

# NebulaGraph Cosmic Explorer: Building an Employee Network

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Welcome, space traveler! Let's embark on an interstellar journey through the NebulaGraph universe. In this mission, we'll create a cosmic employee network using the power of graph databases.

## Mission Preparation: Setting Up NebulaGraph

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First, let's summon our NebulaGraph spaceship:

```
git clone git@github.com:vesoft-inc/nebula-docker-compose.git
cd nebula-docker-compose/
docker-compose -f docker-compose.yaml up -d
```

Now, let's board our console ship:

```
docker exec -it nebula-docker-compose-console-1 sh
/usr/local/bin/nebula-console -u root -p nebula --address=graphd --
port 9669
```

# Creating a New Galaxy (Space)

Let's check our existing galaxies:

```
(root@nebula) [(none)]> SHOW SPACES;
```

Result:

```
+-----+
| Name   |
+-----+
| "my_space" |
+-----+
```

Time to create a new galaxy for our employee network:

```
(root@nebula) [(none)]> CREATE SPACE my_new_space(partition_num=10,
                                                    replica_factor=1,
                                                    vid_type=FIXED_STRING(30));
(root@nebula) [(none)]> show spaces
```

Result:

```
+-----+
| Name           |
+-----+
| "my_new_space" |
| "my_space"     |
+-----+
```

# Entering Our New Galaxy

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Let's navigate to our new galaxy:

```
(root@nebula) [(none)]> use my_new_space
```

## Creating Cosmic Entities: Tags and Edges

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Now, let's define our cosmic entities:

```
(root@nebula) [my_new_space]> CREATE TAG employee(name string, age  
int, position string);  
(root@nebula) [my_new_space]> CREATE EDGE works_with();
```

## Populating Our Galaxy: Inserting Vertices and Edges

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Time to add some stellar employees to our network:

```
(root@nebula) [my_new_space]> INSERT VERTEX employee(name, age,  
position) VALUES  
"employee1":("Alice", 28,  
"Engineer"),  
"employee2":("Bob", 34, "Manager");  
(root@nebula) [my_new_space]> INSERT EDGE works_with() VALUES  
"employee1" -> "employee2":();
```

# Observing Our Cosmic Entities: Fetching Properties

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Let's take a closer look at one of our employees:

```
(root@nebula) [my_new_space]> FETCH PROP ON employee "employee1"  
YIELD employee.name, employee.age,  
employee.position;
```

Result:

```
+-----+-----+-----+  
| employee.name | employee.age | employee.position |  
+-----+-----+-----+  
| "Alice"      | 28          | "Engineer"       |  
+-----+-----+-----+
```

# Career Advancement: Updating Vertex Properties

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Congratulations, Alice! You've been promoted:

```
(root@nebula) [my_new_space]> UPDATE VERTEX ON employee "employee1"  
SET employee.age = 29,  
employee.position = "Senior Engineer";  
(root@nebula) [my_new_space]> FETCH PROP ON employee "employee1"  
YIELD employee.name, employee.age,  
employee.position;
```

Result:

employee.name	employee.age	employee.position
"Alice"	29	"Senior Engineer"

## Black Hole Event: Deleting a Vertex

Oh no! Alice has been sucked into a black hole (or maybe just left the company):

```
(root@nebula) [my_new_space]> DELETE VERTEX "employee1";
(root@nebula) [my_new_space]> FETCH PROP ON employee "employee1"
YIELD employee.name, employee.age,
employee.position;
```

Result:

employee.name	employee.age	employee.position
Empty set		

## Cosmic Lesson Learned

In this stellar journey, we've learned how to: 1. Create a new space (galaxy) in NebulaGraph 2. Define tags (entity types) and edges (relationships) 3. Insert vertices (entities) and edges 4. Fetch and update properties 5. Delete vertices

Remember, in the vast universe of graph databases, every node and relationship tells a story. Keep exploring, cosmic coder!