SAÉ3.02
User documentation

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1 Introduction

This document is the user documentation for the remote control program made for the SAÉ3.04. It dwells upon the server deployment and the user frontend.

2 Server

2.1 Prerequisites

The server uses the `psutil` package from PyPI, either install it system-wide using `pip install psutil` or in a virtual environment with the following commands. This package provides easy access to information such as the CPU and RAM utilization or IP addresses.

```
python3 -m venv .venv
source .venv/bin/activate
pip install psutil
```

Listing 1: Creation of the virtual environment

2.2 Starting the server

Once `psutil` is installed, simply execute `main.py`, the server will by default listen on TCP port 10000, it is however possible to start the server on another port by adding it as an attribute.

```
python3 main.py <PORT>
```

Listing 2: Starting the server

To ensure that the server is able to restart properly, it will try to bind to the specified port indefinitely every ten seconds, *even if the port is not available to the user*.

3 Client

3.1 Prerequisites

The client uses `PyQT5` for its Graphical User Interface.

3.2 Usage

The client uses tabs to organize the multiple connection it is able to make.

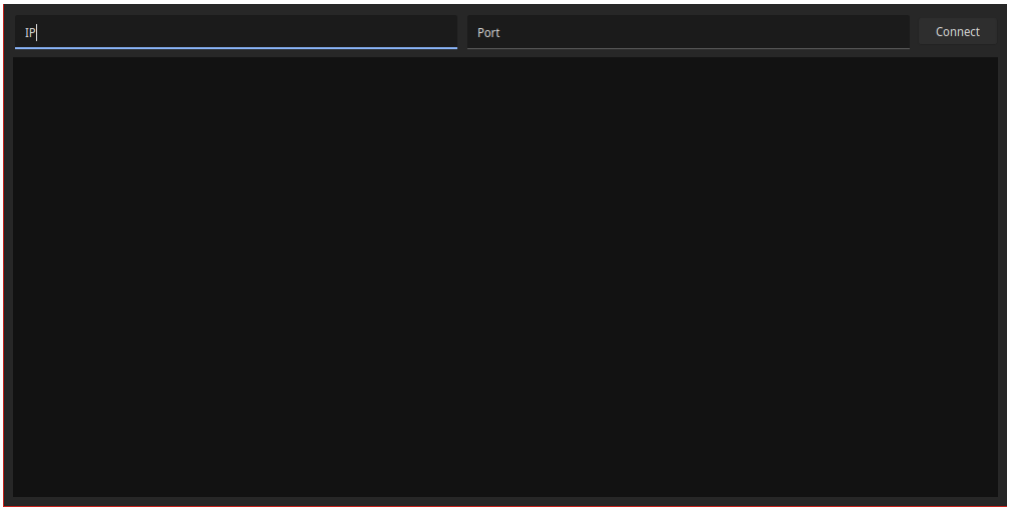

Figure 1: Client first time launch

To open a new connection, enter the server's IP address and port in the two fields on top and click the "Connect" button. If the connection is successful, this will open a new tab.

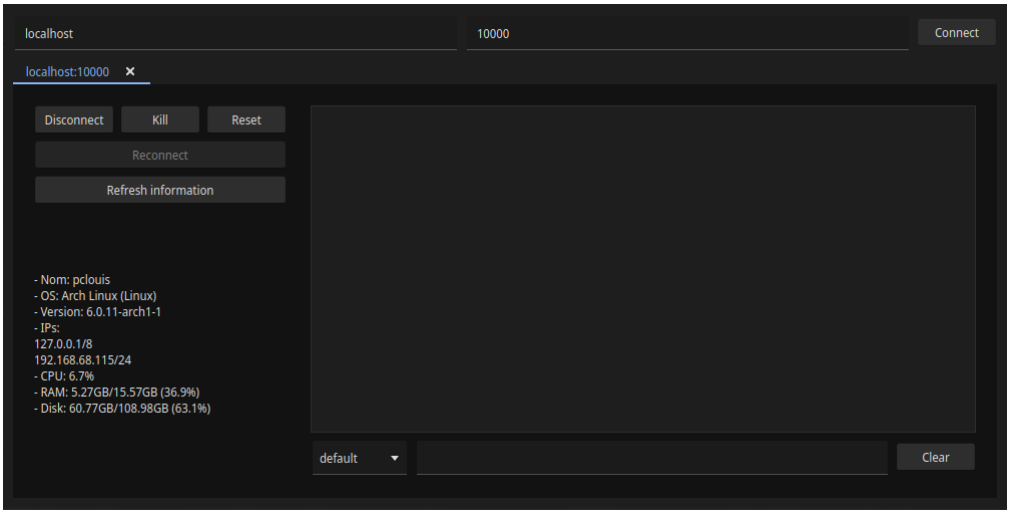

Figure 2: First connection

The interface consists of two panes, the left is the server control and the information about the machine it is running on, the right is the "shell" to send commands to the server.

3.2.1 Server control and information

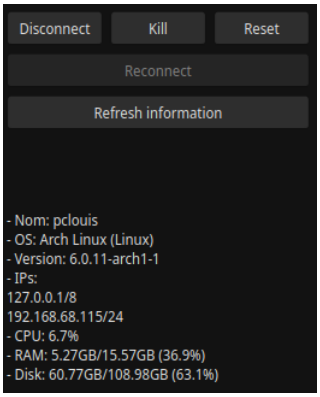

Figure 3: Left pane

This section is used to control the server state, the buttons allows to either disconnect from the server, kill the server and reset the server[1]. Once one of these buttons are pressed, the "Reconnect" is enabled. The information about the machine is automatically requested when the connection is created, however, the "Refresh information" button is available as long as the client is still connected.

3.2.2 Server shell

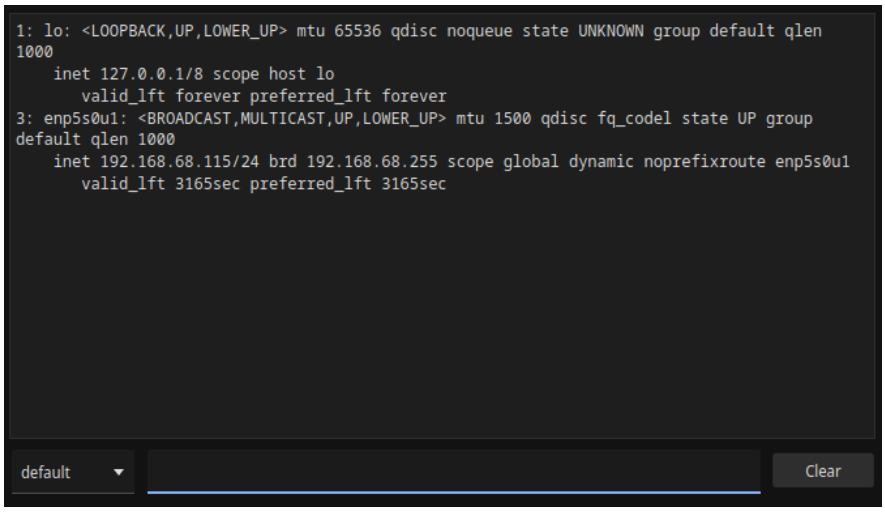

Figure 4: Right pane

To send a command to the server, enter the command in the field and press the enter key. The ComboBox offers a choice of different shells, such as DOS or PowerShell for Windows. To clear the screen, use the button next to the command field.

[1]This recreates the socket on the server side, it can take up to a minute.

3.3 Save servers in a CSV file

The application is able to connect automatically on servers at startup, this is done using the `servers.csv` file. This file must be in the same directory as the application's `main.py` file. The application excepts a comma separated list of: the server's name, IP address and port.

```
dev serv,localhost,10000
test serv,localhost,10001
```

Listing 3: Example of a CSV file expected by the client