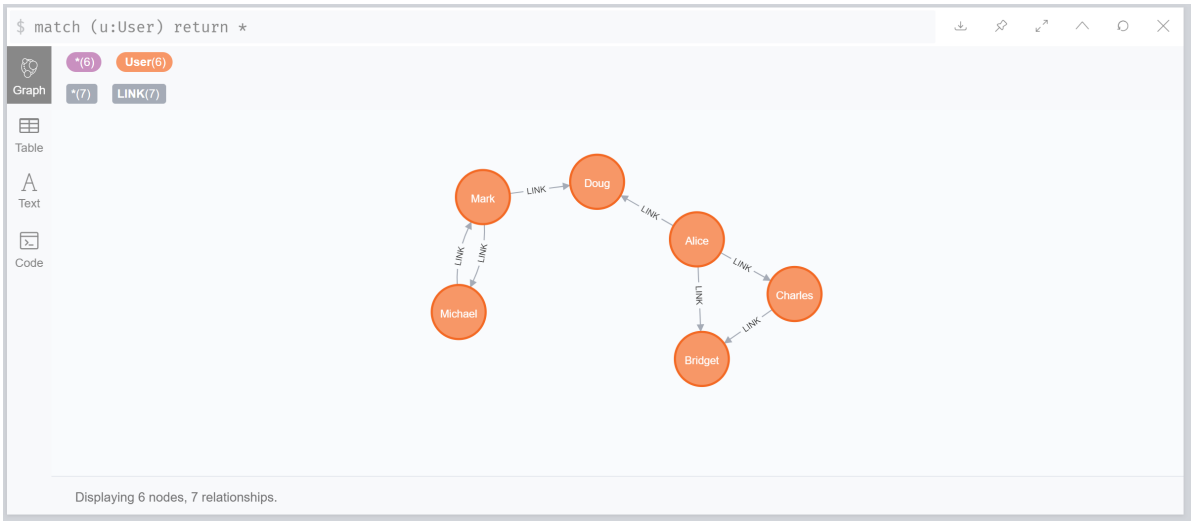
neo4j

导入数据

```
CREATE
    (nAlice:User {name: 'Alice', seed: 42}),
    (nBridget: User {name: 'Bridget', seed: 42}),
    (nCharles: User {name: 'Charles', seed: 42}),
    (nDoug: User {name: 'Doug'}),
    (nMark: User {name: 'Mark'}),
    (nMichael: User {name: 'Michael'}),
    (nAlice)-[:LINK {weight: 1}]->(nBridget),
    (nAlice)-[:LINK {weight: 1}]->(nCharles),
    (nCharles)-[:LINK {weight: 1}]->(nBridget),
    (nAlice)-[:LINK {weight: 5}]->(nDoug),
    (nMark)-[:LINK {weight: 1}]->(nDoug),
    (nMark)-[:LINK {weight: 1}]->(nMichael),
    (nMichael)-[:LINK {weight: 1}]->(nMark);
```

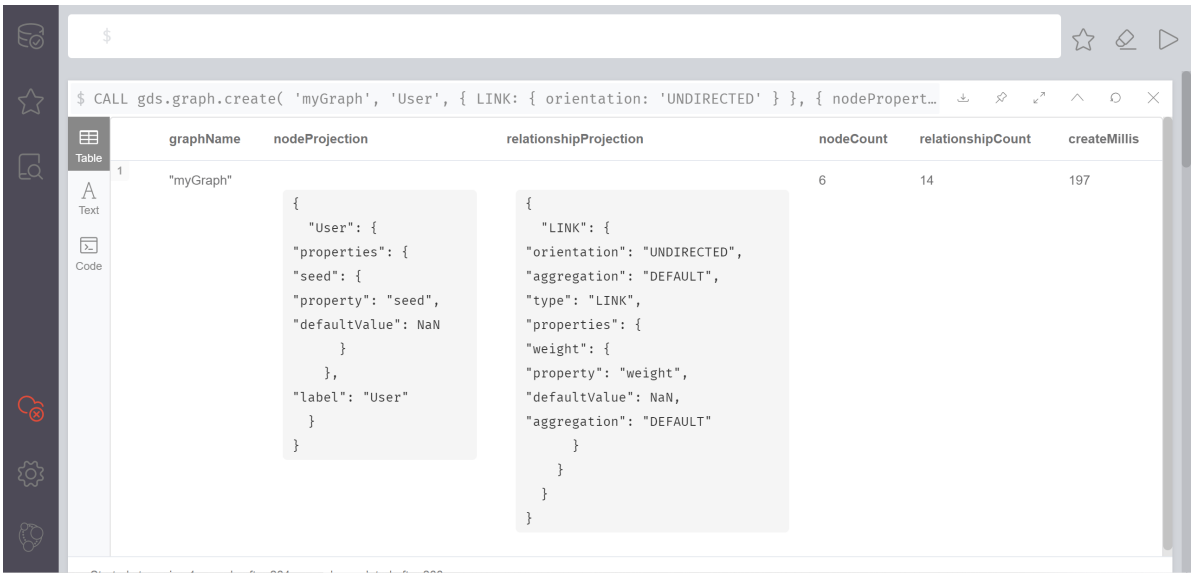
验证导入数据

```
match (u:User) return *
```



准备工作

```
CALL gds.graph.create(
    'myGraph',
    'User',
    {
        LINK: {
            orientation: 'UNDIRECTED'
        }
    },
    {
        nodeProperties: 'seed',
        relationshipProperties: 'weight'
    }
)
```



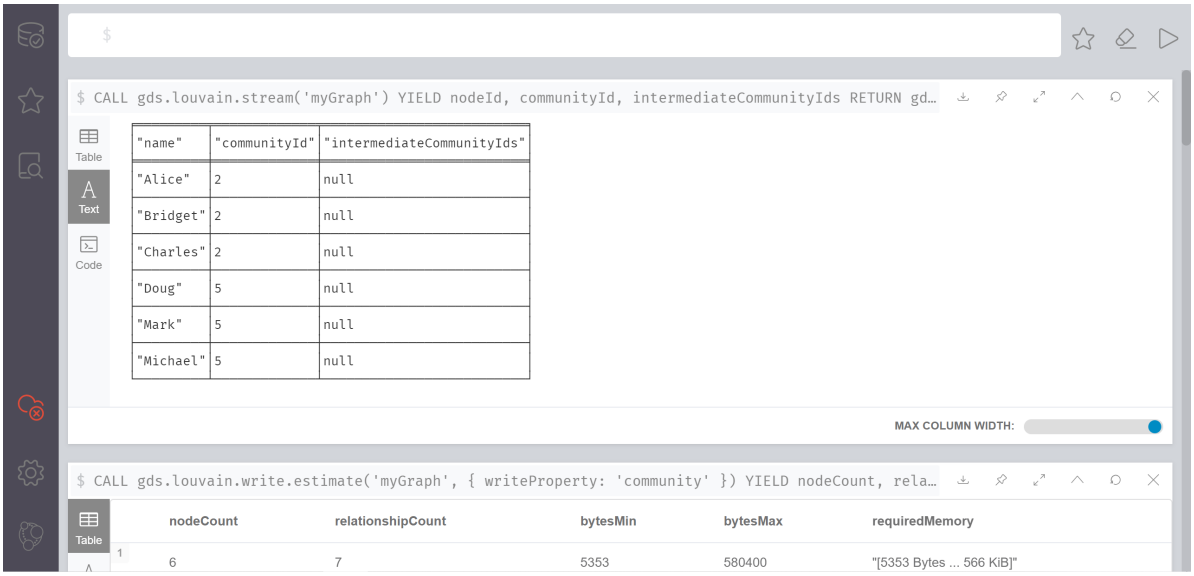
评估算法所需资源

```
CALL gds.louvain.write.estimate('myGraph', { writeProperty: 'community' })
YIELD nodeCount, relationshipCount, bytesMin, bytesMax, requiredMemory
```

运行louvain算法

返回流结果

```
CALL gds.louvain.stream('myGraph')
YIELD nodeId, communityId, intermediateCommunityIds
RETURN gds.util.asNode(nodeId).name AS name, communityId,
intermediateCommunityIds
ORDER BY name ASC
```



"name"	"communityId"	"intermediateCommunityIds"
"Alice"	2	null
"Bridget"	2	null
"Charles"	2	null
"Doug"	5	null
"Mark"	5	null
"Michael"	5	null

	nodeCount	relationshipCount	bytesMin	bytesMax	requiredMemory
1	6	7	5353	580400	"[5353 Bytes ... 566 KiB]"

返回社区数

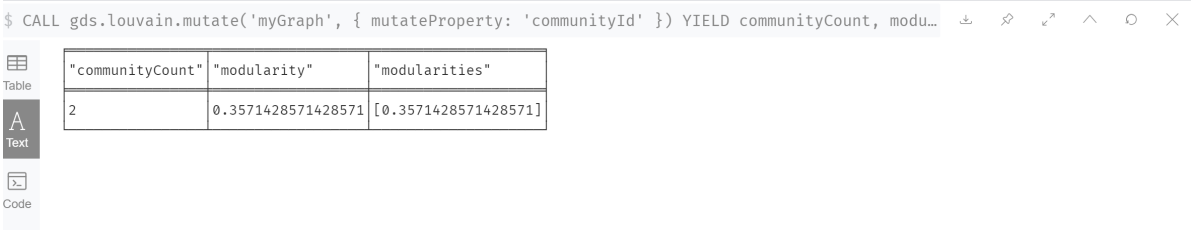
```
CALL gds.louvain.stats('myGraph')
YIELD communityCount
```

```
CALL gds.louvain.stats('myGraph') YIELD communityCount
```

"communityCount"
2

返回模块度

```
CALL gds.louvain.mutate('myGraph', { mutateProperty: 'communityId' })
YIELD communityCount, modularity, modularities
```



"communityCount"	"modularity"	"modularities"
2	0.3571428571428571	[0.3571428571428571]