# Development Tips

*Software Architecture*

Brae Webb

May 11, 2026

What did we *learn* from the cloud assignment?

*Question*

What did we *learn* from the cloud assignment?

*Answer*

Cloud development is *painful*?

# How can we make this *less* painful?
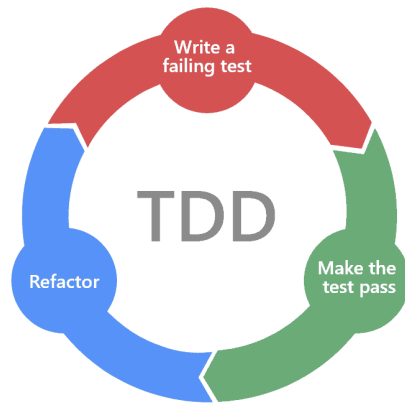
*Some ideas*

1. Gain confidence through *testing*
2. *Automate* what you're repeating
3. *Tighten feedback loop* as much as possible
4. *Log and monitor* what you can

# § Testing

*The testing elephant in the room*

# Test-driven development

[Marsner, 2019]

*What do you primarily get from TDD?*

1. Regression tests (confidence)

*What do you primarily get from TDD?*

1. Regression tests (confidence)
2. Small isolated components

# Do you have to use TDD to get these benefits?

*Question*

Do you have to use TDD to get these benefits?

*Answer*

No.

*Question*

Do you have to use TDD to get these benefits?

*Answer*

No. But it can make it easier.

# When should you write a test?

# When should you write a test?

# Whenever you are manually checking something often.

- Checking the endpoints your API.

*Examples*

- Checking the endpoints your API.
- Checking a feature in the frontend of your interface.

# § Automation

- Running tests.

*Examples*

- Running tests.
- Starting locally and running tests locally.

- Running tests.
- Starting locally and running tests locally.
- Deployment (`deploy.sh`).

*Examples*

- Running tests.
- Starting locally and running tests locally.
- Deployment (`deploy.sh`).
- Deployment and running tests.

*Tighten feedback loop* as much as possible

# § *Feedback Loops*

- Containers

*Examples*

- Containers
- Local database (docker-compose)

- Containers
- Local database (docker-compose)
- Local cloud services (e.g. S3)

*Log and monitor* what you can

# § Log and Monitor

Refer to week 9 content

*Tip*

# Enable CloudWatch on EC2

# Environment variables

## References

[Marsner, 2019] Marsner (2019).
Why test-driven development (tdd).
https://marsner.com/blog/why-test-driven-development-tdd/.