composer.lock demystified

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Private Packagist
https://packagist.com

composer.lock

- Contents
  - all dependencies including transitive dependencies
    - all metadata (name, description, require, autoload, extra, …)
  - Exact version for every package
  - Download URLs (source, dist, mirrors)

- Purpose
  - Reproducibility across teams, users and servers
  - Isolation of bug reports to code vs. potential dependency breaks
  - Transparency through explicit updating process

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Commit The Lock File

- If you don’t
  - composer install without a lock file is a composer update
  - You’re not managing your dependencies, they’re just doing whatever they want
    - Conflict can randomly occur on install
    - You may not get the same code

- The lock file exists to be commited!

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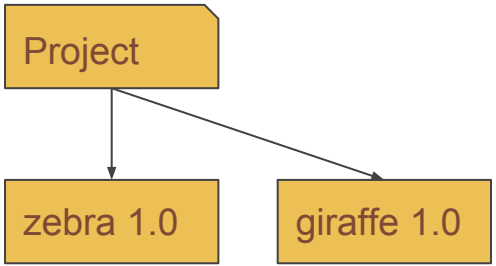
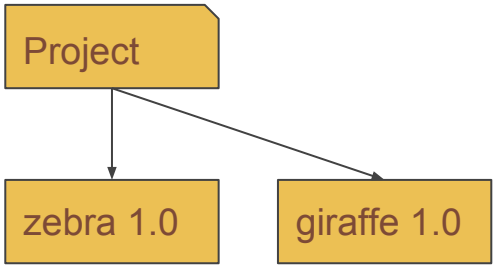
The Lock file will conflict

Day 0: “Initial Commit”



master

composer.lock
- zebra 1.0
- giraffe 1.0



dna-upgrade

composer.lock
- zebra 1.0
- giraffe 1.0

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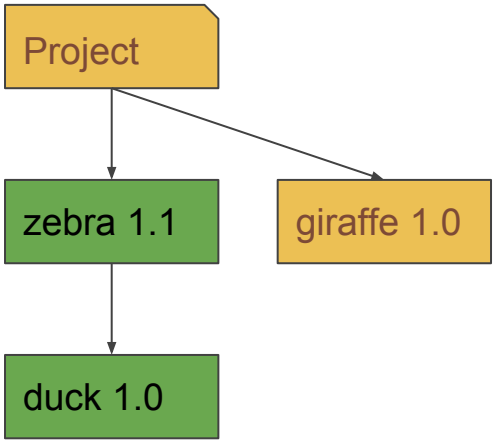
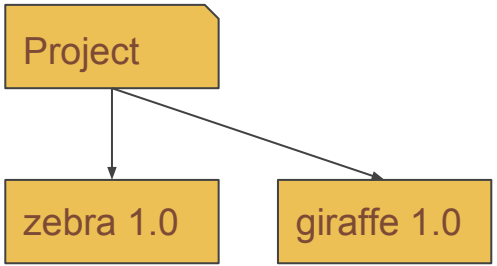
Week 2: Strange new zebras require duck



master

composer.lock

- zebra	1.1
- giraffe	1.0
- duck	1.0



dna-upgrade

composer.lock

- zebra	1.0
- giraffe	1.0

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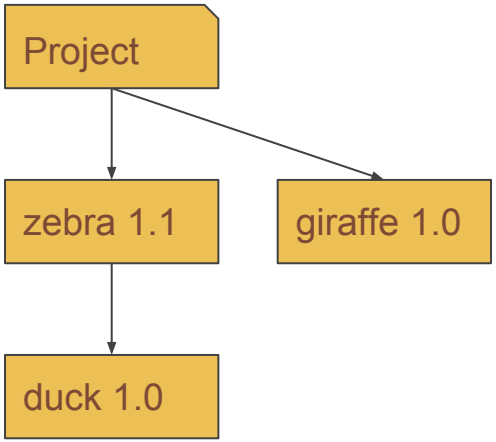
Week 3: Duck 2.0

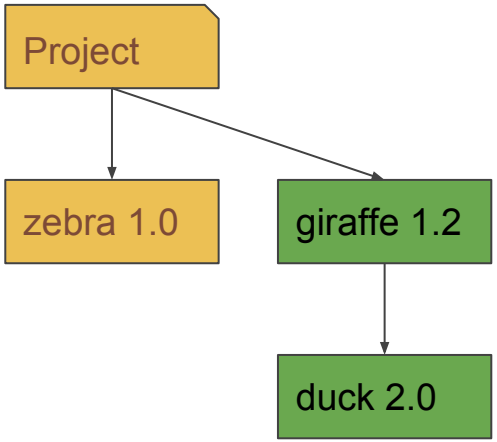
Week 4: Giraffe evolves to require duck 2.0



master

composer.lock

- zebra	1.1
- giraffe	1.0
- duck	1.0



dna-upgrade

composer.lock

- zebra	1.0
- giraffe	1.2
- duck	2.0

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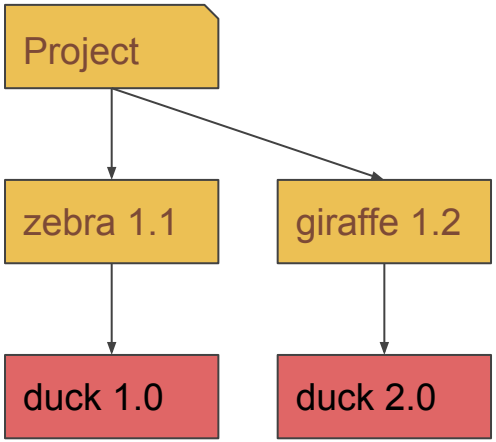
Text-based Merge

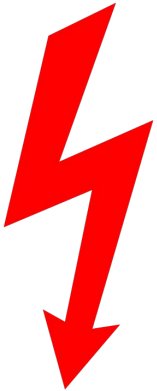


master

composer.lock

- zebra 1.1
- giraffe 1.2
- **duck 1.0**
- **duck 2.0**

Merge results in invalid dependencies



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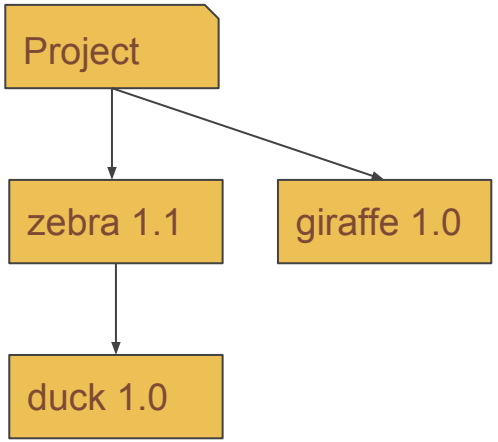
Reset composer.lock

```
git checkout <refspec> -- composer.lock
git checkout master -- composer.lock
```



dna-upgrade

composer.lock

- zebra	1.1
- giraffe	1.0
- duck	1.0

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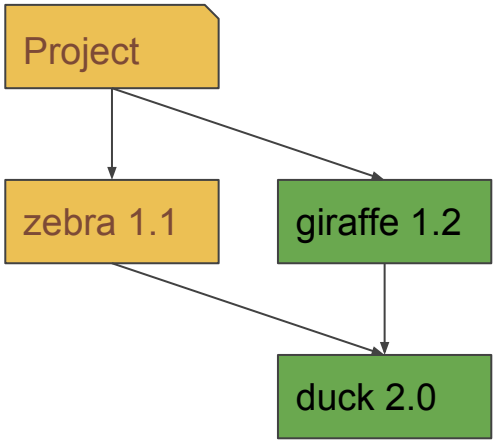
Apply the update again

```
composer update giraffe
  --with-dependencies
```



master

composer.lock

- zebra	1.1
- giraffe	1.2
- duck	2.0

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How to resolve lock merge conflicts?

- composer.lock cannot be merged without conflicts
  - contains hash over relevant composer.json values

- `git checkout <refspec> -- composer.lock`
  - `git checkout master -- composer.lock`

- Reapply changes
  - `composer update <list of deps>`

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