

DevOps Fall 2020 Mid-term Study Guide

The mid-term exam will be a timed (1 hour) open book test consisting of 50 multiple choice questions worth 2 points each. It will be administered during the 2nd half of our normal class so please plan to attend live. Those students not in the EDT timezone will have to get up early or stay up late.

The test covers the following topics:

DevOps

- DevOps as a Cultural Movement
- Understand the Agile Manifesto
- Tenets of DevOps (e.g., working in small batches, etc.)
- How DevOps differs from Waterfall

Social Coding

- Git Feature Branch Workflow (Branches, Pull Requests, etc.)
- Git Stages (work area, staging, local repo, remote repo)
- Uses for GitHub issues
- Procedure to handle merge conflicts

Agile Planning

- The Roles of a Scrum team
- The 5 Scrum Meetings
- What is a Sprint
- Why use Acceptance Criteria
- What is an Epic
- What are Story Points and Velocity
- Why use Burndown charts

RESTful APIs

- Why we use Vagrant and VirtualBox
- RESTful Service guidelines for API's
- What are the HTTP verbs POST, PUT, GET, & DELETE used for
- Which REST API's are idempotent

Cloud Native and Microservices

- What makes a good microservice
- How does a microservice differ from a monolith

- Attributes of Cloud Native computing
- What is a stateless service
- 12-Factor Application Guidelines on configuration
- The difference between vertical and horizontal scaling

Test Driven Development

- Red, Green, Refactor workflow
- Why automated testing is important
- Why is code coverage an important metric

Continuous Integration

- Why use CI tools like Travis CI
- How we use services like databases in Travis CI
- Why do we add badges from Travis to our repo README.md