

Exercise Sheet 5

Your task is to solve the exercises of this exercise sheet and write down precise instructions with the steps you performed to build up the desired virtual web server infrastructure with EC2.

Be prepared to demonstrate your solution live during the exercise session.

Exercise 1 (Create a simple Web Server)

Implement a highly available web server with the Amazon Web Services (AWS).

Start an server instance with the Linux operating system in EC2 (Elastic Compute Cloud). Install in the instance a web server software like Apache [1] or nginx [2]. The web server should be accessible from the internet and show a web page. The site content does not matter.

[1] <http://httpd.apache.org>

[2] <http://nginx.org>

Exercise 2 (Persistent Storage)

Valuable data should be stored in a persistent storage. In order to satisfy this condition, create an elastic block store volume with the file system `ext3` and attach the volume to your server instance. Move the web page(s) of your web server on the volume, adjust your web server configuration file and restart the web server software.

Exercise 3 (Realize a High Throughput Cluster)

Start a second server instance in EC2, which contains the Linux operating system, the web server software and has a persistent storage volume attached. Try to simplify the start of the second instance by using an image and snapshots.

Create an elastic load balancer which distributes incoming requests to the web server instances.

Test if your virtual web server infrastructure works. If you request the load balancer multiple times, both web server instances should be addressed.