



Working with Databases

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Today's Agenda

- Useful resources & tools
- ORMs vs native DB drivers
- Data modeling in Express.js
- Validations
- Migrations

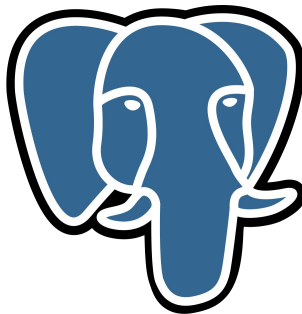


Must-know DBs

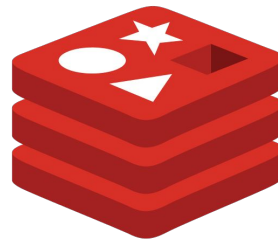
- MongoDB University - Official, Free [Courses](#)
 - [Mongodb](#), [Mongoose](#), [Waterline](#)



- Neo4j - Official, Free [Courses](#)
 - [lavascript-driver](#),



- Redis University - Official, Free [Courses](#)
 - [node-redis](#)

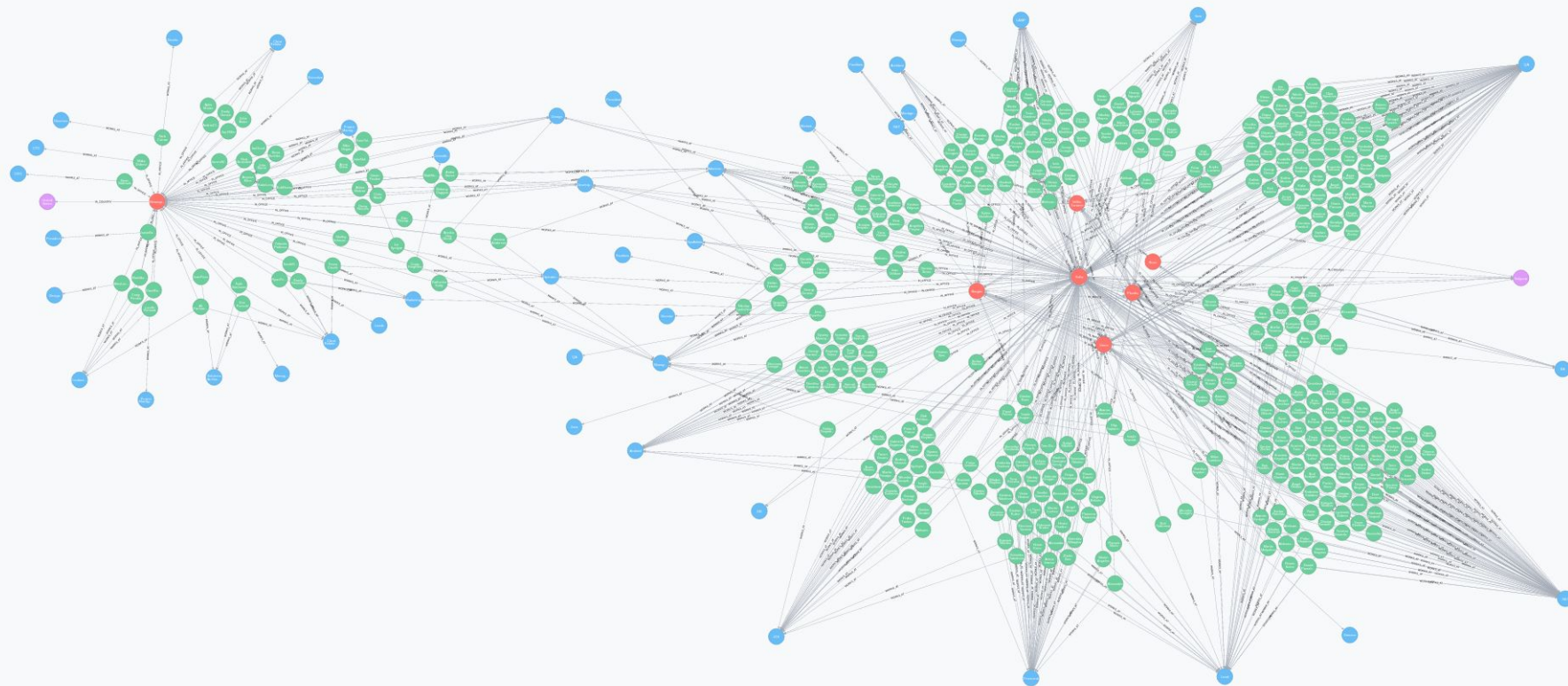


- RDBs - PostgreSQL / MySQL / MariaDB...
 - [Sequelize](#), [node-postgres](#), [TypeORM](#), [Knex](#), Bookshelf, etc...

MATCH (n) RETURN n

*(446) Country(2) Department(45) Employee(392) Location(7)

*(888) IN_COUNTRY(7) IN_OFFICE(415) WORKS_AT(466)

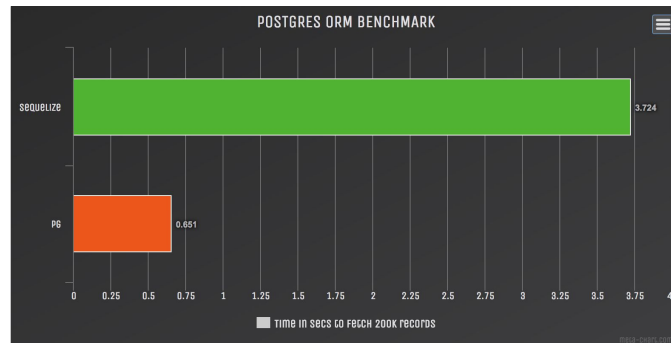
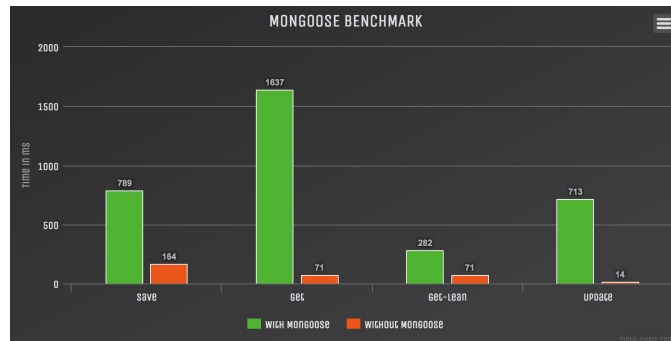


Displaying 446 nodes, 888 relationships (completed with 888 additional relationships).

AUTO-COMPLETE ☒

ORMs vs Query Builders vs Query Language

- **Raw query** language
 - PROS: Performance, Flexibility
 - CONS: Another language
- **ORM** (Object-Relational-Mapping)
 - PROS: Standardization, single language, security
 - CONS: Hard to implement complex queries, inefficient





PostgreSQL Setup

Initial Setup

- **Database** - [PostgreSQL](#)
 - Install locally or use Docker ->

- **Client** - [pgAdmin](#), [pgWeb](#)

- **Sequelize**
 - Bootstrapping - [guide](#)
 - Model basics - [guide](#), [api](#)
 - Validations and constraints - [guide](#)
 - Associations - [guide](#)
 - Migrations - [guide](#)

```
$ docker pull postgres
$ docker run --name devnetwork \
  -e POSTGRES_DB=devnetwork_development \
  -e POSTGRES_USER=admin \
  -e POSTGRES_PASSWORD=s3cur3p@ssw0rd! \
  -d -p 5432:5432 postgres
```

```
$ npm install sequelize pg sequelize-cli
$ sequelize init
$ sequelize model:generate --name user
--attributes username:string
$ sequelize seed:generate --name user
```

Sequelize

Sequelize

- Getting started - [guide](#)
- Bootstrapping
- Model basics - [guide](#)
- Validations and constraints - [guide](#)
- Associations - [guide](#)
- Migrations - [guide](#)



Sequelize

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