

## Ways to bind C structs to python classes.

### 1. Creating the python wrapper of a generic C struct:

```
1.1 class ndpi_detection_module_struct(Structure):  
    pass  
1.2 class u6_addr(Union):  
    pass
```

### 2. Adding fields to the structure, two ways:

#### 2.1 Setting `_fields_` in the constructor

```
class Example_struct(Structure):  
    _fields_ = [ ("example",c_uint8), ("name",c_uint16)]
```

#### 2.2 Or after creating the struct:

```
example_struct._fields_ = [("example",POINTER(example_struct))]
```

#### Notes:

1. It is not possible to declare a pointer to `Example_struct` with the first method.
2. The order of the fields specified in C must be kept in python
3. In C, the fields present in the struct can be changed a compile time by the use of `ifndef`. All the possibilities must be handled by creating multiple python `Structure`.

## Wrapping C functions.

### 1. Declare restype:

```
<var_name>.<function_name>.restype = <c type> #of the return value
```

### 2. Declare the type of the argument

```
<var_name>.<function_name>.argtypes = [ <c arg0 type>, <c arg1 type>, ... , <c  
argN type>]
```

#### Notes:

1. if the return type is `char*` it is preferable to declare the restype as `c_void_p` and then convert it using cast.
2. These steps are optional in case of primitive C types, but it's highly recommended.