

# Internet Yellow Pages Cheatsheet

<https://iyp.iijlab.net> - 2025/02

## Clauses

**LIMIT, ORDER BY:** Similar to SQL.

```
MATCH (a:AS)
RETURN a ORDER BY a.asn DESC LIMIT 25
```

**EXISTS subqueries:** Selects on specific patterns.

```
// IPv4 only IXPs
MATCH (i:IXP)
WHERE NOT EXISTS {
    MATCH (i)-[r:MEMBER_OF]-(a:AS)
    WHERE r.ipv6
}
RETURN i.name
```

**UNWIND:** Transforms a list back into individual elements.

```
MATCH (a:AS)-[:PEERS_WITH]-(b:AS)
WITH collect(a) AS lista, collect(b) AS listb
UNWIND (list_a + list_b) AS x
RETURN DISTINCT x.asn
```

Reference: [Cypher clauses](#)

## String Operations

**STARTS WITH / ENDS WITH / CONTAINS:**  
Filters for string values.

```
MATCH (i:IXP)
WHERE i.name STARTS WITH 'DE-CIX'
RETURN i.name
```

**lower() / upper():** Returns lower or upper case strings.

```
MATCH (n:Name)
WHERE lower(n.name) CONTAINS 'hello'
RETURN n
```

Reference: [Cypher string functions](#)

## List Operations

**collect():** Creates a list.

```
MATCH (a:AS
{asn:2497})-[:ORIGINATE]-(pfx:BGPPrefix)
RETURN a.asn, collect(DISTINCT pfx.prefix)
```

**IN:** Checks if an element belongs to a list.

```
MATCH (a:AS)-[:ORIGINATE]-(pfx:BGPPrefix)
WHERE a.asn IN [2497, 2500]
RETURN DISTINCT a.asn, pfx.prefix
```

**count():** Returns the number of values or rows.

```
MATCH (a:AS
{asn:2497})-[:ORIGINATE]-(pfx:BGPPrefix)
RETURN a.asn, count(DISTINCT pfx.prefix)
```

Reference: [Cypher list functions](#)

## Functions

**labels()/type():** Gets the list of labels of a node / types of a relationship.

```
MATCH (h:HostName)
RETURN DISTINCT labels(h)
MATCH (:AS)-[r]-()
RETURN DISTINCT type(r)
```

**coalesce():** Returns the first non-null value in a list of expressions.

```
MATCH (a:AS)
OPTIONAL MATCH (a)-[:NAME {reference_name:
'emileaben.as_names'}]->(n1:Name)
OPTIONAL MATCH (a)-[:NAME {reference_name:
'ripe.as_names'}]->(n2:Name)
RETURN a.asn, coalesce(n1.name, n2.name) AS name
LIMIT 10
```

Reference: [Cypher functions](#)

## Troubleshooting

**EXPLAIN:** Shows the execution plan not running the query.

**PROFILE:** Runs the query and show used resources.

Reference: [Execution plans and query tuning](#)

## Links

- [Console](#)
- [Archive](#)
- [APNIC blog](#)
- [IHR website](#)
- [Cypher documentation](#)
- [GitHub](#)
  - [Gallery](#)
  - [Documentation](#)
  - [Nodes / Relationships](#)
  - [Crawlers](#)