

Graql Cheatsheet ^ 1.3

This cheatsheet is a quick reference guide for those already familiar with Graql. For further information and additional documentation, please see the Graql section on our developer portal at dev.grakn.ai/docs.

Variables

Variables start with \$ followed by alphanumeric characters.

Match clause

A match query will search the graph for any subgraphs that match the given pattern.

match { pattern; }+ [modifiers]

```
match $x isa person; get;
```

```
# Match several patterns together
match $x isa person, has firstname "John"; get;
```

Modifiers

```
# Get particular variables from the query
match $x isa person, has firstname $f, has surname $s;
get $f, $s;
```

```
# Skip some results & limit the number returned
match $x isa person, has identifier $id;
limit 10; offset 5; get;
```

```
# Order by variable [ asc | desc ]
match $x isa person, has surname $n;
order by $n desc; get;
```

Get Query

An `get` query will return the answers that satisfies the match patterns.

Match { pattern }+ get;

```
match $x isa person, has name "James Cameron";
get $x;
```

Insert Query

An insert query will insert the specified variable patterns into the graph.

[match { pattern }+] insert { pattern }+

```
insert has identifier "Titus Groan" isa person;
```

If a match query is provided, the query will insert the given variable patterns for every result of the match query.

```
match $p has identifier "Minnie Downs";
insert $p has middlename "Mathilda";
```

```
match $b has name "Tim Burton";
$m isa movie; (director: $b, $m);
match $d has name "Johnny Depp"; get;
```

```
# Insert a relation
insert (actor: $d, production-with-cast: $m) isa
has-cast;
```

Delete Query

A delete query will delete the specified variable patterns for every result of the match query.

```
match {pattern}* delete {var}+
match $x isa person; delete $x;
```

More on Pattern Matching

Match a variable.

```
identifier [ property, ... ]
match $x isa person, val "Guillermo del Toro";
```

Match either the left or right pattern.

```
pattern or pattern
match $x isa movie or $x isa person;
```

Match either pattern to the left of ``or`` or all the patterns to the right.

```
{ [ pattern ; ... ] }
match $x isa person, has identifier $y;
{$y contains "Elizabeth";} or
{$y contains "Mary";} get;
```

Types and Properties

Specify the type of a concept.

isa type

```
match $x isa person; get;
```

Match concepts and their types.

```
match $x isa $y; get;
```

Match the concept with a particular ID.

id {string}

```
match $x id "12345"; get;
```

Match concepts with a value that contains the given string.

```
value [=|!=|<|<=|>|=|>|contains] {value}
match $m contains "William Titus, Jr"; get;
```

Match concepts with a resource matching a predicate.

```
has resource [=|!=|<|<=|>|=|>|contains] {value}
match $p isa person, has age > 80; get;
```

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