

# List Iteration

- **Iteration:** stepping through the list one at a time; one of the basic and most frequent operations you will do with a list
- Very simple using `for` statement

```
for device in device_list:  
    # do something with 'device'  
    print(device)
```

1 <sup>st</sup> iteration: device =	10.3.21.5
2 <sup>nd</sup> iteration: device =	10.3.21.6
3 <sup>rd</sup> iteration: device =	10.3.21.7



For loop = control structure  
The control structure reads like:

*For item/s in object* where item/s is an element of the object. The object is the data structure.

One of the main uses of a list is to go through it, either looking for an item, or else taking some actions on each item. This action is referred to as iterating through a list or through a similar sequenced data structure such as a tuple.

1 <sup>st</sup> iteration: device =	10.3.21.5
2 <sup>nd</sup> iteration: device =	10.3.21.6
3 <sup>rd</sup> iteration: device =	10.3.21.7

Note that control structures for iterating through sequences of things (reading lines in a file, going through items in a list), is covered in full in the module on Control Structures.

Here is an example of iterating through a list:

```
for device in device_list:  
    # do something with 'device'  
    print(device)
```

In the code above, a `for` statement is used to iterate through the `device_list`. Spoken in simple English, the statement says "For each item in 'device\_list', let 'device' point to that item, and perform the following actions.

For every iteration, the value of 'device' gets set to the next item in the list. In this way, you sequentially step through each item in the list.