

Search node

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Abstract

Search node is an NodeJs frontend to elastic-search that added API-keys and an administration UI. It uses web-sockets to communication with an frontend written in AngularJS.

This document explains how to install search node and extend the AngularJS frontend. This document also includes information about installtion and configuring the Druapl modules.

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1 Introduction

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1.1 Requirements

The guide assumes that you have an installed linux based server with the following packages installed and at least the versions given.

- nginx 1.4.x
- nodeJS 4.0.x
- supervisor 3.x
- git
- Valid SSL certificates for you domain.

1.2 Conventions

This document uses [] square brackets around the different variables in the configuration templates that needs to be exchanged with the actual values from other parts of the configuration (e.g. API keys).

Her is an explanation of the different key configuration variables.

- [server name]
- [client name]
- [SSL CERT]
- [SSL KEY]
- [CHANGE ME]
- [PASSWORD]
- [SEARCH API KEY]
- [SEARCH INDEX KEY]
- ? Document placeholders [...]

1.3 Notes

To install the newest version (development version that's not always stable), you should checkout the development branches in the all the cloned repositories instead of the latest version tag.

The document assumes that you are logged in as the user *deploy*, if this is not the case, you need to change things (e.g. the supervisor run script etc.).

It also assumes that you are installing in */home/www*, which is not the default location on most systems.

2 Search node

This part of the guide explains how to get the search node [nodeJS](#) application installed and started. The search node application is a general purpose application to provide a fast search engine through web-socket connections (using elasticsearch). It was developed during the project [Aroskanalen](#) but with reusability in mind for other projects.

2.1 Installation

The installation process requires you clone the application, download node modules and define JSON configuration files.

2.1.1 Clone

Start by cloning the git repository for search node and checkout the latest release tag (which can be found using *git tag*).

```
cd /home/www
git clone git@github.com:search-node/search_node.git
cd search_node
git checkout [v1.x.x]
```

2.1.2 Node packages

Search node uses a plugin architecture that requires installation of libraries from the node package manager (npm). The application comes with an installation script to handle this, simply go to the root of the application and execute the script.

```
cd /home/www/search_node/
./install.sh
```

Note: There are also *upgrade* and *update* scripts, where *update* is used when updating from one version of search node to another to ensure that the right node module versions are used.

2.1.3 Configuration

We need to configure nginx to sit in front of the search node so it is accessible through normal web-ports and also proxy web-socket connections from the frontend client ([AngularJS](#)). So we add the upstream connection configuration in a nodejs configuration file for nginx.

```
sudo nano -w /etc/nginx/sites-available/nodejs
```

Append this upstream connection definition to the file.

```
upstream nodejs_search {  
    server 127.0.0.1:3010;  
}
```

To access the search node UI and allow communication with the search node a virtual host configuration is needed. You need to change the *[server name]* with the actual name of the server.

```
sudo nano -w /etc/nginx/sites-available/search_[server name]
```

```
server {  
    listen 80;  
  
    server_name search-[server name];  
    rewrite ^ https://$server_name$request_uri? permanent;  
  
    access_log /var/log/nginx/search_access.log;  
    error_log /var/log/nginx/search_error.log;  
}  
  
# HTTPS server  
#  
server {  
    listen 443;  
  
    server_name search-[server name];  
  
    access_log /var/log/nginx/search_access.log;  
    error_log /var/log/nginx/search_error.log;  
  
    location / {  
        proxy_set_header X-Real-IP $remote_addr;  
        proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;  
        proxy_set_header Host $http_host;  
  
        proxy_buffering off;  
  
        proxy_pass http://nodejs_search/;  
        proxy_redirect off;  
    }  
  
    location /socket.io/ {  
        proxy_http_version 1.1;
```

```

    proxy_set_header Upgrade $http_upgrade;
    proxy_set_header Connection "upgrade";

    proxy_pass http://nodejs_search;
}

ssl on;
ssl_certificate /etc/nginx/ssl/[SSL CERT].crt;
ssl_certificate_key /etc/nginx/ssl/[SSL KEY].key;

ssl_session_timeout 5m;
ssl_session_cache shared:SSL:10m;

# https://hynek.me/articles/hardening-your-web-servers-ssl-ciphers/
ssl_prefer_server_ciphers On;
ssl_protocols TLSv1 TLSv1.1 TLSv1.2;
ssl_ciphers
    ECDH+AESGCM:DH+AESGCM:ECDH+AES256:DH+AES256:ECDH+AES128:DH+AES:ECDH+3DES:DH+3DES:RSA+AE
}

```

Enable the configuration by adding a symbolic links for the search node. The nodejs configuration file should be linked during configuration of the middleware. Restart nginx to enable the configuration.

```

cd /etc/nginx/sites-enabled/
sudo ln -s /etc/nginx/sites-available/nodejs
    /etc/nginx/sites-enabled/nodejs
sudo ln -s /etc/nginx/sites-available/search_[server name]
    /etc/nginx/sites-enabled/search_[server name]
sudo service nginx restart

```

Next the application needs to be configured by adding the following content to config.json. Remember to update the administration password and secret.

```

sudo nano -w /home/www/search_node/config.json

```

```

{
  "port": 3010,
  "secret": "[CHANGE ME]",
  "admin": {
    "username": "admin",
    "password": "[PASSWORD]"
  },
  "log": {
    "file": "messages.log",
    "debug": false
  },
}

```

```

"search": {
  "hosts": [ "localhost:9200" ],
  "mappings": "mappings.json"
},
"apikeys": "apikeys.json"
}

```

Before the application can be started the *apikeys.json* and *mappings.json* needs to exist and at least contain an empty JSON object (*{}*).

```

echo '{}' > /home/www/search_node/apikeys.json
echo '{}' > /home/www/search_node/mappings.json

```

The search node needs to be started at boot time which requires a Supervisor run script. Supervisor will also ensure that the node application is restarted, if an error happens and it stops unexpectedly.

```

sudo nano -w /etc/supervisor/conf.d/search_node.conf

```

Supervisor run script for the search node.

```

[program:search-node]
command=node /home/www/search_node/app.js
autostart=true
autorestart=true
environment=NODE_ENV=production
stderr_logfile=/var/log/search-node.err.log
stdout_logfile=/var/log/search-node.out.log
user=deploy

```

```

sudo service supervisor restart

```

As mentioned the search node is not specially created for aroskanalen, so the mappings (configuration for elasticsearch) can be somewhat complex to setup in the UI. To get you started the mapping below can be used as a template for the configuration.

As we need the UI to complete the setup correctly the node application needs to have write access to the files.

```

cd /home/www/search_node/
chmod +w apikeys.json mappings.json

```

Now use the UI ([https://search-\[server name\].aroskanalen.dk](https://search-[server name].aroskanalen.dk)) and add a new api key. Then go to the mappings tabs in the UI and add a new empty mapping. Next edit the mappings file and add the *fields*, *tag* and *dates* section as in the template. This way you will get a new API key and search index key for each installation. **Note** that each installation of the *admin* application requires a new API key and search index.

```
nano -w /home/www/search_node/mappings.json
```

```
{
  "5d437a016271077510c640e450bde9c3": {
    "name": "demo",
    "tag": "private",
    "fields": [
      {
        "field": "title",
        "type": "string",
        "language": "da",
        "country": "DK",
        "default_analyzer": "string_index",
        "sort": true,
        "indexable": true
      },
      {
        "field": "name",
        "type": "string",
        "language": "da",
        "country": "DK",
        "default_analyzer": "string_index",
        "sort": true,
        "indexable": true
      }
    ],
    "dates": [
      "created_at",
      "updated_at"
    ]
  }
}
```

When you have update the mappings file go back into the UI and select the indexes that you need by edit the API key and select it/them in the edit window. Before a given index can be used you need to activate it in the *indexes* tab. So do that now.

2.1.4 UI

?: How to use the UI to add more configuration.

3 Elasticsearch

Search node used elasticsearch 1.5.x as its search engine and it needs to be installed as well.

First install java that is used to run elasticsearch.

Download and install the engine.

To enable ICU support (unicode) please install this plugin.

For debuggin elasticsearch this small administration interface can come handy, but its optional.

4 JavaScript frontend

Uses [AngularJS](#).

5 Drupal modules

5.1 Panels vs. blocks

5.2 Configuration

5.3 Override search controller

fig_caption: yes

Description


Short description of this repository

188 commits

3 branches

Branch: development

search_node / +


cableman Issue #ULF-168 by cableman: Updated readme with

plugins

Issue ULF-68 by cableman: Updat

public

Issue #ULF-168 by cableman: Adc

.gitignore

Issue IKTREDEL-12 by cableman:

Figure 1: Alt text