CONCLUSION

During this assignment, the author has researched, studied, and shown the skills he has gained during the OOPS course. The author is a newbie for this, so the excitement the author experienced during this work can be compared to the first steps of a baby. Probably, the biggest but not only the excitement the author has experienced is the ability to ‘talk’ to the remote machines, the machines that have been set and configured by the author. Another great thing the author has learned is the ability to work on different types of operating systems such as Ubuntu. By that time the author has been working only on Windows-based machines. The first impression of the Ubuntu[9] operating system is nice looking GUI, comfortable in use for ordinary users, and its automatic configuration during the first installation. Ubuntu has become the most popular "Linux": it is it that is maximally adapted to the average user and less often than others require communication with the command line. The developers have optimized the system so that the transition from other common home operating systems is ideal as if nothing special has changed.

The author has also studied and learned how to install and configure the web application server on the virtual machine. In this assignment, the author has installed the Apache2 service. The author has also expanded his knowledge in this matter, so the author has installed and configured the Tom Cat[3] server on his VM machine. Apache is short for Apache HTTP server. It provides many features like CGI, SSL, and virtual domains. Tomcat is a web container that runs web applications based on Servlet and Java Server Pages. It can also be used as an HTTP server. Both differ in many features like speed, configuration, etc.

The author had gained some experience in working with the Beautiful Soup[8] Python package. This was the first author's acquaintance with a web page ‘scraper’. Web scraping is a programming technique for extracting data from websites. The process of retrieving data from websites can be done manually, but it is slow and tedious when there is a lot of data. Web Scraping provides a more automated and easier way to extract information from websites. Web scraping is more than just retrieving data: it can also help you archive data and track changes in data online.

As the author has already mentioned at the beginning of this document, the biggest excitement the author has experienced is the ability to connect and control the remote machine using Python scripting. In this assignment, the author has learned about SSH connections, RSA keys, PEM keys[6,7], the way they can be transferred from one machine to another remote machine and, how the keys can be converted in different formats. The author has also learned about other assigned ethernet ports and their designation[5]. Port 22 - SSH, 23 – Telnet , 80 -HTTP, and so on. All this is done using Python, which is one of the popular programming languages. The challenge the author has faced during this assignment is the correctly composed Python script, that must be written referencing Scripting Best Practices and the PEP8. PEP8 can be defined as a document describing the generally accepted style of coding in Python. Python Enhanced Proposal (PEP) - This translates as proposals for improving the Python language. The author had a bit of experience in Python scripting, but the scripts have never followed the PEP or the Best Practice Scripting[1]. When you do something not a proper way and for a long time, then it is very difficult to re-teach yourself and start doing things the right way.

The author has also learned and gained skills in Terraform[10] scripting and AWS (Amazon Web Service). The author has learned how to create and control the instance on AWS. As an instance, the author has chosen a simple Linux machine. Through reading the documentation[4], the author was able to create an instance and apply a custom security group, RSA key, IAM instance profile, and so on. Also, the author was learned how to write the Terraform script, with the ability to use the variables and print on the screen the required information once the instance is created.

Note: The copy of the assignment can be found in the Git HUB repository: <https://github.com/vrednyj/OOP_CA_Lab2>

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