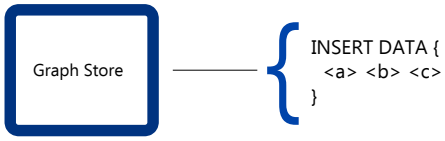
SPARQL graphs

SPARQL Update 1.1

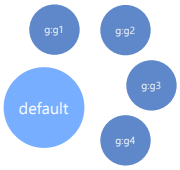
Graph Store

Every SPARQL update is always executed on a Graph Store.



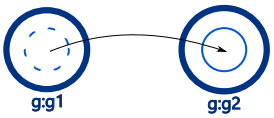
The Graph Store can be viewed as a mutable RDF Dataset.

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



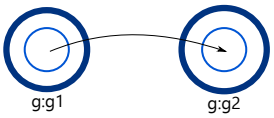
Graph Store

Graph Store management primitives



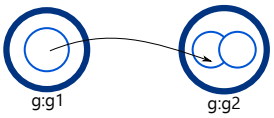
Move

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



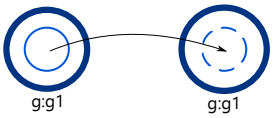
Copy

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



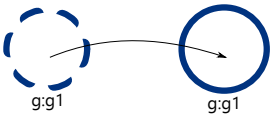
Add

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



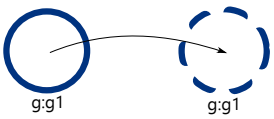
Clear

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



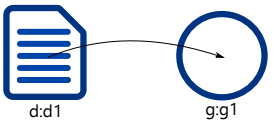
Create

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 "Marco".
      p:p3 foaf:knows "Francesco"
   }
};
DELETE DATA{
   graph p:g1 {
      p:p1 foaf:knows "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 "Francesca".
   ?p  foaf:name   ?n
}
```

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 "Francesca".
   ?p  foaf:name   ?n
}
```

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.

USING and USING NAMED they have always the highest priority over the WITH clause