

/nffgs	Retrieve the set of all nffgs or create a set of new nffgs
/nffg	Used to create a new nffg
/nffg/{id}	Retrieve an nffg given its name
/policies	Retrieve the set of all policies or create a set of new policies
/policy/{id}	Retrieve the information of a single policy
/policy	Used to create a single new policy or to verify a not stored policy
	*the way this operations are implemented are described below

### CREATE NFFG WITH NAME

POST	/nffg
Content-Type	application/xml
Accept	application/xml
Body	xsd type: Nffg
Response	201 – Created - application /xml type: xsd:XNffg Return the same entity we send to the service with a modification: the last update time is now set to the server actual time.
	403 Forbidden – Resource already existing - Nffg already existing (I don't used error 409 - Conflict because it is suggested to use it for PUT requests)
	500 - Internal Server Error – all problems concerning contacting neo4j
In case of service not available	404 - Problems, service not available – e.g. wrong url, WS not started

### GET all available Nffgs

GET	/nffgs
Accept	Application/xml
Response	200 application/xml Body type: xsd:Nffgs
In case of service not available	404 - Problems, service not available – wrong url ,WS not started
	Typically no other errors can occur as no queries are executed, neither to Neo4J service

### Get NFFG by name

GET	/nffg/{name}
Content-Type	Application/xml
Response	200 application/xml Body type: xsd:XNffg

	404 Not Found – If the nffg with the requested name is not available in the system
In case of service not available	404 - Problems, service not available – wrong URL, WS not started
	Note: an error 404 is automatically sent back if the name of the requested Nffg does not respect the regular expression on the name ( as explained in the intro.pdf of assignment 1)

#### DELETE NFFG by name – remove related policies

DELETE	/nffg/{name}?delpolicy=y Or /nffg/{name} Considering as default delpolicy=y
Response	200 application/xml Returns the information about the deleted Nffg. Deletes all the policies relaying on this NFFG.
	404 – The Nffg you want to delete is not available. Impossible to remove it
	500 – Internal Server Error – Occurs if you try to delete the Nffg from NEO4J and NEO4J is not reachable.
In case of service not available	404 - Problems, service not available – wrong URL, WS not started

#### DELETE NFFG by name – Do not remove related policies

DELETE	/nffg/{name}?delpolicy=n
Response	200 application/xml Returns the information about the deleted Nffg. Possible only if all policies relative to the nffg have already removed.
	404 – NotFound The Nffg you want to delete is not available. Impossible to remove it
	403 – Forbidden The policies referring to the nffg are still available. Remove all related policies and try again
	500 – Internal Server Error – Occurs if you try to delete the Nffg from NEO4J and NEO4J is not reachable.
In case of service not available	404 - Problems, service not available – wrong URL, WS not started

**Note: if delpolicy assumes values different from y/n an error:**

**405 – Method Not Allowed is returned. Please provide the query parameter: delpolicy=y or delpolicy=n. Alternatively do not specify the parameter delpolicy (default actions y is assumed)**

CREATE a new Policy overwriting a previously existing one

POST	/policy?overwrite=y
Content-Type	application/xml
Accept	application/xml
Body	xsd:XPolicy
Response	201 – Created - – application/xml Policy created, returns the information of the created policy
	404 – NotFound – The Policy refers to a Nffg that is not existing.
	500 – Internal Server Error – in case NEO4J is not available or retrieve some errors.
In case of service not available	404 - Problems, service not available – wrong URL, WS not started

CREATE a new Policy without overwriting a previously existing one

POST	/policy?overwrite=n
Content-Type	application/xml
Accept	application/xml
Body	xsd:XPolicy
Response	
	201 – Created - application/xml Policy created, returns the information of the created policy
	404 – NotFound – The Policy refers to a Nffg that is not existing.
	403 – Forbidden. The policy can't be created because another policy with the same name is present.
	500 – Internal Server Error – in case NEO4J is not available or retrieve some errors.
In case of service not available	404 - Problems, service not available – wrong URL, WS not started

If overwrite assumes values different from y or n an error:

**Error 403 – Forbidden is returned. Please provide the query parameter: overwrite=y or overwrite=n. Alternatively do not specify the parameter overwrite (default actions y is assumed).**

**NB IS IT A PROBLEM TO HAVE THE SAME STATUS CODE FOR DIFFERENT PROBLEMS?!**

GET all policies

GET	/policies
Content-Type	application/xml
Response	200 application/xml xsd:XPolicies Contains the set of all policies stored in the service with verification results
In case of service not available	404 - Problems, service not available – wrong URL, WS not started

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### CREATE a set of policies

POST	<b>/policies</b>
Query Parameter	?overwrite=y ?overwrite=n
Content-Type	application/xml
Accept	Application/xml
Response	200 application/xml xsd:XPolicies Contains the set of all policies just created
	404 – NotFound – At least one policy refers to a Nffg that is not existing.
	*403 – Forbidden. The set of policies can't be created because at least one policy witis present. *Only if ?overwrite=n is specifield
	**403 – Forbidden – The parameter overwrite assumes a not allowed value (only y/n or no parameter are allowed)
	500 – Internal Server Error – in case NEO4J is not available or retrieve some errors.
In case of service not available	404 - Problems, service not available – wrong URL, WS not started

### GET Policy given its name

GET	<b>/policy/{name}</b>
Content-Type	application/xml
Response	200 application/xml xsd:XPolicy Contains all the information of the given Policy
	200 / Body: xsd type: Policy
	404 – NotFound – In case the policy with the requested name is not stored in the database
In case of service not available	404 - Problems, service not available – wrong URL, WS not started

### DELETE Policy given its name

DELETE	<b>/policy/{name}</b>
Content-Type	application/xml
Body	
Response	200 application/xml xsd:XPolicy Contains the information of the deleted policy.
	404 – NotFound – The policy you want to delete is not stored in the database

In case of service not available	404 - Problems, service not available – wrong URL, WS not started

### DELETE all stored policies

DELETE	/policies
Response	204 - No content
In case of service not available	404 - Problems, service not available – wrong URL, WS not started

### UPDATE a Policy

PUT	/policy/{name}
Content-Type	application/xml
Accept	application/xml xsd:XPolicy
Response	200 application/xml xsd:XPolicy Contains the information of the updated policy
	403 – Forbidden – The Nffg the policy refers to does not exist.
	404 – NotFound – The policy you want to update does not exists.
In case of service not available	404 - Problems, service not available – wrong URL, WS not started

**NOTE: The policy name cannot be modified; it identifies in a unique way the policy itself! All the others parameters, including the nffg the policy refers to, can be modified.**

### VERIFICATION OF A POLICY ALREADY STORED IN THE SERVER

POST	/policy/{name}
Content-Type	application/xml
Response	200 application/xml xsd:XPolicy Contains the information of the verified policy, including all verification informations
	404 – NotFound – The policy you want to verify does not exists.
	500 – InternalServerError – Problems while contacting Neo4j
In case of service not available	404 - Problems, service not available – wrong URL, WS not started

**NOTE: to verify more than one policy, it is required to exploit multiple requests to the system.**

### VERIFICATION OF POLICY NOT STORED IN THE SERVER

POST	<b>/policy/verify</b>
Accept	Application/xml xsd:XPolicy Contains the information of the policy to be verified without storing it in the system
Content-Type	application/xml
Response	200 application/xml xsd:XPolicy Contains the information of the verified policy, including all verification informations
	404 – NotFound – The nffg or the nodes the policy requires to be verified are not stored in the system, impossible to satisfy the request
	500 – InternalServerError – Problems while contacting Neo4j
In case of service not available	404 - Problems, service not available – wrong URL, WS not started

**NOTE: to verify more than one policy, it is required to exploit multiple requests to the system.**