

TNE20003 – Internet and Cybersecurity for Engineering Applications

Portfolio Task – Lab 7 Pass Task

Aims:

- To develop a network client program to connect to a remote system and download data/information

Preparation:

- View "[Internet Enabled Programming](#)"

Due Date:

- Your Task will be assessed via an online quiz. You must score the required minimum to pass the test. You will be allowed a number of attempts to pass the test at the grade level you attempt. You are encouraged to complete the test at the end of the lab but if you do not, you must complete it before your next lab class.

Task 1

If you don't already have Python on your computer then you will need to download it from here

[Python](#)

Task 2

Once downloaded install it on your system making sure that you include the path option under the installation.

Task 3

- Using the lecture notes and your prior knowledge of Programming via Ruby and or C and or C# and or C++, depending on your background, start configuring the code which will allow you to download the content of a webpage.
- In this task, you will be connecting to a remote web server and downloading a HTML page. Since the move to HTTP version 1.1, and the widespread adoption of HTTPS, downloading a web page is more complex than it used to be. As such, there are a number of standard Python libraries to handle all the difficult stuff for you. However, you **MUST NOT** use these libraries to complete this task. The point of this task is to build a generic client program to connect to a generic system, not to build a web page downloader.

To simplify the coding task to something more relevant for a generic program, we will be using HTTP version 1.0. This will cause the remote server to auto-close the connection when the download has finished. HTTP 1.1 not only keeps the connection open but uses a process called “chunked transfer” which adds complexity to retrieving data. HTTP 1.0 lets you create a simple loop to read data from the server, and when the server is finished, the connection is closed and your loop should automatically terminate.

There are limited systems running HTTP version 1.0, most web servers will return an error if you try. Having said that, the Google home page (<http://www.google.com>) not only supports HTTP version 1.0, but also functions without encryption (no HTTPS)

Methodology:

Examine the HTTP 1.0 protocol to get an understanding of how to format your request to the server to fetch content. Refer to lecture content, and online materials for support. One such site is "[Using sockets in python](#)".

Summary of Pass Task:

You will need to develop a Python program to connect to <http://www.google.com>, and download the landing page. Your program will need to:

- Connect to the google server

- Construct the HTML request string to fetch the page "/"

- Download the entire response from the google site

- Print downloaded response to screen

Assessment:

Not completing this task will result in you failing the Unit

To pass this task, you must demonstrate the functioning program to your Lab Supervisor. Upon successful demonstration and this task will be marked as complete, but to pass the task you must score the required minimum to pass the online quiz. You will be allowed a number of attempts to pass the test at the grade level you attempt. You are encouraged to complete the test at the end of the lab but if you do not, you must complete it before your next lab class.