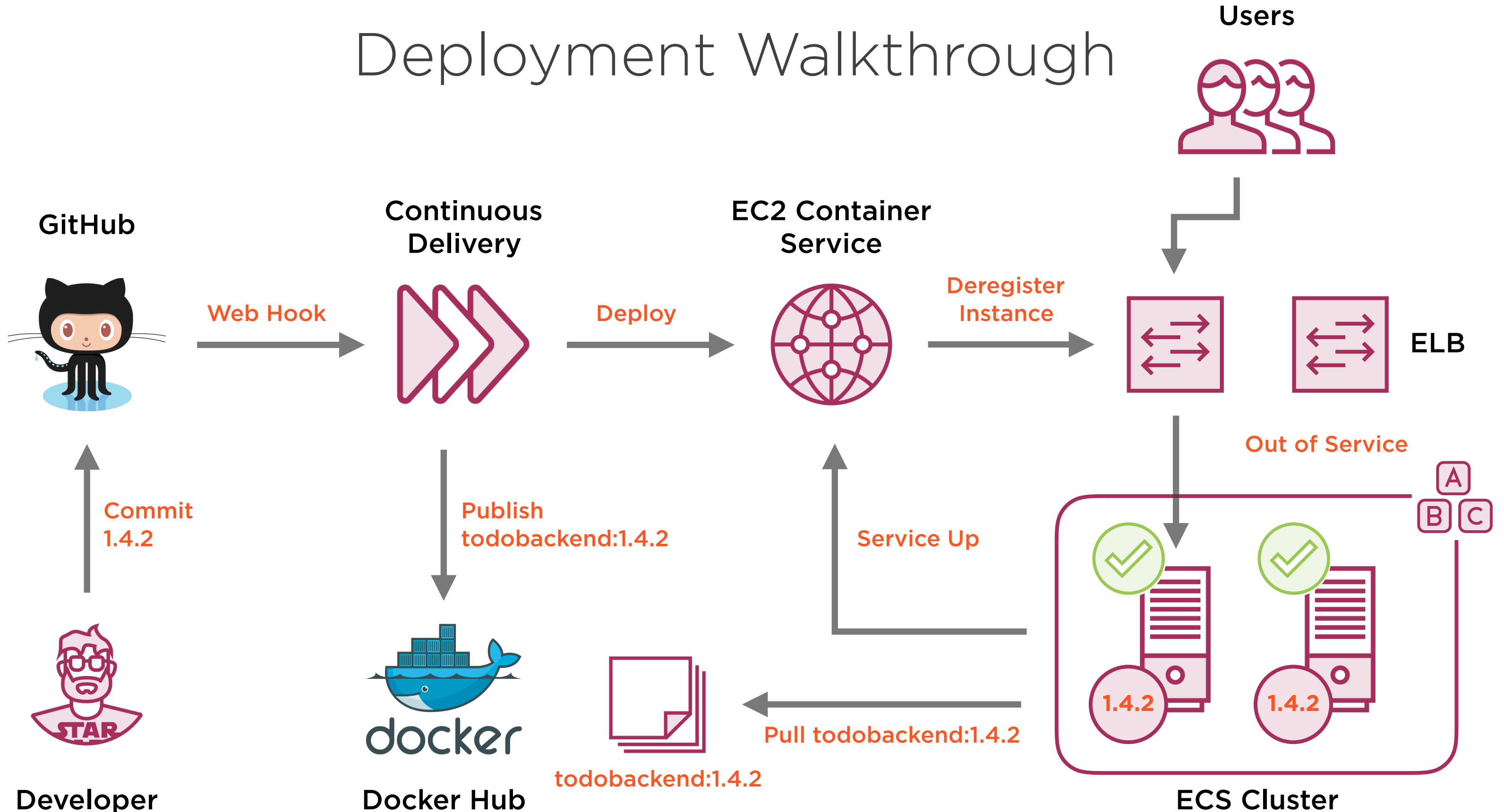
Deployment Walkthrough



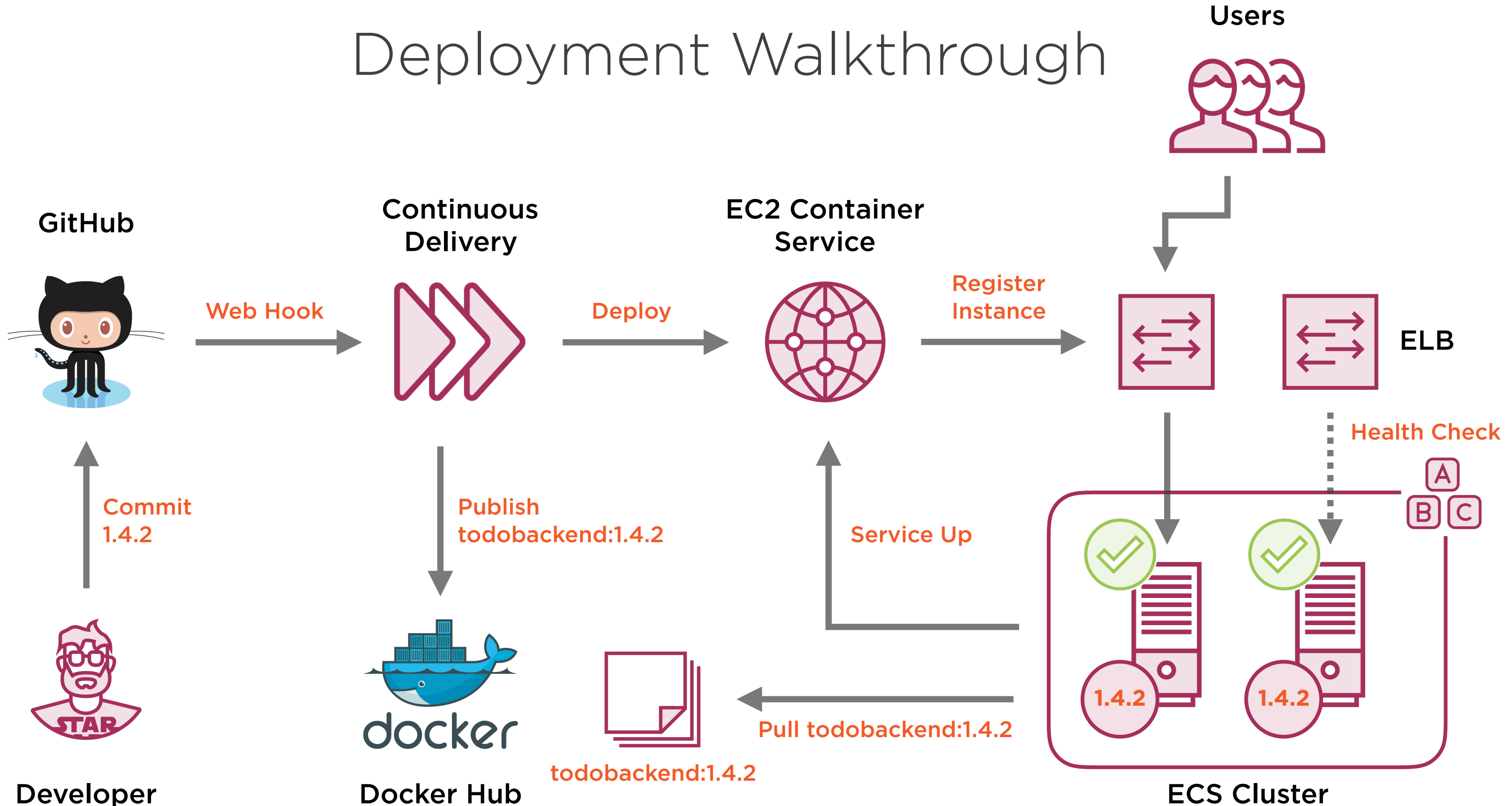
Deployment Walkthrough



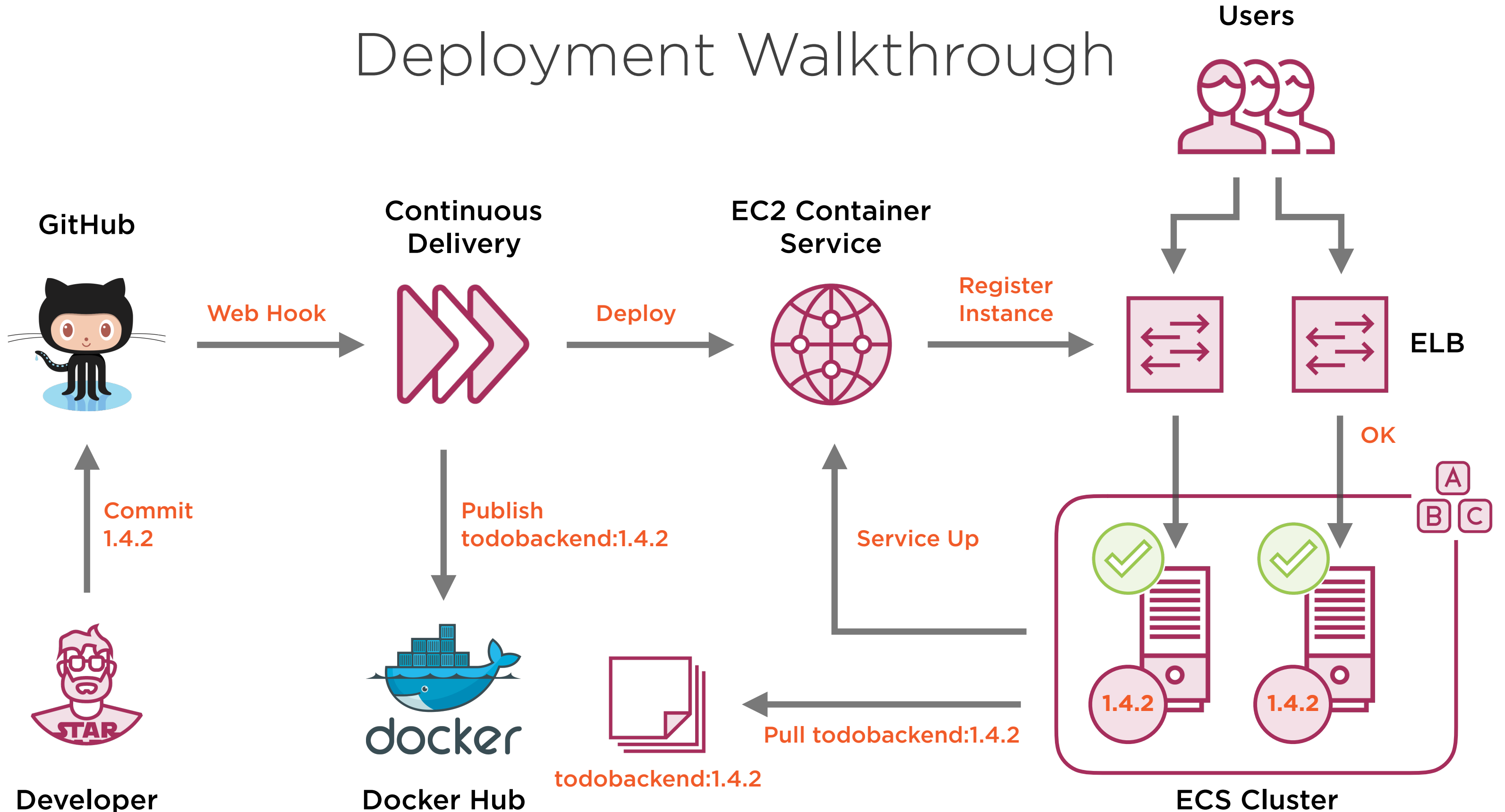
Deployment Walkthrough



Deployment Walkthrough



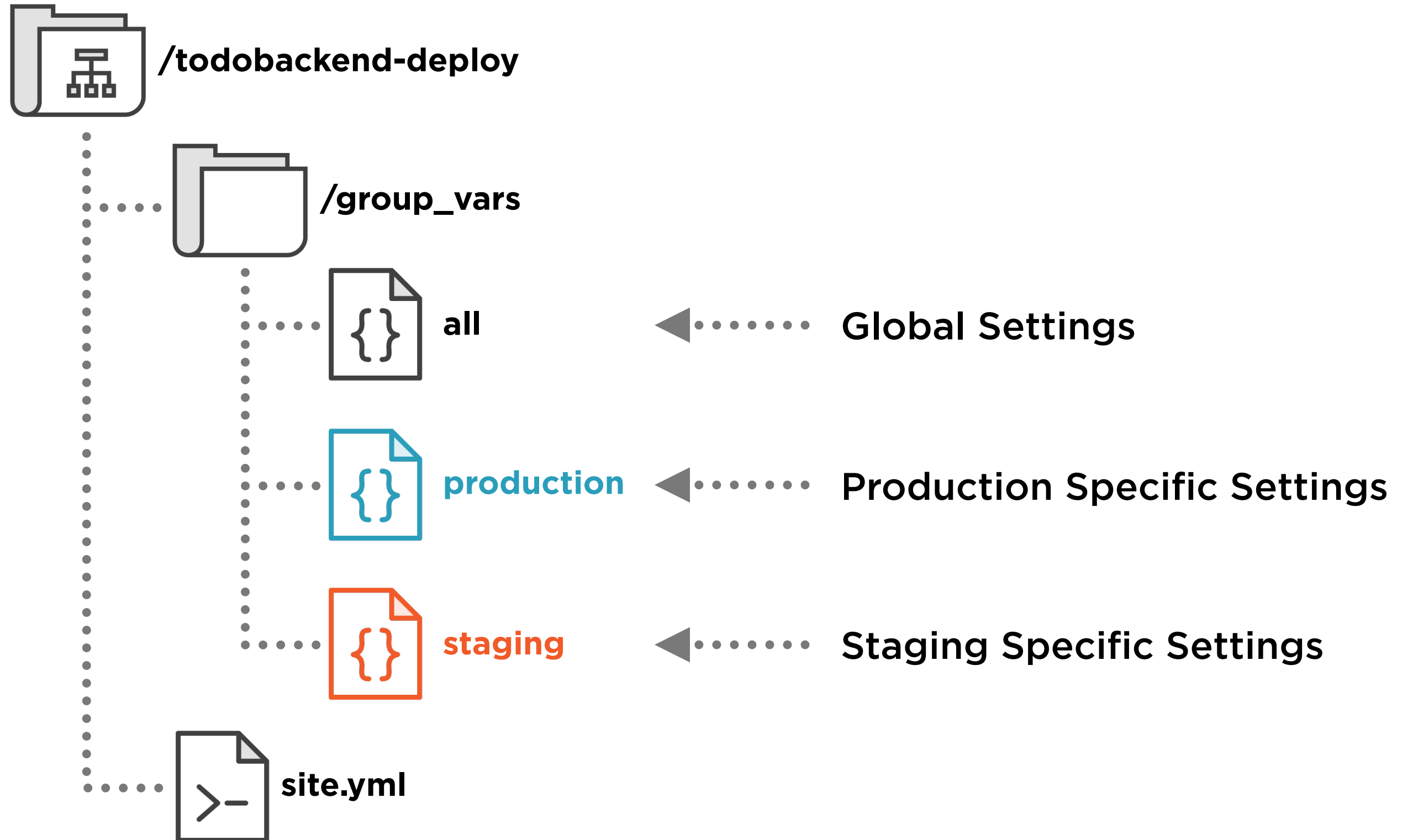
Deployment Walkthrough



Configuring Access to AWS

Creating the Playbook

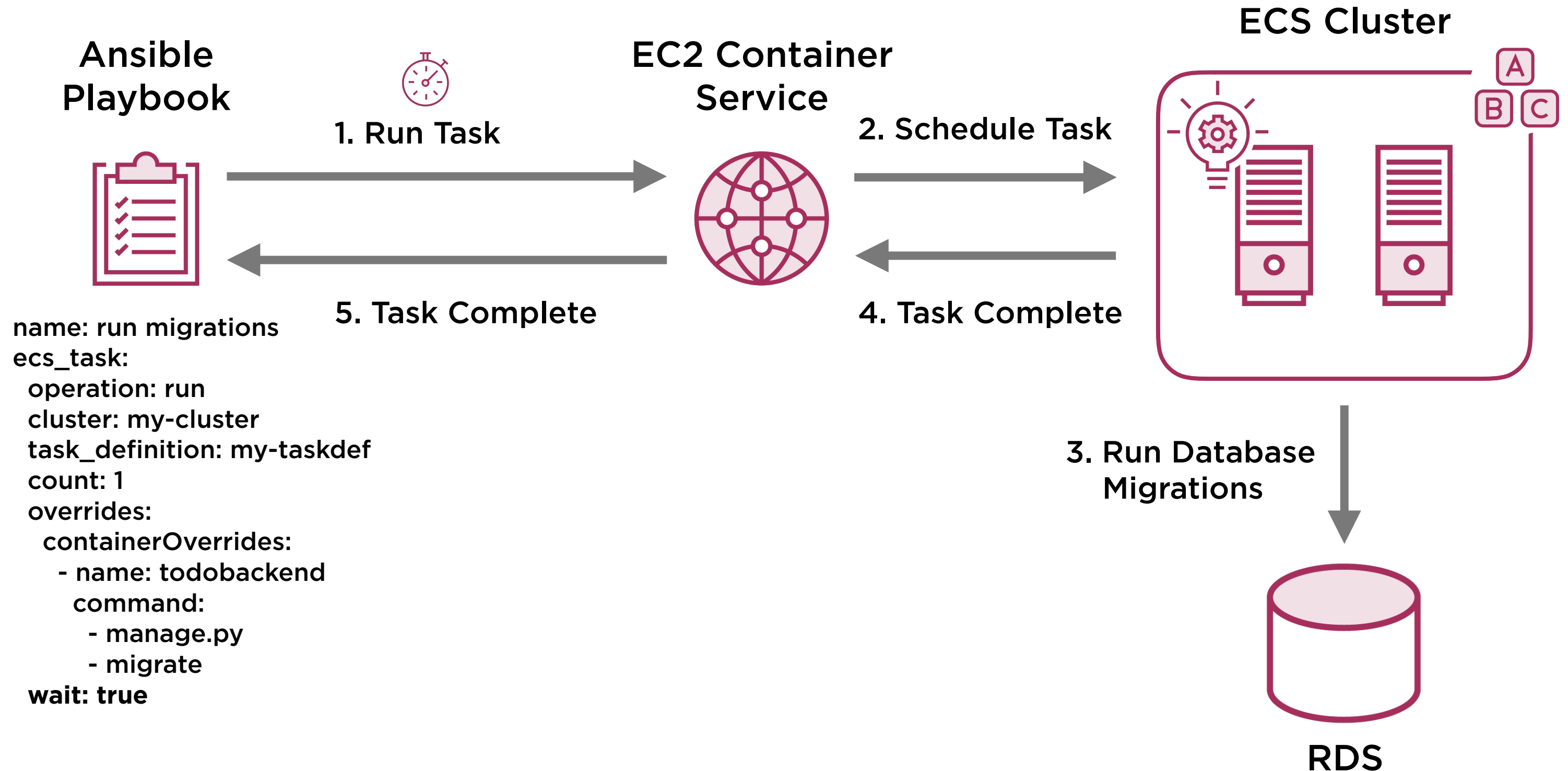
group_vars Folder



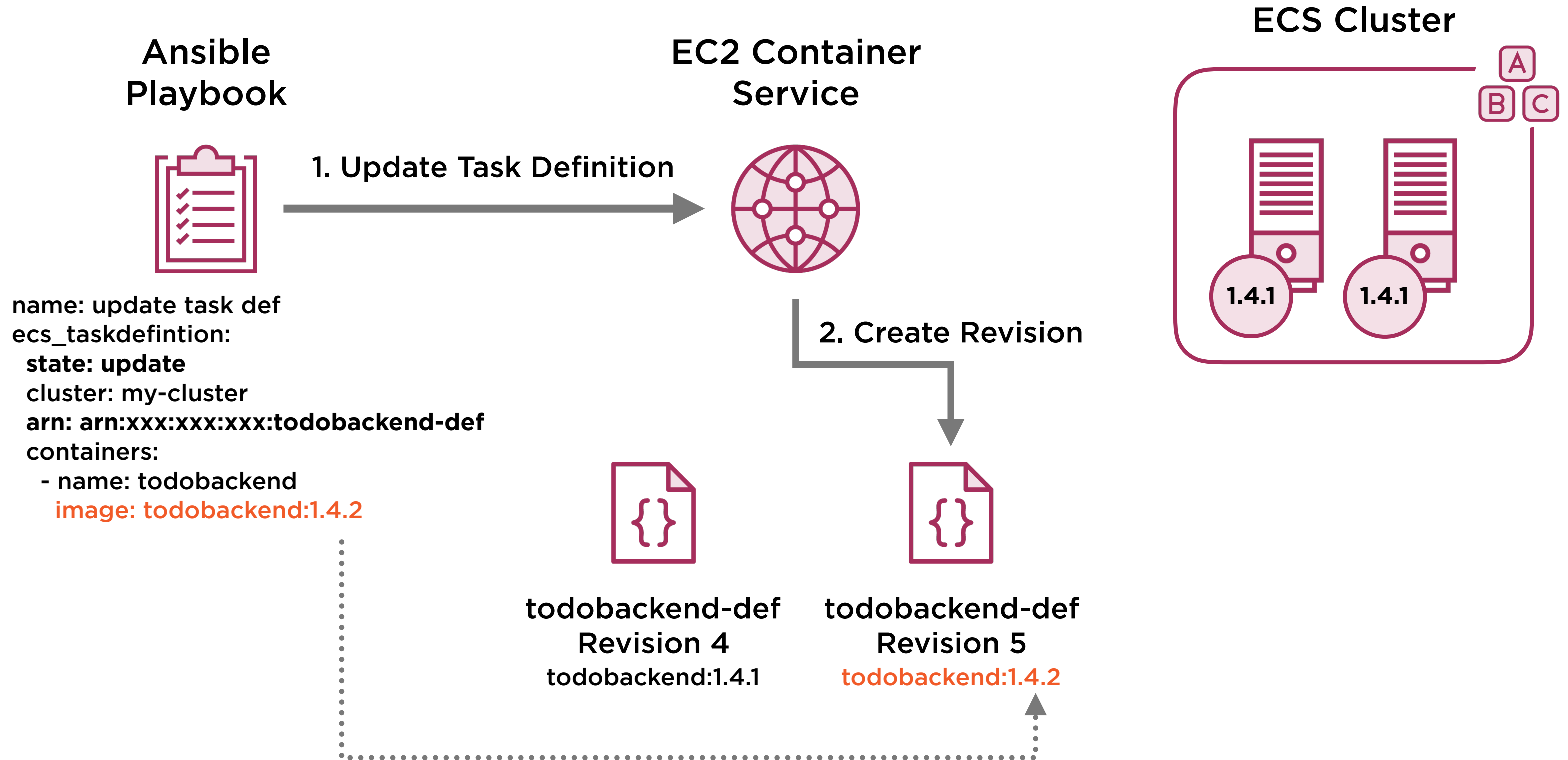
Creating the Stack Task

Installing Custom Ansible Modules

ECS Task Module



ECS Task Definition Module



ECS Service Module

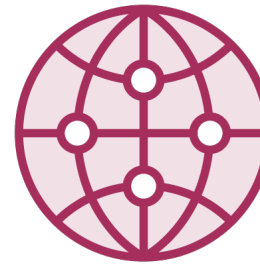
Ansible Playbook



1. Update Service

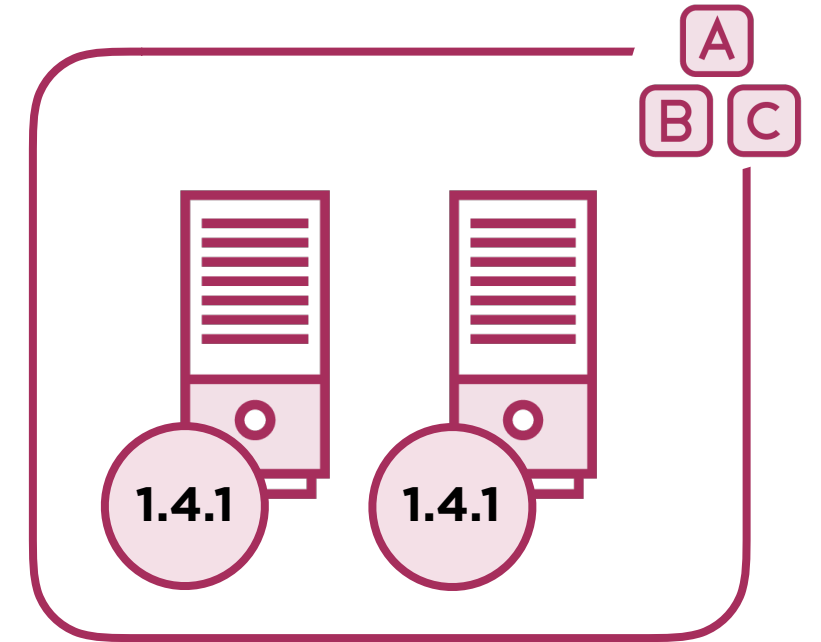


EC2 Container Service



2. Deploy Revision

ECS Cluster



```
name: deploy service update
ecs_service:
  state: update
  name: todobackend-service
  cluster: todobackend-cluster
  deployment_config:
    minimumHealthyPercent: 50
    maximumPercent: 200
  task_definition: todobackend-def
  wait: true
```

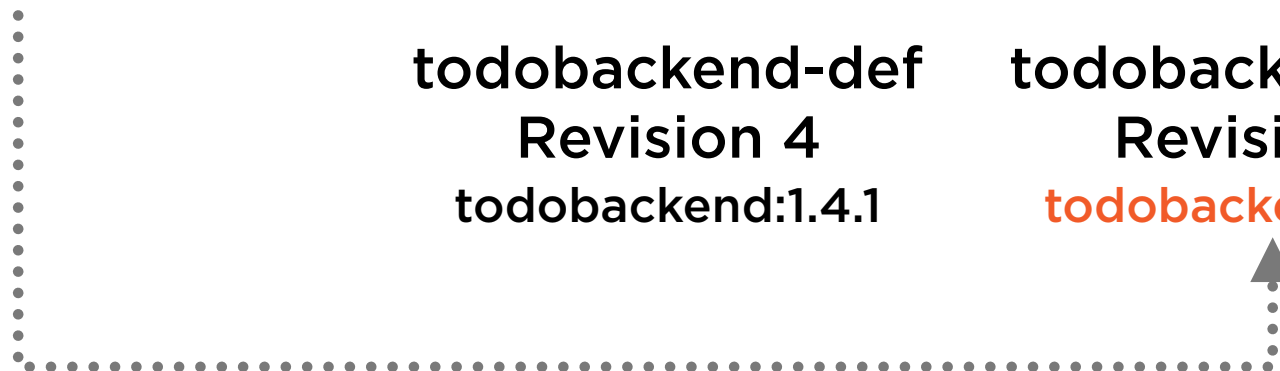
Referencing the task definition without a specific revision forces the service to update to the latest revision



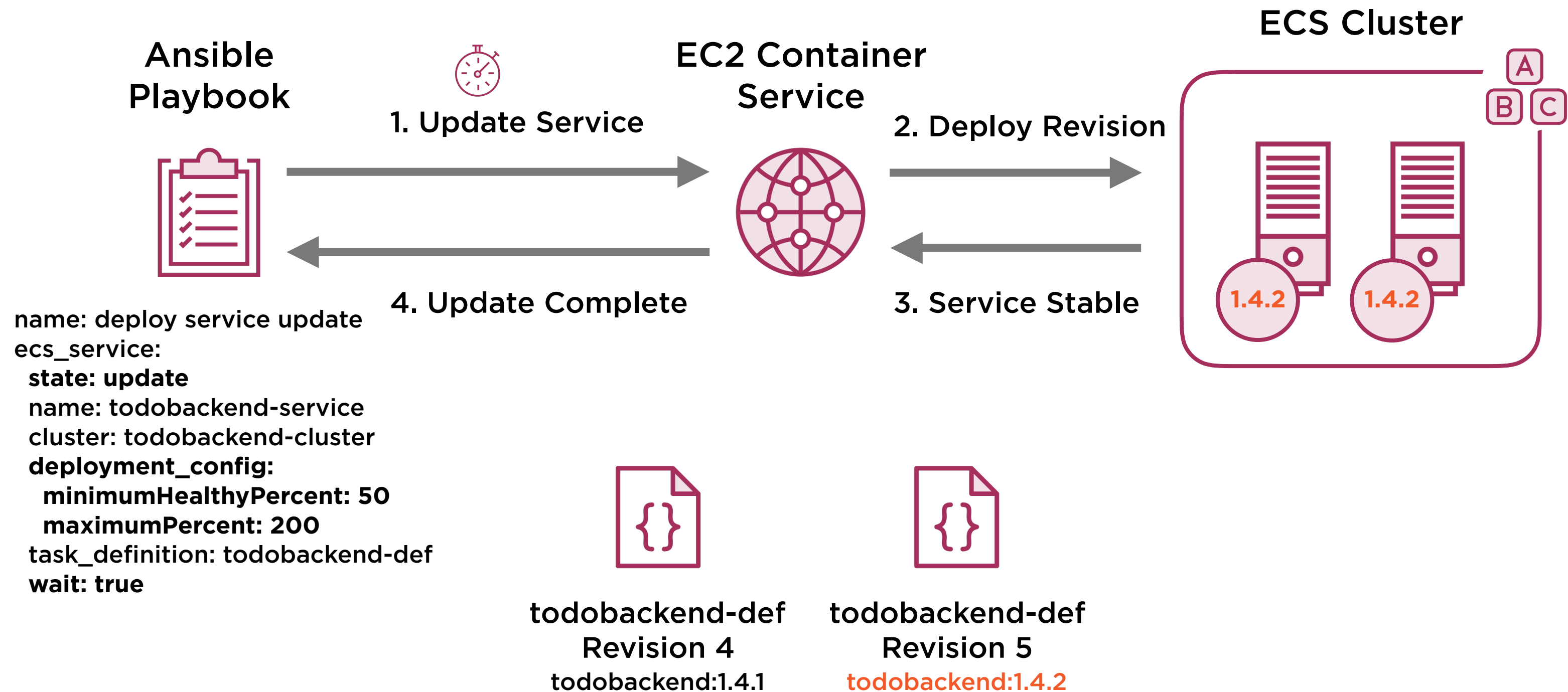
todobackend-def
Revision 4
todobackend:1.4.1



todobackend-def
Revision 5
todobackend:1.4.2



ECS Service Module



Deploying the Application

Testing the Playbook

Demo

Continuously Deploying the Application

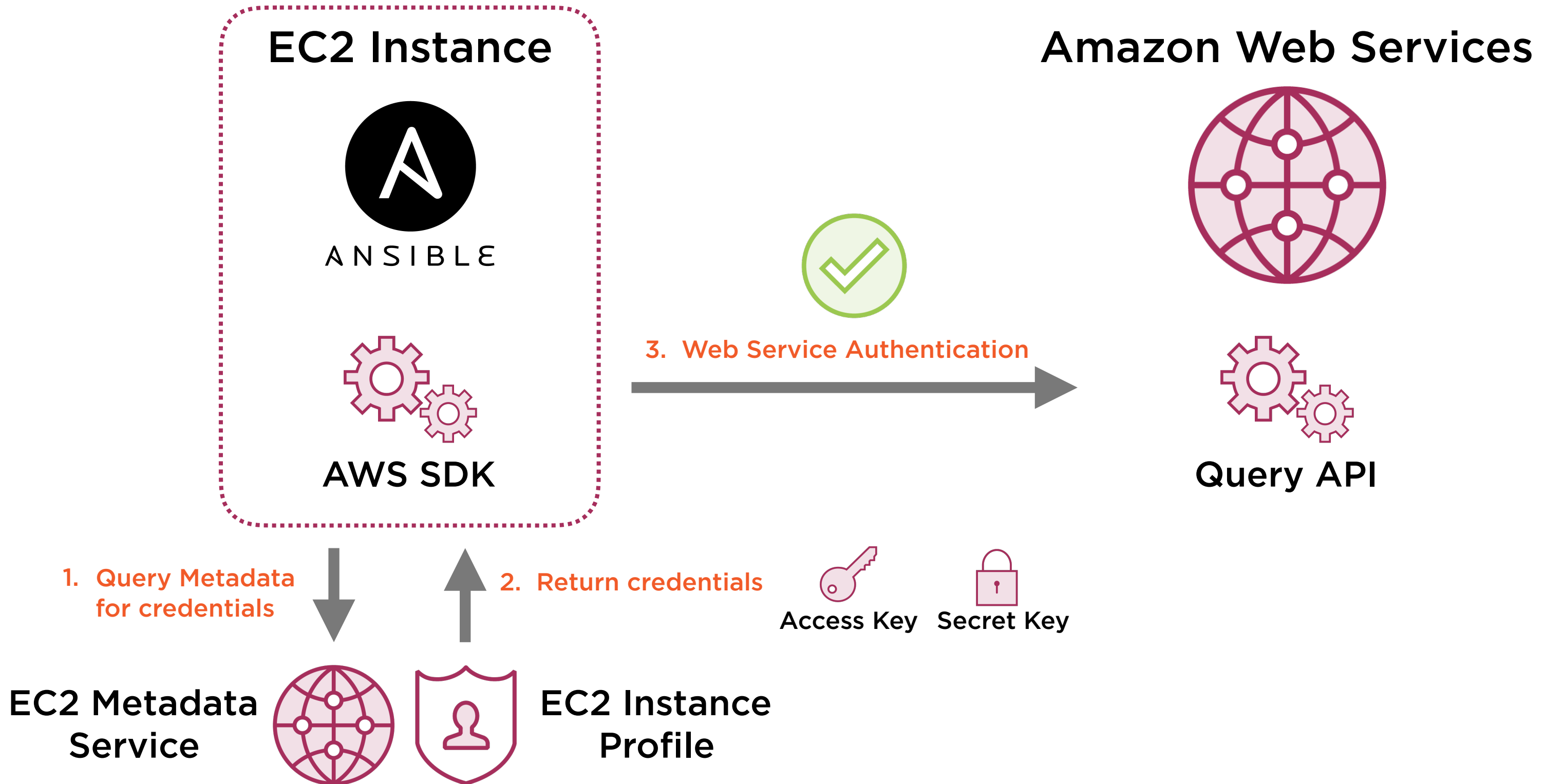
- Jenkins Deployment Permissions
- Jenkins Deployment Job
- Continuously deploying new releases

Jenkins Deployment Permissions

AWS Explicit Authentication



AWS Implicit Authentication



Creating the Jenkins Deployment Job

Continuously Deploying New Releases

Testing the Todobackend Client

Summary

Continuous Deployment

- CloudFormation, EC2 Container Service
- Ansible, Jenkins
- Use CloudFormation for create and delete, and for infrequent updates to core stack infrastructure
- Use other tools like Jenkins and Ansible to drive ECS for continuous delivery and rolling deployments
- Ansible deployment playbook
- Jenkins deployment pipeline job