

Development Tips

Software Architecture

Brae Webb

May 12, 2025

Question

What did we *learn* from the cloud assignment?

Question

What did we *learn* from the cloud assignment?

Answer

Cloud development is *painful*?

Question

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

\S *Testing*

The testing elephant in the room

Test-driven development

TDD in theory



[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

Question

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.

Question

When should you write a test?

Question

When should you write a test?

Answer

Whenever you are checking manually something often

Examples

- Checking the endpoints your API.

Examples

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

§ Automation

Examples

- Running tests.

Examples

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

Examples

- 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

\S *Feedback Loops*

Examples

- Containers

Examples

- Containers
- Local database (docker-compose)

Examples

- 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

Aside

Environment variables

References

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