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# **Shajara Documentation**

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# CHAPTER 1

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## Classes

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|                              |                                           |
|------------------------------|-------------------------------------------|
| <i>Node</i> ([value, label]) |                                           |
| <i>NodeProcessor</i>         |                                           |
| OrderedDict                  | Dictionary that remembers insertion order |
| <i>Tree</i> ([root])         | Generic tree representation               |

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## 1.1 Node

**class** shajara.**Node** (value=0, label="")  
Bases: object

### Methods Summary

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*append\_child*(label, node)

---

### Methods Documentation

**append\_child** (label, node)

## 1.2 NodeProcessor

**class** shajara.**NodeProcessor**  
Bases: object

### Methods Summary

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```
final(tree)
init(tree)
process(node)
result()
```

---

## Methods Documentation

```
final (tree)
init (tree)
process (node)
result ()
```

## 1.3 Tree

```
class shajara.Tree (root=None)
```

Bases: `object`

Generic tree representation

### Parameters

- **value** (*ANY*) – the value of the root node
- **label** (*ANY*) – the label of the root node

**root**  
The root node

**Type** *Node*

**node\_stack**  
the stack for browsing nodes

**Type** array

## Methods Summary

|                                |                                                          |
|--------------------------------|----------------------------------------------------------|
| <i>add_child</i> (label, node) | Adds a child to the current node.                        |
| <i>current_node</i> ()         | Returns the current node                                 |
| <i>get_root</i> ()             | Returns the root of the tree                             |
| <i>process</i> ([processor])   | Short summary.                                           |
| <i>select_child</i> (label)    | Select a child node of the current one, using its label. |
| <i>up</i> ()                   | Select the parent of the current node.                   |

## Methods Documentation

```
add_child (label, node)
    Adds a child to the current node. To browse the nodes use select_child and up
```

### Parameters

- **label** (*str or int*) – The label of the arc

- **node** (*Node*) – The node to add as a child

**Returns** this object

**Return type** *Tree*

**current\_node** ()

Returns the current node

**Returns** The current node

**Return type** *Node*

**get\_root** ()

Returns the root of the tree

**Returns** The root of the tree if it exists or None

**Return type** *Node*

**process** (*processor=<shajara.NodeProcessor object>*)

Short summary.

**Parameters** **processor** (*NodeProcessor*) – the processor used to manipulate the tree starting from its root

**Returns** The result of processing, it can be None, a node, a string, etc.

**Return type** *type*

**select\_child** (*label*)

Select a child node of the current one, using its label. Used to browsing the tree down.

**Parameters** **label** (*str or int*) – the label of the label of the arc

**Returns** this object

**Return type** *Tree*

**up** ()

Select the parent of the current node. Used to browsing the tree up.

**Returns** this object

**Return type** *type*





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## shajara.create Module

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### 2.1 Classes

|                                |                                                            |
|--------------------------------|------------------------------------------------------------|
| <i>GenerateProcessor</i> (rep) | Generates a tree given a representation using dictionaries |
| Node([value, label])           |                                                            |
| NodeProcessor                  |                                                            |

#### 2.1.1 GenerateProcessor

**class** shajara.create.**GenerateProcessor** (rep)  
 Bases: *shajara.NodeProcessor*  
 Generates a tree given a representation using dictionaries  
**Parameters** **rep** (*dict*) – A dictionary representing the tree  
**rep**

#### Methods Summary

---

*init*(tree)

---

#### Methods Documentation

**init** (tree)



### 3.1 Classes

|                          |                                        |
|--------------------------|----------------------------------------|
| <i>GraphvizProcessor</i> | Generates DOT representation of a tree |
| <i>NodeProcessor</i>     |                                        |

#### 3.1.1 GraphvizProcessor

**class** shajara.plot.**GraphvizProcessor**

Bases: *shajara.NodeProcessor*

Generates DOT representation of a tree

#### Methods Summary

|                     |
|---------------------|
| <i>final</i> (tree) |
| <i>init</i> (tree)  |
| <i>result</i> ()    |

#### Methods Documentation

**final** (tree)

**init** (tree)

**result** ()



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