

Prüfungsbeispiele

Tell me everything about Ben Parker

```
(d/pull parker-family ' [*] [:name "Ben Parker"] )  
=> { :db/id 4, :gender "M", :name "Ben Parker", :spouse #db{:id 5} }
```

Refs point to other entities



Tell me everything about Richard Parker

```
(d/pull parker-family ' [*] [:name "Richard Parker"] )  
=> { :db/id 2, :child [#:db{:id 1}], :gender "M", :name "Richard Parker", :spouse #:db{:id 3} }
```

Tell me everything about Peter Parker

```
(d/pull parker-family ' [*] [:name "Peter Parker"] )  
=> { :db/id 1, :alias ["Spider-Man" "Spidey"], :gender "M", :name "Peter Parker" }
```

What if I want to know who Peter's parents are?

```
(d/pull parker-family '[:_child [*]] [:name "Peter Parker"])
```

=>

```
{:_child [{:db/id 2, :child [#:db{:id 1}], :gender "M", :name "Richard Parker", :spouse #:db{:id 3}}  
          {:db/id 3, :child [#:db{:id 1}], :gender "F", :name "Mary Parker", :spouse #:db{:id 2}}]}
```

An attribute preceded by an `_` (e.g. `_child`) is a “back reference”

Dataset provides efficient back references for all variant references

• **Datascript also resolves back references**

Pull AP is very powerful when refs are used-You 'walk' the graph in the pulspc'

Tell me everything about entity 4

```
(d/pull parker-family ' [*] 4)
```

```
=> { :db/id 4, :gender "M", :name "Ben Parker", :spouse #db{:id 5} }
```

A lookup ref





Pull Examples

Tell me everything about entity 4

```
(d/pull parker-family '[*] 4)
=> {:db/id 4, :gender "M", :name "Ben Parker", :spouse #db{:id 5}}
```

Refs point to other entities



Tell me everything about Ben Parker

```
(d/pull parker-family '[*] [:name "Ben Parker"])
=> {:db/id 4, :gender "M", :name "Ben Parker", :spouse #db{:id 5}}
```

A lookup ref



Tell me everything about Richard Parker

```
(d/pull parker-family '[*] [:name "Richard Parker"])
=> {:db/id 2, :child #db{:id 1}], :gender "M", :name "Richard Parker", :spouse #db{:id 3}}
```

Tell me everything about Peter Parker

```
(d/pull parker-family '[*] [:name "Peter Parker"])
=> {:db/id 1, :alias ["Spider-Man" "Spidey"], :gender "M", :name "Peter Parker"}
```

What if I want to know who Peter's parents are?

```
(d/pull parker-family '[{:__child [*]} [:name "Peter Parker"]])
=>
{:__child [{:db/id 2, :child #db{:id 1}], :gender "M", :name "Richard Parker", :spouse #db{:id 3}}
           {:db/id 3, :child #db{:id 1}], :gender "F", :name "Mary Parker", :spouse #db{:id 2}}]}
```

- An attribute preceded by an `_` (e.g. `__child`) is a “back reference”
- Datomic provides efficient back references for all forward references
- Datascript also resolves back references
- Pull API is very powerful when refs are used - You “walk the graph in the pull spec”

Query Comparison: Who are “Spidey’s” Aunts and Uncles

We’ll compare SQL and Datalog with pull