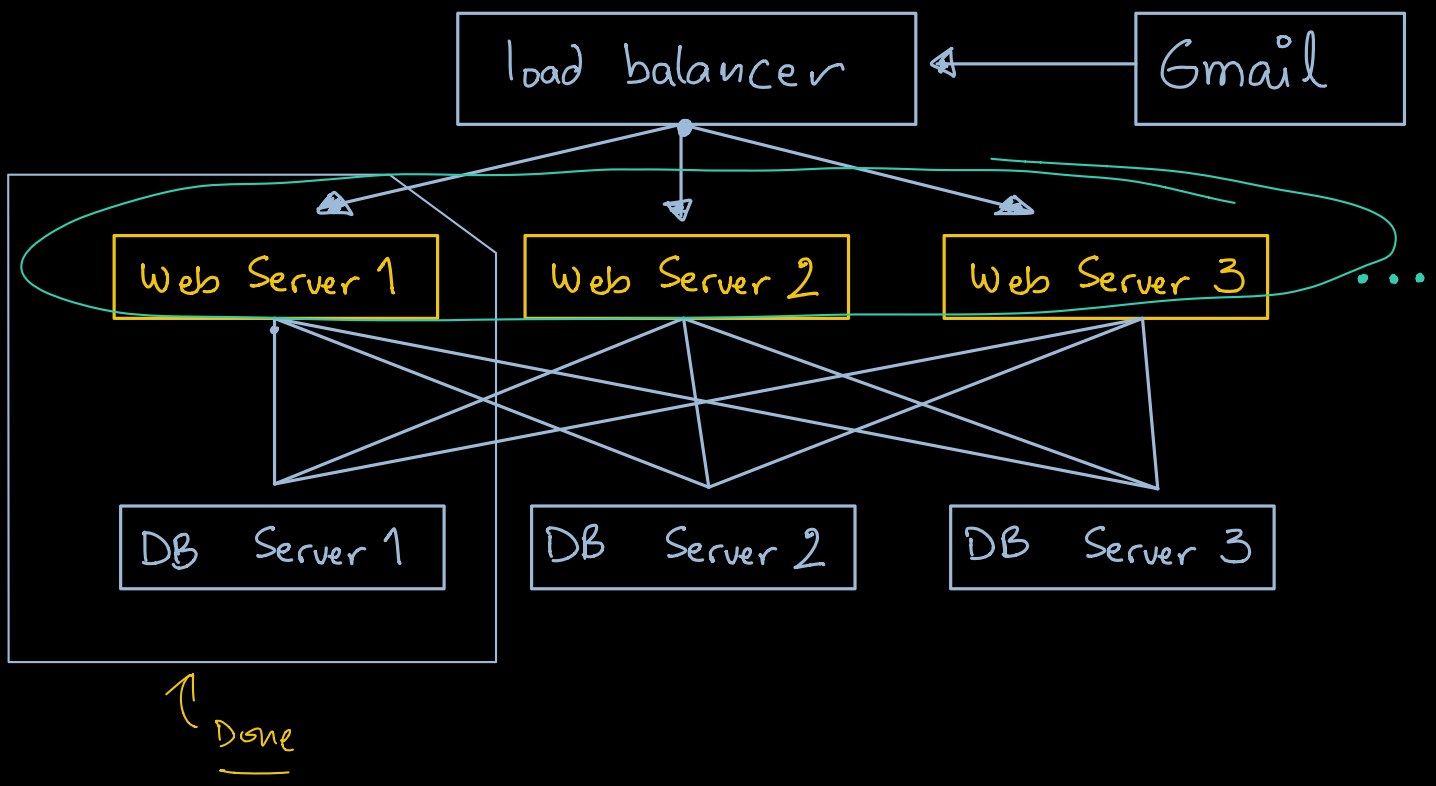
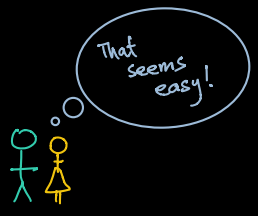
Handling Scale:



Create one server:

1. Install pre-reqs
2. Install apache
3. Copy code
4. Start service



— Now do it 50 times!

Solution? Docker

— Setup once, create image, duplicate

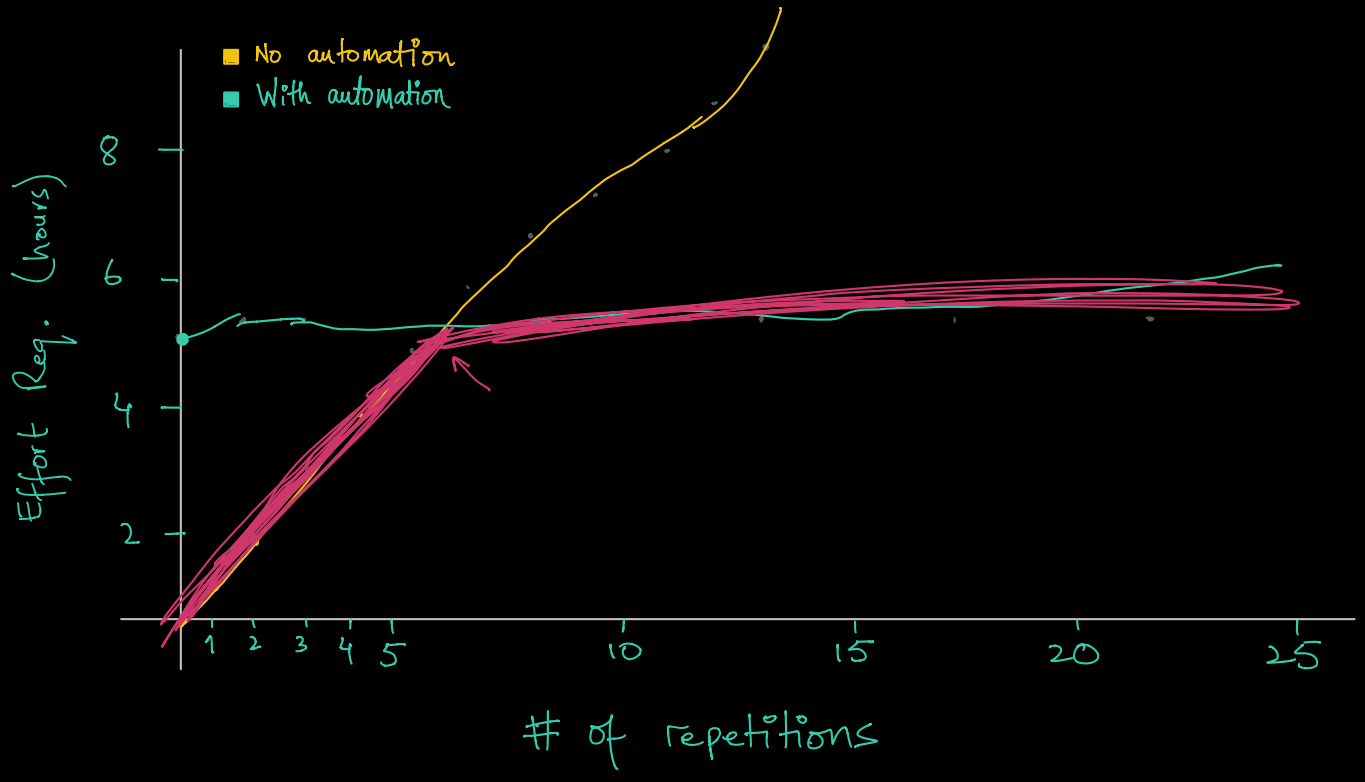
But:

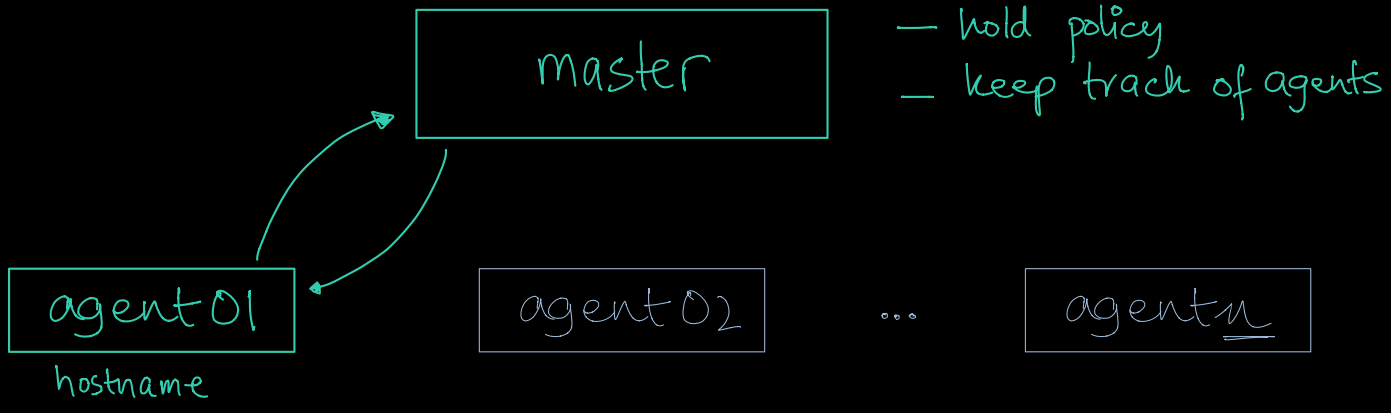
- Not everything runs in a container.
- What happens when you have to update apache?
- Or another configuration across the whole data center?

Golden rule of programming:

a good programmer is a lazy programmer!

- if you are repeating something, automate it!



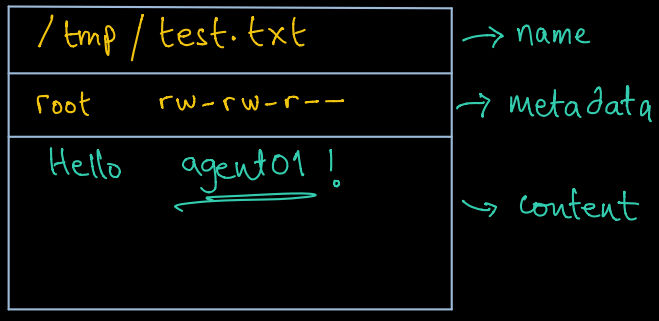


— hold policy
— keep track of agents

— Puppet (chef, fabric, etc)

"Infrastructure automation and delivery".

— Puppet "hello world"



— cannot copy the file
— bash script is possible ... but cumbursome

— Procedure :

1. Setup a master
2. Define the target state
3. Setup an agent

DEFINING THE STATE:

— Use puppet's own language Domain Specific language (DSL)
— Defines what we want, not how to achieve it

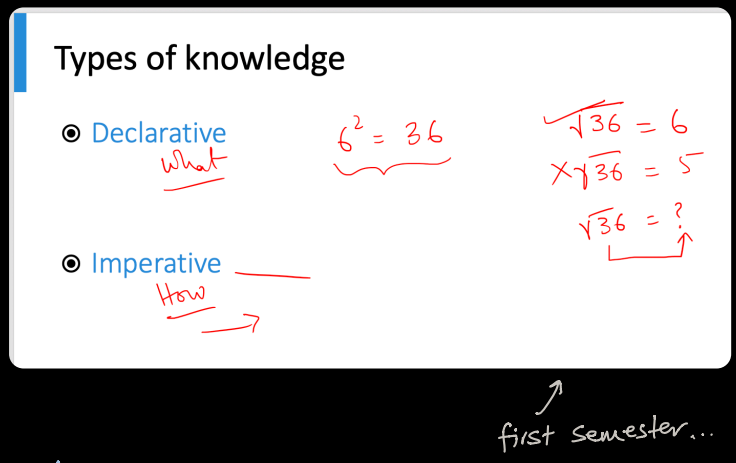
Declarative knowledge:

- $\sqrt{x} = y$

  such that $y^2 = x$

Imperative knowledge:

- guess, improve, stop when good enough



Puppet uses a declarative language: define what you want

```
file { "/tmp/test.txt" :
    mode : "0664",
    owner : "root",
    content : "Hello world",
}
```

resource type ← file

"/tmp/test.txt" : resource

mode, owner, content : attributes

- Define state in terms of resources...

  Puppet takes care of the "how".

```
$ touch /tmp/test.txt
$ chmod 0664 /tmp/test.txt
$ chown root /tmp/test.txt
$ echo "Hello world" > /tmp/test.txt
```

- There's a lot more to the language but let's use this first.

- Let's start!