

Project Progress Report

Aidai Beishekeeva, ab5248

Yaxin Chen, yc3995

Overview: We would like to compare two distributed shells by comparing their efficiency, ease of use among other parameters in grading programming homeworks located on virtual machines of distributed system.

Responsibilities:

The two shells we will compare is [pssh](#)(Yaxin) and [dish](#)(Aidai)

Setup of google cloud environment - Yaxin and Aidai (separate for both of us)

Report findings - Yaxin and Aidai (separate for each shell)

Analyze findings - Yaxin and Aidai together

Value to User Community:

The prospective user community for which our project is targeted is teaching teams of programming courses and distributed shell users. We will build a grading system to facilitate grading of programming homeworks as well as provide comparison of distributed shells on building an application.

Research Questions:

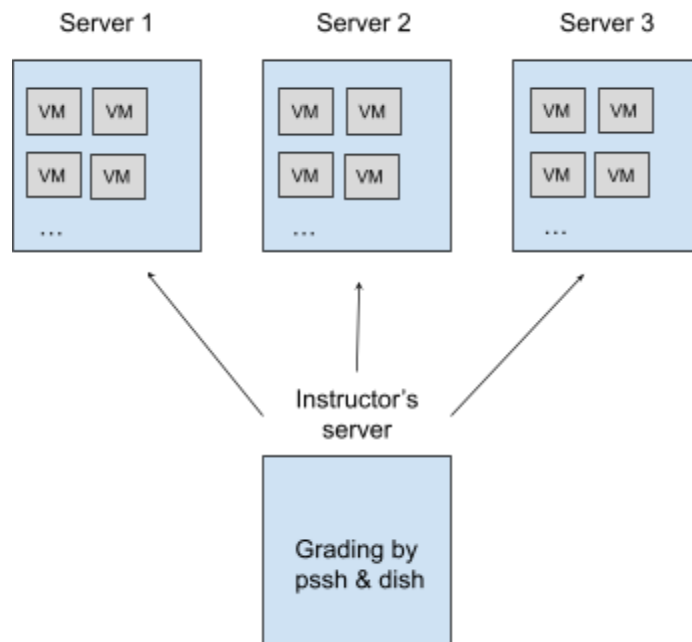
- How easy it is to set up the environment and configuration for each shell to be able to grade homework on distributed systems?
- What is the capacity for virtual machines/physical servers?
- Which shell is better according to the execution time and the ability to handle connection failures?

Demo:

We have designed an example environment infrastructure and configuration file based on which each shell will run a 'grading script' (see image below). Each virtual machine will be dedicated to a student where he/she will put homework files. Given the list of servers' IP addresses, an instructor will be able to run a command that reads from configuration file.

An example of command can be:

```
./grading hw1.config
```



The key of the grading component is configuration file that can approximately can look like this:

Hw1:

repo: github.com/...	Grading script can on github or
local_file: grader.py	local file
commands: [pip install numpy, python grader.py]	
destination: /home/guest/hw1	This is where the grading script will be fetched from github to each VM
Results_path: .../	This is where the grading results will go

We will show an example of homework grading with distributed shell during the demo.

We will put all the code files in the github repo

<https://github.com/yaxinchen666/COMS6156-distributed-shell>