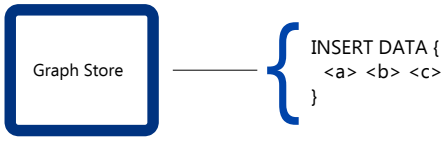
# SPARQL graphs

SPARQL Update 1.1

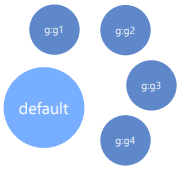
## Graph Store

Every SPARQL update is always executed on a Graph Store.



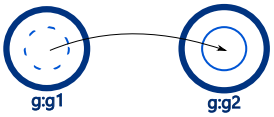

The Graph Store can be viewed as a mutable RDF Dataset.

A Graph store is composed by at least one unnamed graph called the DEFAULT GRAPH and zero or more NAMED GRAPHs identified by IRIs.



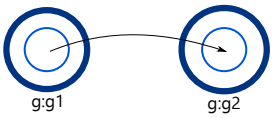

Graph Store

## Graph Store management primitives



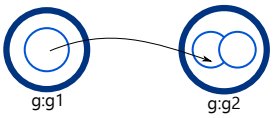

**Move**

**MOVE** (SILENT)? ( ( GRAPH )? g:g1 | DEFAULT) **TO** ( ( GRAPH )? g:g2 | DEFAULT)



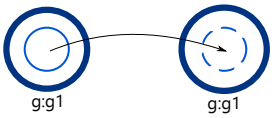

**Copy**

**COPY** ( SILENT )? ( ( GRAPH )? g:g1 | DEFAULT) **TO** ( ( GRAPH )? g:g2 | DEFAULT )



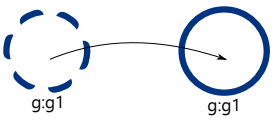

**Add**

**ADD** ( SILENT )? ( ( GRAPH )? g:g1 | DEFAULT) **TO** ( ( GRAPH )? g:g2 | DEFAULT)



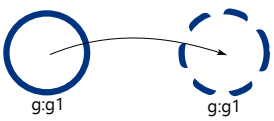

**Clear**

**CLEAR** ( SILENT )? (GRAPH g:g1 | DEFAULT | NAMED | ALL )



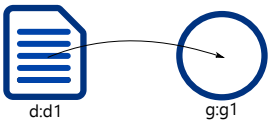

**Create**

**CREATE** ( SILENT )? GRAPH g:g1




**Drop**

**DROP** ( SILENT )? (GRAPH g:g1| DEFAULT | NAMED | ALL )




**Load**

LOAD ( SILENT )? d:d1 ( INTO GRAPH g:g1 )?

## Insert/delete triples in graphs

The update of one or more graph can be made with two groups of primitives: static updates and query based updates.

```
PREFIX p: <http://socialnetwork.com/people>

INSERT DATA{
   graph p:g1 {
      p:p1 foaf:knows p:Marco .
      p:p3 foaf:knows p:Francesco
   }
};
DELETE DATA{
   graph p:g1 {
      p:p1 foaf:knows p:Giacomo .
   }
}
```

```
PREFIX p: <http://socialnetwork.com/people>

INSERT{
   graph p:g1{
      p:p1 foaf:knows ?n .
      p:p3 foaf:knows ?n
   }
}WHERE{
   ?p   foaf:knows ?n .
   ?p  foaf:name "Francesca"
}
```

graphs can be selected with the GRAPH keyword.
NOTE:
if the graph clause is omitted than the update **should** modify the DEFAULT GRAPH of the Graph Store.

## Insert/Delete operation

An INSTERT/DELETE operation matches the query pattern with an RDF DATASET and updates a Graph Store. Nevertheles most of the time the Graph Store and RDF Dataset correspond.


```
PREFIX p: <http://socialnetwork.com/people>

INSERT{
   graph p:g1{
      p:p1 foaf:knows ?n .
      p:p3 foaf:knows ?n
   }
}WHERE{
   ?p   foaf:knows ?n .
   ?p  foaf:name "Francesca"
}
```

NOTE:
Blazegraph uses two different default graphs in the Graph store. In particular the RDF Merge is used for the Delete operations (also DELETE DATA) while a fake bd:nullGraph is used for the INSERT operations.

## With, Using and Using Named

Keywords like WITH, USING and USING NAMED select graphs in the Graph Store and in the RDF DATASET.

WITH <IRI> specifies the default graph both for GRAPH Store and for RDF Dataset. It is equivalent of wrapping all the declared triples with GRAPH <IRI>.

USING and USING NAMED have the exact semantic of FROM and FROM NAMED (i.e., are used to specify the RDF Dataset).

USING and USING NAMED they have always the highest