Distributed Programming II

A.Y. 2016/17

Assignment n. 2 – Neo4JXML REST API Documentation

Neo4JXML provides the possibility to create a set of nodes connected by relationships. Each node can have properties (i.e. name-value pairs) and labels (i.e. strings).

PART1: RESOURCES

Neo4JXML REST API includes the following resources:

localhost:8080/Neo4JXML/rest/	base URL of the service
localhost:8080/Neo4JXML/rest/application.wadl	WADL description of the service
localhost:8080/Neo4JXML/rest/resource/	the main resource of the service
localhost:8080/Neo4JXML/rest/resource/nodes	the set of nodes
localhost:8080/Neo4JXML/rest/resource/node/id	the node identified by id
localhost:8080/Neo4JXML/rest/resource/node/id/label	the set of labels of node id
localhost:8080/Neo4JXML/rest/resource/node/id/label/idl	the label of node id named idl
localhost:8080/Neo4JXML/rest/resource/node/id/relationship	the relationships of node named id
localhost:8080/Neo4JXML/rest/resource/relationship	the set of all relationships
localhost:8080/Neo4JXML/rest/resource/relationship/idr	the relationship named idr

PART2: OPERATIONS

Create Node with properties

Example request

- **POST** localhost:8080/Neo4JXML/rest/resource/node/
- **Content-Type:** application/xml
- **BODY:**

```
<node xmlns="http://www.example.org/Neo4J">
<property name="name" value="Client0"/>
</node>
```

Example response

- **200:** OK
- **Content-Type:** application/xml
- **BODY:**

```
<node xmlns="http://www.example.org/Neo4J" id="15">
<property name="name" value="Client0"/>
</node>
```

Get Node by ID

Example request

- **GET** localhost:8080/Neo4JXML/rest/resource/node/0
- **Content-Type:** application/xml

Example response

- **200:** OK
- **Content-Type:** application/xml
- **BODY:**

```xml
<node xmlns="http://www.example.org/Neo4J" id="0">
<property name="name" value="Client0"/>
</node>
```

Delete Node by ID

Example request

- **DELETE** localhost:8080/Neo4JXML/rest/resource/node/0
- **Content-Type:** application/xml

Example response

- **204:** NO CONTENT
- **Content-Type:** text/plain

Delete all Nodes

Example request

- **DELETE** localhost:8080/Neo4JXML/rest/resource/nodes
- **Content-Type:** application/xml

Example response

- **204:** NO CONTENT
- **Content-Type:** text/plain

Get all Nodes

Example request

- **GET** localhost:8080/Neo4JXML/rest/resource/nodes
- **Content-Type:** application/xml

Example response

- **200:** OK
- **Content-Type:** application/xml
- **BODY:**

```xml
<nodes xmlns="http://www.example.org/Neo4J">
<node id="0">
<property name="name" value="Client0"/>
</node>
<node id="1">
<property name="name" value="server0"/>
<labels>
<value>Server</value>
</labels>
</node>
</nodes>
```

Create Label

Example request

- **POST** localhost:8080/Neo4JXML/rest/resource/node/15/label
- **Content-Type:** application/xml
- **BODY:**

```xml
<labels xmlns="http://www.example.org/Neo4J">
<value>Client</value>
</labels>
```

Example response

- **204:** No Content
- **Content-Type:** text/plain

Get Label by Node ID

Example request

- **GET** localhost:8080/Neo4JXML/rest/resource/node/15/label

Example response

- **200:** OK
- **Content-Type:** application/xml
- **BODY:**

```xml
<label xmlns="http://www.example.org/Neo4J">
```

```
<value>Client</value>
</label>
```

Delete Label by ID

Example request

- **DELETE** localhost:8080/Neo4JXML/rest/resource/node/15/label/Client

Example response

- **204:** NO CONTENT
- **Content-Type:** text/plain

Create Relationship connecting a Node to another Node

Example request

- **POST** localhost:8080/Neo4JXML/rest/resource/node/15/relationship
- **Content-Type:** application/xml
- **BODY:**
```
<relationship dstNode="2" type="Connection"
xmlns="http://www.example.org/Neo4J" />
```

Example response

- **200:** OK
- **Content-Type:** application/xml
- **BODY:**
```
<relationship xmlns="http://www.example.org/Neo4J" dstNode="2"
type="Connection" srcNode="15" id="3"/>
```

Get Relationship by ID

Example request

- **GET** localhost:8080/Neo4JXML/rest/resource/relationship/3

Example response

- **200:** OK
- **Content-Type:** application/xml
- **BODY:**
```
<relationship xmlns="http://www.example.org/Neo4J" dstNode="2"
type="Connection" srcNode="15" id="3"/>
```

Delete Relationship by ID

Example request

- **DELETE** localhost:8080/Neo4JXML/rest/resource/relationship/3

Example response

- **204:** NO CONTENT
- **Content-Type:** text/plain

Get the Paths that connect a Node to another Node with given Node ID

Example request

- **GET** localhost:8080/Neo4JXML/rest/resource/node/0/paths?dst=2

Example response

- **200:** OK
- **Content-Type:** application/xml
- **BODY:**

```xml
<paths xmlns="http://www.example.org/Neo4J">
<path dstNode="2" srcNode="0" length="1">
<node>0</node>
<node>2</node>
<relationship>0</relationship>
</path>
</paths>
```