

# Python XML Parsing – Complete Examples

## Python XML Parsing

**Python XML Parsing**– We shall learn to parse xml documents in python programming language. There are many options available out there. We shall go through enough example for the following libraries

- ElementTree
- cElementTree
- minidom
- objectify

We shall look into examples to parse the xml file, extract attributes, extract elements, etc. for all of the above libraries.

We shall consider following xml file for examples going forward in this tutorial.

```
<?xml version="1.0" encoding="UTF-8" ?>
<holidays year="2017">
  <holiday type="other">
    <date>Jan 1</date>
    <name>New Year</name>
  </holiday>
  <holiday type="public">
    <date>Oct 2</date>
    <name>Gandhi Jayanti</name>
  </holiday>
</holidays>
```

## ElementTree – Python XML Parser

ElementTree comes along with python.

### Get Root Tag Name

**example.py – Python Program**

```
# Python XML Parsing
import xml.etree.ElementTree as ET
root = ET.parse('sample.xml').getroot()
tag = root.tag
print(tag)
```

**Output**

```
tutorialkart@arjun-VPCEH26EN:~/PycharmProjects/PythonTutorial/parsing$ python python_xml_parse
holidays
```

## Get Attributes of Root

### example.py – Python Program

```
# Python XML Parsing
import xml.etree.ElementTree as ET
root = ET.parse('sample.xml').getroot()

# get all attributes
attributes = root.attrib
print(attributes)

# extract a particular attribute
year = attributes.get('year')
print('year : ',year)
```

### Output

```
tutorialkart@arjun-VPCEH26EN:~/PycharmProjects/PythonTutorial/parsing$ python python_xml_parse
{'year': '2017'}
year : 2017
```

## Iterate over child nodes of root

### example.py – Python Program

```
# Python XML Parsing
import xml.etree.ElementTree as ET
root = ET.parse('sample.xml').getroot()

# iterate over all the nodes with tag name - holiday
for holiday in root.findall('holiday'):
    print(holiday)
```

### Output

```
tutorialkart@arjun-VPCEH26EN:~/PycharmProjects/PythonTutorial/parsing$ python python_xml_parse
<Element 'holiday' at 0x7fb5a107d3b8>
<Element 'holiday' at 0x7fb59fc2f868>
```

## Iterate over child nodes of root and get their attributes

### example.py – Python Program

```
# Python XML Parsing
import xml.etree.ElementTree as ET
root = ET.parse('sample.xml').getroot()

# iterate over child nodes
for holiday in root.findall('holiday'):

    # get all attributes of a node
    attributes = holiday.attrib
    print(attributes)

    # get a particular attribute
    type = attributes.get('type')
    print(type)
```

## Output

```
tutorialkart@arjun-VPCEH26EN:~/PycharmProjects/PythonTutorial/parsing$ python python_xml_parse.py
{'type': 'other'}
other
{'type': 'public'}
public
```

## Access Elements of a Node

### example.py – Python Program

```
# Python XML Parsing
import xml.etree.ElementTree as ET
root = ET.parse('sample.xml').getroot()

# iterate over all nodes
for holiday in root.findall('holiday'):

    # access element - name
    name = holiday.find('name').text
    print('name : ', name)

    # access element - date
    date = holiday.find('date').text
    print('date : ', date)
```

## Output

```
tutorialkart@arjun-VPCEH26EN:~/PycharmProjects/PythonTutorial/parsing$ python python_xml_parse.py
name : New Year
date : Jan 1
name : Gandhi Jayanti
date : Oct 2
```

## Access Elements of a Node without knowing their tag names

### example.py – Python Program

```
# Python XML Parsing
import xml.etree.ElementTree as ET
root = ET.parse('sample.xml').getroot()

for holiday in root.findall('holiday'):
    # access all elements in node
    for element in holiday:
        ele_name = element.tag
        ele_value = holiday.find(element.tag).text
        print(ele_name, ' : ', ele_value)
```

## Output

```
tutorialkart@arjun-VPCEH26EN:~/PycharmProjects/PythonTutorial/parsing$ python python_xml_parse.py
date : Jan 1
name : New Year
date : Oct 2
name : Gandhi Jayanti
```

## Python Programming

▸ [Python Tutorial](#)

▸ [Install Python](#)

▸ [Install Anaconda Python](#)

▸ [Python HelloWorld Program](#)

▸ [Python Variables](#)

▸ [Python Variable Data Type Conversion](#)

▸ [Python Comments](#)

## Control Statements

▸ [Python If](#)

▸ [Python If Else](#)

▸ [Python While Loop](#)

▸ [Python For Loop](#)

## Python String

▸ [Python String Methods](#)

▸ [Python String Length](#)

▸ [Python String Replace](#)

▸ [Python Split String](#)

▸ [Python Count Occurrences of Sub-String](#)

▸ [Python Sort List of Strings](#)

## Functions

▸ [Python Functions](#)

## Python Collections

▸ [Python List](#)

▸ [Python Dictionary](#)

## Advanced

▸ [Python Multithreading](#)

## Useful Resources

▸ [Python Interview Questions](#)