# Use Case Scenario Examples

## Scenario 1 - Find the number of online hosts

### Requirements:

Count the number of devices connected to the subnet.

### Pre-conditions:

The database contains a list of devices connected to the switch.

### Post-conditions:

The system will count the number of connected devices and output this number to the user.

### Invariants:

The switch keeps track of all connected devices.

### Scenario:

User selects count online devices option.  
Get list of all connected devices, and subsequently count the number of them.

## Scenario 2 – Find MAC and IP address of a device

### Requirements:

The device must be online.  
The user has a way of identifying the device to pick it out from all the others.

### Pre-conditions:

The user does not know the MAC or IP address of the device in question.  
The IP address is static and reserved.

### Post-conditions:

The user is provided with the MAC and IP address of a specific device.

### Invariants:

The MAC and IP address.

### Scenario:

User selects option to search for a device’s MAC and IP address.

Compare search criteria, such as device name, with list of connected devices, then when a match is found output the relevant MAC and IP address.

## Scenario 3 – Find the number of free IP addresses

### Requirements:

List of IP addresses available on subnet.  
Number of IP addresses used.

### Pre-conditions:

Some devices are connected, using a number of IP addresses that can be found.

### Post-conditions:

The user knows the number of IP addresses that are not being used on the subnet.

### Scenario:

First find the number of IP addresses that are allocated, then subtract that from the total number on the subnet.

## Scenario 4 – List name to IP address relationships

### Requirements:

Each device connected to the subnet will have a name as well as an IP address.

### Pre-conditions:

There will be a list of devices connected, and each entry will have its attributes listed.

### Post-conditions:

The relevant attributes are listed side by side, for each connected device.

### Scenario:

User selects option to list devices by name with their respective IP address.

This information is then read from the database and output for the user.