SWE 103 INTRODUCTION TO SOFTWARE ENGINEERING

PROJECT 3: Publishing a static web page on cloud

Due date: 23.12.2025 Tuesday, in class.

Goal: This project involves the development and deployment of a Static Website on a cloud infrastructure (see Figure 1). Unlike dynamic sites that require server-side processing, this site will consist of pre-rendered HTML, CSS, and JavaScript contents. The goal is to learn how to create a web page in local computer and publish it on a cloud server. You can use either Amazon Web Services (AWS) or Microsoft Azure. This foundational practice will teach you to create, configure and test cloud services efficiently.

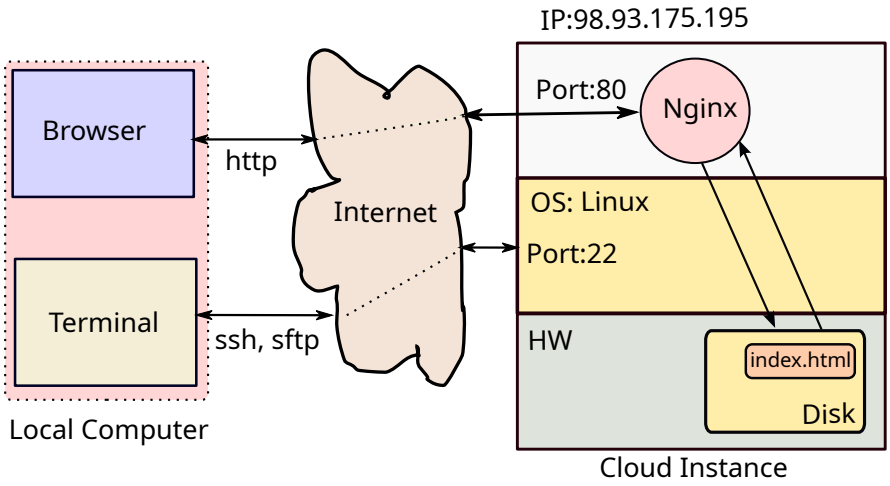

Figure 1. Block diagram for project 4 workload.

Project Objectives:

- To create a new cloud account on AWS or Azure.
- To install and configure server software (Nginx) on the cloud instance.
- To configure port settings for a secure access communication and HTTP traffic (port 22 and 80).
- To create and test a web page on the local computer using HTML, CSS and JavaScript.
- To create directories and give required access permissions.
- To deploy the local web page to the cloud instance using SFTP.
- To test the web page using any device capable of running a browser.

Checklist of tasks and workload:

1. Create a web page on your local computer using your favorite editor:

   The page must include an image and some style work on the text. You can add JavaScript as well but not required. I would preferably see your resume and put your image to the page (put some effort and try to impress visitors). You can name your web page “index.html” which is a default file for web server (then the url will be “http://IP_number_of_cloud_instance”). If you give other names such as “test.html”, then you should add the file name to the deploy url (e.g. “http://IP_number_of_cloud_instance/test.html”). Test your page with your local browser using url as “file:///full_path_to_the_web_page_file_name”.

2. Create a new AWS or Azure cloud account:

   Set networking properties properly; ports 22 and 80 (ssh, sftp, http) are open.

3. Create a folder in your home for the web pages:

   The folder must be in home directory (“/home/ec2-user” for AWS) and named “www”. Give permissions properly to the home directory (and www folder if necessary) so that the Nginx server can acess your web pages.

4. Install and configure Nginx:

   Install Nginx web server as described in the class, then manupulate the “/etc/nginx/nginx.conf” file to forward http requests to “/home/ec2-user/www” for AWS instances. Check the lecture slides for details. Enable and start Nginx (reload it if you change the configuration while it is running).

5. Deploy your local web page to the cloud instance:

   Use sftp or scp commands to transfer your local web page to the cloud instance. Move the file into www folder, if it is not there.

6. Test your web page using local browser:

   Open up a browser on your computer or any other device such as tablet or phone. Enter the url with the IP of the instance. Check if everything is working properly.

Note:

1. Each student in the group will do and show his/her web page during the presentation.
2. Practice before coming, all tasks must end in 5 -10 minutes.

DON’T FORGET TO TERMINATE THE CLOUD SERVICES AND INSTANCES!!!