Task 3 Testing and Demonstration

> Outline how one can see/test the concept you have implemented; this can be a description of steps and/or a supporting script/playbook. in the DevOps sense automation will be welcome.

The first part of the concept is automating the process of creating a new EC2 instance and installing a LAMP stack and WordPress. Once the maintenance server has been created, Ansible is installed and the files are all in place, all that needs to be done is to run launchEC2.yml to start a new instance. As described in the instructions, this can be verified by checking the AWS console and navigating to the new instance's public IP, then logging in to WordPress. To create more instances, run launchEC2.yml as many times as is necessary.

The second part of the concept is automated testing of homepage links and 4/500 errors, with automated email notification. The steps to verify that the testing works are part of the main instructions. Optional instructions for forcing a server to return a 404 error are also included.

The process is outlined briefly in the main instructions. The automated notification centres around a URL checking script and an Ansible playbook. If the script discovers a broken link or error, it runs the playbook, which formats and sends the email to the webmaster.

The automated testing centres around another Ansible playbook, CheckInstances.yml. This playbook gathers all of our tagged EC2s then runs the URL checking script using each one's public IP; the idea here was to be able to add and remove EC2s without needing to modify an inventory every time. Finally, another script sets the necessary keys and webmaster email as environment variables for use in testing. All of this is automated using crontab to run everything every five minutes by default. The user can use sudo tail on the management server at any time to verify that the testing is taking place.