

Puppet Basics

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Version Control

Who knows what this is?

Who has ever used it before?

Version Control

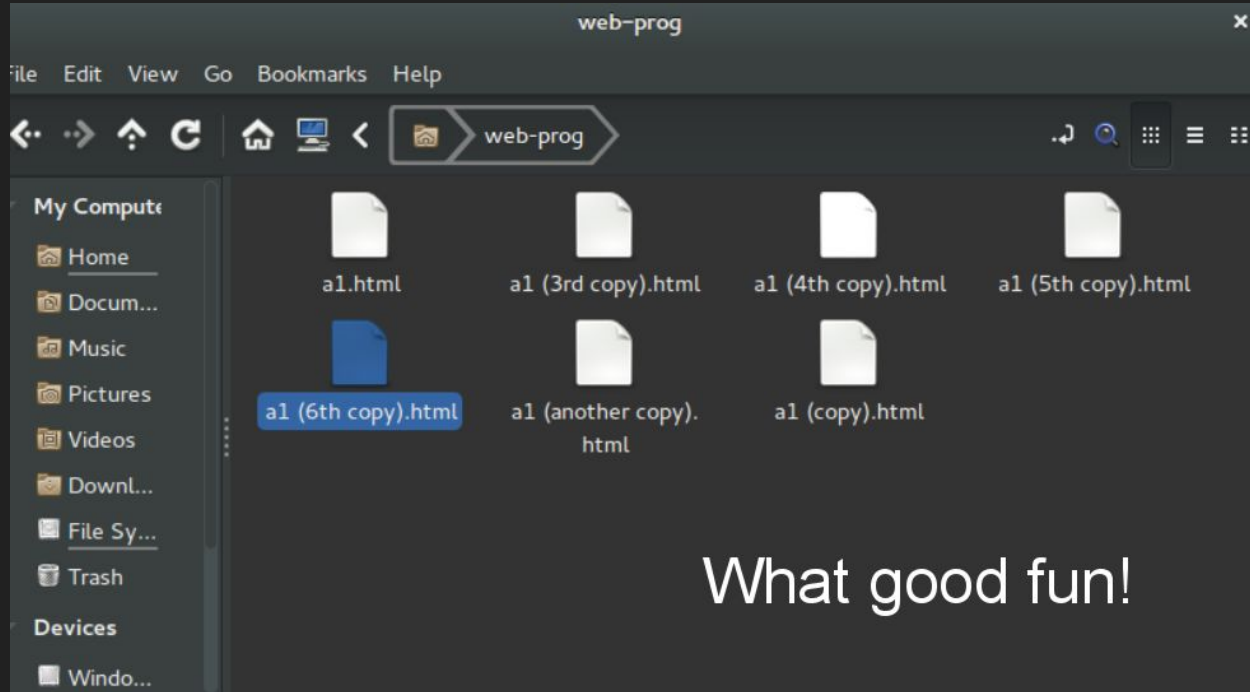
A tool that tracks the evolution of your code.

- Tracks changes to our code
- Provides an audit trail (why is this important?)
- Allows us to go back in time
- Allows you to test new things in parallel (branching)
- Allows many people to work on the same codebase easily
- Many other things

Git is very popular (for good reason), but there are other tools too...

Learn by doing: <https://try.github.io/levels/1/challenges/1>

Better than this...



What good fun!

It makes life better

Everything should be in VC

What does a SysAdmin do?

1. Puts out fires
2. Builds infrastructure (this could be cloud, datacentre, networking, storage etc)
3. Supports infrastructure (hardware failures, capacity, updating etc)
4. Deals with security (patching and sometimes breaches)
5. Helps deploy software (CI/CD)
6. Builds tools (to do all the above)
7. Automates things (all of the above)
8. Many more things...

What makes life easier for SysAdmins?

Tools and processes that offer

- Consistency
- Automation
- Repeatability
- Idempotence
- Atomicity
- Single source of truth
- Easy roll back

Especially if you manage many machines...

What is DevOps

“The practice of Operations and Development participating together in the entire service lifecycle, from design through to production support.”

It's really good when this happens!

Managing Servers

I have 1000 servers I manage.

I need to update a package on all of them.

What should I do?

- SSH into each one individually?
- Write a script to do this?
 - Is this scalable?
- Give up and be a manager?

Imagine

- What if I could use code to define the state I want my servers to be in?
- What if that code could be kept in VC?
- What if that VC could be the single source of truth for all my servers?
- What if there was a tool that could take this code and use it to automatically configure all my servers?

Puppet

Puppet == Configuration Management == Version Control for servers

More Puppet

Puppet is designed to manage the configuration of Unix-like (and Windows) systems declaratively. The user describes system resources and their state using Puppet's declarative language. This information is stored in files called manifests.

Puppet works using the client-server model. You run a master and install the agent on nodes you want to manage.

The nodes periodically hit the master asking if it has any new configuration for them, if so it is pushed down and applied.

You should research more on this in your own time...

Let's get into it

We're going to configure a Puppet master and set it up to manage itself.

We will then write a trivial manifest and apply it.

From there you should play with it, this is very much a learn by doing concept.

Before any of that though, we're going to look at setting up our AWS environment (where we will run our servers).

Go here: <https://github.com/dushankw/rmit-usap-2016>