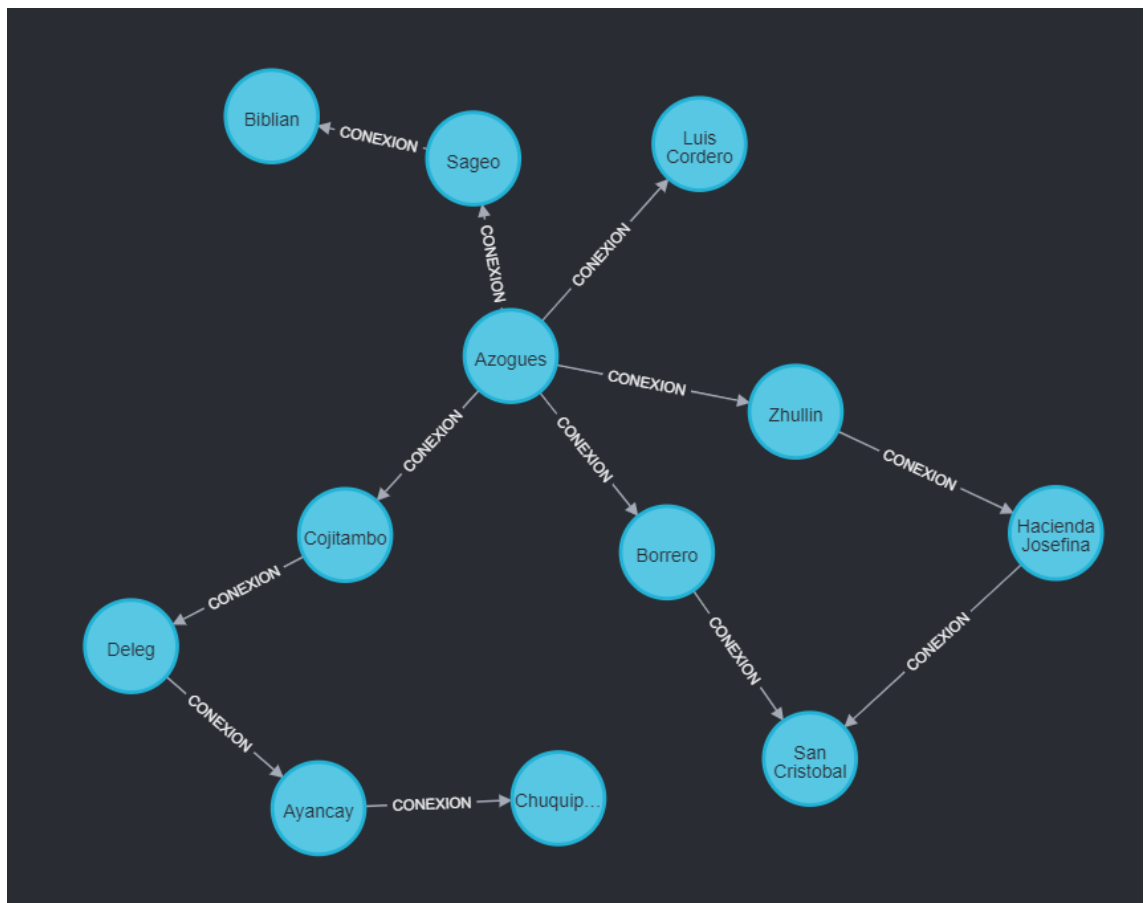


# NEO4J Breadth first Search

## Creación de Nodos en NEO4j

```
CREATE (c1:Cañar {name: 'Azogues'}),  
      (c2:Cañar {name: 'Sageo'}),  
      (c3:Cañar {name: 'Cojitambo'}),  
      (c4:Cañar {name: 'Zhullin'}),  
      (c5:Cañar {name: 'Borrero'}),  
      (c6:Cañar {name: 'Luis Cordero'}),  
      (c7:Cañar {name: 'Biblian'}),  
      (c8:Cañar {name: 'Deleg'}),  
      (c9:Cañar {name: 'Hacienda Josefina'}),  
      (c10:Cañar {name: 'San Cristobal'}),  
      (c11:Cañar {name: 'Ayancay'}),  
      (c12:Cañar {name: 'Chuquipata'}),  
      (c1)-[:CONEXION {distancia: 4}]->(c2),  
      (c1)-[:CONEXION {distancia: 9.4}]->(c3),  
      (c1)-[:CONEXION {distancia: 11.5}]->(c4),  
      (c1)-[:CONEXION {distancia: 3.8}]->(c5),  
      (c1)-[:CONEXION {distancia: 5.2}]->(c6),  
      (c2)-[:CONEXION {distancia: 3.3}]->(c7),  
      (c3)-[:CONEXION {distancia: 13}]->(c8),  
      (c4)-[:CONEXION {distancia: 14.3}]->(c9),  
      (c5)-[:CONEXION {distancia: 11.5}]->(c10),  
      (c8)-[:CONEXION {distancia: 7.9}]->(c11),  
      (c11)-[:CONEXION {distancia: 12.4}]->(c12),  
      (c9)-[:CONEXION {distancia: 3.6}]->(c10)
```



**Esta declaración creará el gráfico y lo almacenará en el catálogo de gráficos.**

```
CALL gds.graph.create('CAÑAR', 'Cañar', 'CONEXION', { relationshipProperties: 'distancia' })
```

neo4j\$ CALL gds.graph.create('CAÑAR', 'Cañar', 'CONEXION', { relationshipProperties: 'distancia' })

|       | nodeProjection  | relationshipProjection | graphName | nodeCount | relationshipCount | createMillis |
|-------|---|------------------------|-----------|-----------|-------------------|--------------|
| Table |   |                        | "CAÑAR"   | 12        | 12                | 57           |
| Text  | <pre>{   "Cañar": {     "properties": {       },       "label": "Cañar"     }   } }</pre>   |                        |           |           |                   |              |
| Code  | <pre>{   "CONEXION": {     "orientation": "NATURAL",     "aggregation": "DEFAULT",     "type": "CONEXION",     "properties": {       "distancia": {         "property": "distancia",         "aggregation": "DEFAULT",         "defaultValue": null       }     }   } }</pre> |                        |           |           |                   |              |

Started streaming 1 records after 2 ms and completed after 2838 ms.

## Ejecución del algoritmo Breadth First Search:



```
MATCH (Azogues:Cañar{name:'Azogues'})
WITH id(Azogues) AS startNode
CALL gds.alpha.bfs.stream('CAÑAR', {startNode: startNode})
YIELD path
UNWIND [ n in nodes(path) | n.name ] AS nombres
RETURN nombres
ORDER BY nombres
```

nombres

```
1 "Ayancay"
2 "Azogues"
3 "Biblian"
4 "Borrero"
5 "Chuquipata"
6 "Cojitambo"
7 "Deleg"
8 "Hacienda Josefina"
9 "Luis Cordero"
10 "Sageo"
11 "San Cristobal"
12 "Zhullin"
```