Datalog

What is it good for?

Background

- Datomic

- Erlang and Mnesia

Database

A database is an organized collection of **data**, generally stored and accessed electronically from a computer system. Where databases are more complex they are often developed using formal design and **modeling** techniques.

The database management system (DBMS) is the software that interacts with end users, applications, and the database itself to capture and analyze the data

Wikipedia

Data models and querying

- Relational

- Document oriented

- Column oriented

- Graph

- Object oriented

- ... take a look at wikipedia page for a complete(?) list

- Each model has its pros and cons

- Applicability vary from case to case

- There are subtle cases where single approach doesn't fit well

Solutions

- Going back to definition: organized - means it has some units and a structure

- Find ways to use existing DBMS the way it was not supposed to be used

- Use multiple DBMS with different data models

- Extend/tune existing DBMS to tackle the case

- ...

Common ground?

- What if we'll try to step back and review our data models

- What data model do we have that can be a common ground for multiple approaches?

Prolog

Prolog - PROgramming in LOGic.

Prolog has its roots in first-order logic, a formal logic, and unlike many other programming languages, Prolog is intended primarily as a declarative programming language: the program logic is expressed in terms of relations, represented as **facts** and **rules**. A computation is initiated by running a query over these relations.

Datalog

- A declarative subset of Prolog

- No formal definition

- Multiple implementations

Links

- Free Prolog implementation: http://www.swi-prolog.org

- Online Prolog interpreter: https://swish.swi-prolog.org

- Datalog on Wikipedia: https://en.wikipedia.org/wiki/Datalog

- Datomic (Clojure): https://docs.datomic.com/on-prem/rationale.html

- Datascript (Clojure): https://github.com/tonsky/datascript

- Datalog interactive tutorial (Clojure): http://www.learndatalogtoday.org

- The code: https://github.com/sskorokhodov/lambda-meetup-datalog