

---

**tr064**

***Release 0.1.1***

**Oct 13, 2020**



---

## Contents

---

<b>1</b>	<b>Installation</b>	<b>3</b>
1.1	TR-064 API . . . . .	3
1.2	Examples . . . . .	5
	<b>Python Module Index</b>	<b>9</b>
	<b>Index</b>	<b>11</b>



This package provides a very lightweight and straight-forward [TR-064](#) client, that pulls every information about supported services from the routers description files.

---

**Note:** This documentation is a work in progress. Feedback and revisions are most welcome!

---



# CHAPTER 1

---

## Installation

---

Easiest way to install is to use `pip`:

```
$ python3 -m pip install tr064
```

To update a previous version:

```
$ python3 -m pip install --upgrade tr064
```

## 1.1 TR-064 API

### 1.1.1 General usage

Create a client connection to the router:

```
import tr064

client = tr064.Client('username', 'password', 'http://192.168.178.1:49000')

res = client.InternetGatewayDevice.DeviceInfo.GetInfo()
print(res.NewManufacturerName)
```

Actions (functions) are executed by append device, service and action to the client:

```
Client.DeviceName.ServiceName.ActionName(Arguments, ...)
```

If a service is offered multiple times, actions can be accessed by the zero-based square bracket operator:

```
Client.DeviceName.ServiceName[1].ActionName(Arguments, ...)
```

See more *Examples*.

---

**Note:** If services, actions or arguments contain a minus sign –, it must be replaced with an underscore \_ and vice versa.

---

## 1.1.2 API

### Client

**class** `tr064.client.Client` (*username, password, base\_url='https://192.168.178.1:49443'*)  
TR-064 client.

#### Parameters

- **username** (*str*) – Username with access to router.
- **password** (*str*) – Password to access router.
- **base\_url** (*str*) – URL to router.

### Exceptions

TR-064 exceptions.

**exception** `tr064.exceptions.TR064Exception`  
TR-064 base exception.

**exception** `tr064.exceptions.TR064UnknownDeviceException`  
TR-064 unknown device exception.

**exception** `tr064.exceptions.TR064UnknownServiceException`  
TR-064 unknown service exception.

**exception** `tr064.exceptions.TR064UnknownServiceIndexException`  
TR-064 unknown service index exception.

**exception** `tr064.exceptions.TR064UnknownActionException`  
TR-064 unknown action exception.

**exception** `tr064.exceptions.TR064UnknownArgumentException`  
TR-064 unknown argument exception.

**exception** `tr064.exceptions.TR064MissingArgumentException`  
TR-064 missing argument exception.

---

**Note:** All following classes are never used directly! They are only documented for the sake of completeness.

---

### Device

**class** `tr064.device.Device` (*xml, auth, base\_url*)  
TR-064 device.

#### Parameters

- **xml** (*lxml.etree.Element*) – XML device element



- **auth** (*HTTPBasicAuthHandler*) – HTTPBasicAuthHandler object, e.g. HTTPDigestAuth
- **base\_url** (*str*) – URL to router.

## Service

**class** tr064.service.**Service**(*auth, base\_url, service\_type, service\_id, scpurl, control\_url, event\_sub\_url*)  
TR-064 service.

## Action

**class** tr064.action.**Action**(*xml, auth, base\_url, name, service\_type, service\_id, control\_url*)  
TR-064 action.

### Parameters

- **xml** (*lxml.etree.Element*) – XML action element
- **auth** (*HTTPBasicAuthHandler*) – HTTPBasicAuthHandler object, e.g. HTTPDigestAuth
- **base\_url** (*str*) – URL to router.
- **name** (*str*) – Action name
- **service\_type** (*str*) – Service type
- **service\_id** (*str*) – Service ID
- **control\_url** (*str*) – Control URL

## Helper

**class** tr064.attribute\_dict.**AttributeDict**  
Direct access dict entries like attributes.

**class** tr064.service\_list.**ServiceList**  
Service list.

# 1.2 Examples

All devices and services used in the following examples are taken from the [TR-064 Description XML](#). Used actions are described in the XML referred with the SCPDURL element of each service. More details about the action can be obtained from the router manufacturer.

Devices/Services/Actions:

- *InternetGatewayDevice*
  - *DeviceInfo*
    - \* *GetInfo*
    - \* *GetSecurityPort*
- *LANDevice*

- *Hosts*
  - \* *GetHostNumberOfEntries/GetGenericHostEntry*
- *WLANConfiguration*
  - \* *GetInfo/SetEnable*

## 1.2.1 InternetGatewayDevice

### DeviceInfo

Support urn:DeviceInfo-com:serviceId:DeviceInfo1.

### GetInfo

Getting router information:

```
res = client.InternetGatewayDevice.DeviceInfo.GetInfo()
print('ManufacturerName', res.NewManufacturerName)
print('ManufacturerOUI', res.NewManufacturerOUI)
print('ModelName', res.NewModelName)
print('Description', res.NewDescription)
```

### GetSecurityPort

Get port for secure access:

```
unsafe_client = tr064.Client('username', 'password', 'http://192.168.178.1:49000')
res = unsafe_client.InternetGatewayDevice.DeviceInfo.GetSecurityPort()

safe_client = tr064.Client('username', 'password', 'https://192.168.178.1:{}'.
    ↪format(res.NewSecurityPort))
```

## 1.2.2 LANDevice

### Hosts

#### GetHostNumberOfEntries/GetGenericHostEntry

List all assigned network devices:

```
number_of_entries = client.LANDevice.Hosts.GetHostNumberOfEntries()
for index in range(int(number_of_entries.NewHostNumberOfEntries)):
    host = client.LANDevice.Hosts.GetGenericHostEntry(NewIndex=index)
    print(host.NewIPAddress, host.NewMACAddress, host.NewHostName)
```

## WLANConfiguration

### GetInfo/SetEnable

Enable third WLAN device if not enabled:

```
info = client.LANDevice.WLANConfiguration[2].GetInfo()
if not bool(info.NewEnable):
    client.LANDevice.WLANConfiguration[2].SetEnable(NewEnable=1)
```



**t**

`tr064.exceptions`, 4



### A

Action (*class in tr064.action*), 5

AttributeDict (*class in tr064.attribute\_dict*), 5

### C

Client (*class in tr064.client*), 4

### D

Device (*class in tr064.device*), 4

### S

Service (*class in tr064.service*), 5

ServiceList (*class in tr064.service\_list*), 5

### T

tr064.exceptions (*module*), 4

TR064Exception, 4

TR064MissingArgumentException, 4

TR064UnknownActionException, 4

TR064UnknownArgumentException, 4

TR064UnknownDeviceException, 4

TR064UnknownServiceException, 4

TR064UnknownServiceIndexException, 4