isoprene-pumpjack Documentation

Release 0.0.1

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Contents:

CHAPTER 1

Installation

Install with pip:

```
pip install isoprene-pumpjack
```

Use

To run with Gunicorn prod server:

```
gunicorn isoprene_pumpjack.wsgi:app
```

To run with Flask dev server:

```
isoprene-pumpjack
```

CHAPTER 2

Neo-D3-JSON

Data is often returned from isoprene-pumpjack to instruct synpatic-scout how to draw a graph.

This is done in a standard JSON format, described below:

Neo-D3-JSON Specification

Nodes & Links

The object contains an array of **nodes** and an array of **links**. This is a naming convention taken from d3 force-constrained graphs:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
    "nodes": [],
    "links": []
}
```

The response from Neo is deduplicated, so each node and link is unique.

Both nodes and links have the following standard properties:

```
{
    "labels": string[],     # Array of Neo labels
    "id": any,              # Neo internal id (not reccomended for external use)
    "props": {},            # Object containg any additional properties
    ...
}
```

Nodes

`Node` objects have no additional properties.

Links

`Link` objects also contain the following properties:

```
{
    "target": any,          # Target of link
    "source": any,          # Source of link
    ...
}
```

`source` and `target` will match the `id` property of a `node` object.

All links are considered directed by neo - it is up to the UI to render nondirected links if required.

Please note: unlike Neo, link labels are represented as an array of length 1, in order to be consistent with node properties.

Neo-D3-JSON Example Response

```
HTTP/1.1 200 OK
Content-Type: application/json

{
    "nodes":[
        {
            "labels":[
                "Document"
            ],
            "id":0,
            "props":{
                "isopump_fully_loaded":true,
                "label":"AVrDasjxocluSgWq6vsT",
                "isopump_load_last":1490949576577,
                "id":"AVrDasjxocluSgWq6vsT",
                "isopump_load_initial":1490714160644
            }
        },
        {
            "labels":[
                "Dolphin"
            ],
            "id":1,
            "props":{
                "isopump_fully_loaded":true,
                "id":"Zap",
                "label":"Zap",
                "isopump_load_last":1490949577244,
                "isopump_load_initial":1490714160644
            }
        }
    ],
```

```
    "links":[
        {
            "props":{

            },
            "labels":[
                "Source"
            ],
            "id":0,
            "target":0,
            "source":1
        }
    ]
}
```

CHAPTER 3

RESTful API

General API Notes

If one of the backend services (Neo4j, Elasticsearch) is unavailable, a 503 error will be returned instead of a JSON response:

statuscode 503 Service unavailable

Neat API

This API documentation is manually updated.

GET /dev/elastic/set/dolphins
Create and load dolphins index

Status Codes

- 201 Created – Document index created

GET /dev/neo/set/dolphins
Drop database and upload dolphins JSON data into Neo4j

Status Codes

- 201 Created – Neo4j graph loaded

GET /dev/elastic/search
Return the elastic results of a document search using query parameters.

Example response:

```
HTTP/1.1 200 OK
Content-Type: application/json

[
```

```
    {
        "_index": "dolphins",
        "_source": {
            "dolphins": [
                "Zap",
                "CCL"
            ]
        },
        "_id": "AVrDasjxocluSgWq6vsT",
        "_type": "dolphin_sighting",
        "_score": 2.6732156
    },
    {
        "_index": "dolphins",
        "_source": {
            "dolphins": [
                "Zap",
                "Double"
            ]
        },
        "_id": "AVrDasj8ocluSgWq6vsU",
        "_type": "dolphin_sighting",
        "_score": 2.6732156
    }
]
```

Query Parameters

- **label** (*string*) – id of dolphin to search documents for

Status Codes

- 200 OK – OK

GET /dev/elastic/reset

Drop elastic indexes

Status Codes

- 204 No Content – Indexes dropped

GET /dev/elastic/seed

Seed a node (and mentioning documents) from elastic to neo, and return the node id

Example response:

```
HTTP/1.1 201 CREATED
Content-Type: application/json

{
    "id": "Zap"
}
```

Query Parameters

- **label** (*string*) – id of dolphin to search documents for

Status Codes

- 201 Created – Created graph node(s)

GET /dev/neo/fullgraph
Get JSON representing full graph

See *Neo-D3-JSON Example Response*.

Status Codes

- 200 OK – OK

GET /dev/neo/reset
Drop neo4j database

Status Codes

- 204 No Content – Database dropped

GET /configuration/synaptic-scout
Get JSON config for synaptic-scout

GET /
Get JSON representing endpoints

GET /dev/neo/subgraph/ (**string:** *central_node_id*)
Get JSON representing subgraph centered on a single node

See *Neo-D3-JSON Example Response*.

Status Codes

- 200 OK – OK

GET /explore/subgraph/ (**string:** *central_node_id*)
Get JSON representing subgraph centered on a single node

See *Neo-D3-JSON Example Response*.

Status Codes

- 200 OK – OK

GET /static/ (**path:** *filename*)
Function used internally to send static files from the static folder to the browser.

New in version 0.5.

Full API

This API documentation is automatically generated.

GET /
Get JSON representing endpoints

GET /configuration/synaptic-scout
Get JSON config for synaptic-scout

GET /dev/elastic/reset
Drop elastic indexes

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- 204 No Content – Indexes dropped

GET /dev/elastic/search
Return the elastic results of a document search using query parameters.

Example response:

```
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Content-Type: application/json

[
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        "_source": {
            "dolphins": [
                "Zap",
                "CCL"
            ]
        },
        "_id": "AVrDasjxocluSgWq6vsT",
        "_type": "dolphin_sighting",
        "_score": 2.6732156
    },
    {
        "_index": "dolphins",
        "_source": {
            "dolphins": [
                "Zap",
                "Double"
            ]
        },
        "_id": "AVrDasj8ocluSgWq6vsU",
        "_type": "dolphin_sighting",
        "_score": 2.6732156
    }
]
```

Query Parameters

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Seed a node (and mentioning documents) from elastic to neo, and return the node id

Example response:

```
HTTP/1.1 201 CREATED
Content-Type: application/json

{
    "id": "Zap"
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```

Query Parameters

- **label** (*string*) – id of dolphin to search documents for

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Create and load dolphins index

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GET /dev/neo/fullgraph
Get JSON representing full graph

See *Neo-D3-JSON Example Response*.

Status Codes

- 200 OK – OK

GET /dev/neo/reset
Drop neo4j database

Status Codes

- 204 No Content – Database dropped

GET /dev/neo/set/dolphins
Drop database and upload dolphins JSON data into Neo4j

Status Codes

- 201 Created – Neo4j graph loaded

GET /dev/neo/subgraph/ (**string:** *central_node_id*)
Get JSON representing subgraph centered on a single node

See *Neo-D3-JSON Example Response*.

Status Codes

- 200 OK – OK

GET /explore/subgraph/ (**string:** *central_node_id*)
Get JSON representing subgraph centered on a single node

See *Neo-D3-JSON Example Response*.

Status Codes

- 200 OK – OK

GET /static/ (**path:** *filename*)
Function used internally to send static files from the static folder to the browser.

New in version 0.5.

CHAPTER 4

Indices and tables

- genindex
- modindex
- search

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```

/explore

```
GET /explore/subgraph/(string:central_node_id),
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```

/static

```
GET /static/(path:filename), 9
```