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Setup Guide

Single Server Setup

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About the SNH-Titan

The SNH Titan is our automated investigative solution for law enforcement, federal agencies, management consultancies, law firms, detective agencies, press and media agencies, or others who want to collect and assess data from social networks.

The SNH Titan is available in different product variants. The SNH Titan Desktop is a standalone solution that allows individual investigators to collect and analyze data from social networks independently and locally. On the other hand, the SNH Titan Enterprise version is a collaborative software that can be used in larger teams to collect and analyze data from social networks. This document contains the technical requirements and the single-server setup guide of the SNH Titan Enterprise version, which is deployed as an on-premises installation on a machine within your infrastructure.

Server Technologies

The SNH Titan uses so-called "runners" to efficiently collect selected data from social networks on demand. The collection capacity of your installation can be dynamically optimized by increasing the number of runners within your license.

Web application in the browser

Authorized investigators can easily access SNH Titan in the browser. Developers can easily send data to SNH Titan during their investigation to initiate a crawling task using our Chrome, or Firefox browser extension

Flexible rights management

Administrators of the SNH Titan installation can assign specific rights for individual users or groups and grant access to specific cases. The scope of access can be restricted if required, e.g., by read-only access.

No data transfer to the cloud

The SNH Titan does not transmit any data to servers outside your infrastructure. Only for the update process will the server make requests to our servers. You retain 100% access to case data collected by you or contained user data.

Technical Requirements

CPU	Recommended	Intel CPU with 16+ cores
	Minimum	Intel CPU with 8 cores
Operating system	Recommended	Ubuntu 22.04 LTS
	Minimum	Ubuntu 16.04.7 LTS
	Alternative	Windows Server (after consultation)
Memory	Recommended	128 GB DDR4 2666 REG
	Minimum	64 GB DDR4 2666 ECC REG
Network card	Recommended	1 x 10 GB
	Minimum	1 x 1 GB
Storage (Database)	Recommended	2 x 1 TB SSD oder 1 x 2 TB SSD
	Minimum	1 x 1 TB SSD
Storage (File Storage)	Recommended	Per User 500 GB SSD (extendible system)
	Minimum	1 TB HDD

Note: The SNH-Titan Enterprise can generate loads of data. It is, after all, a data collection tool. Therefore, please make sure you operate on a system on which the overall file storage is extendible.

Architecture Overview

This version of the SNH Titan Enterprise setup works on an individual Ubuntu VM or dedicated Ubuntu Server. Other operating systems are currently not supported.

The SNH-Titan Enterprise is a system comprising various services that can and should be scaled individually. Bundling SNH-Titan into a single Docker image has disadvantages such as increased maintenance complexity and licensing issues. Therefore, we handle the deployment of all these services to ensure they work together seamlessly.

Initially, a set of simple bash and Python scripts will be downloaded. These scripts prepare the machine to host all services, including installing dependencies like Docker and enabling Docker Swarm mode on the machine. Additionally, they download all necessary bash scripts and configuration files to pre-configure the services for intercommunication, saving hours of administrative effort. Sudo rights are required as apt-packages need to be installed during this step. The installation process only asks for essential information, such as file storage locations and SSL certificates. We've aimed to make the process as seamless as possible. SNH-Titan will be registered as a service, ensuring it restarts automatically with the machine.

Once installed, SNH-Titan will initiate a Docker Swarm service to manage a dynamic number of container replicas. The optimal number of replicas is automatically calculated based on your license information, eliminating the need for manual intervention. The setup also configures your database and other necessary components. If you're curious about the process, you can run "docker ps" to view the Docker images initiated by the startup script. Below, you will find a diagram detailing the architecture and started containers. Note that Barman needs to be installed separately.
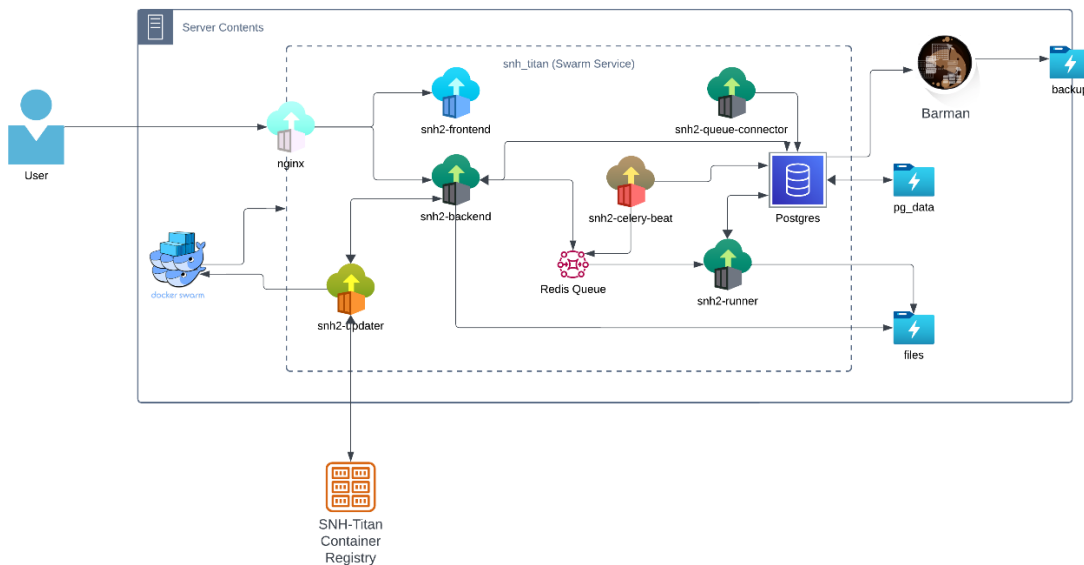

Figure 1 SNH-Titan Enterprise Architecture Overview

Installation Guide

PREPARING THE SYSTEM

Please make sure you have a running machine with a fully functioning ubuntu setup. Any UI is optional, all steps of the installation will be performed via the terminal. The following conditions must be met:

- The time is synced with the time zone of the majority of your users (the server timezone is used for all SNH timestamps, e.g. reports and exports which might be used in court)
- You have sudo rights on the machine and all necessary credentials are within your reach.
- You have a free internal domain, subdomain or static IP address.
- You have SSL certificates for the domain or subdomain in a .crt + .key format (you can choose to let the installation process generate self-signed SSL certificates during the installation, but it will result in warnings on user's machines)
- If you want to store all binary data (files, images, …) of the SNH-Titan instance on a mounted drive make sure, that file system is available on the machine before continuing.

PREPARING THE DOWNLOAD OF INSTALLATION FILES

Before installing SNH Titan Enterprise, please create a directory in which you plan to place the application.

To create directories on Unix systems, you can use this command:

```
mkdir ~/snh-titan
cd ~/snh-titan
```

To obtain and unpack the necessary files, you will need unzip and wget. Please execute the following commands in the command line:

```
sudo apt update
sudo apt install unzip
sudo apt install wget
```

DOWNLOADING AND UNPACKING THE INSTALLATION FILES

The next step will be, to obtain the necessary installation files. To do this, you need to execute the following command.

```
wget https://update.socialnetworkharvester.com/titan/p/snh2-enterprise-
scripts/snh2-install-scripts.zip
```

After receiving the zip archive, execute the following command to unzip it into the current directory.

```
unzip snh2-enterprise-script.zip
```

IMPORTING INDIVIDUAL SETUP DATA

To install SNH Titan Enterprise, you will need a individual setup data file called *setup_info.dat*. This file was provided to you by the Maltego Sales- or Support-Team. If not, please contact them regarding the file.

Copy the file to the directory snh2-enterprise-script. Your directory will now look like this:

```
~/
  - snh-titan/
    - snh2-enterprise-script.zip
    - install_script.sh
    - setup_info.dat
    - …
```

SSL-CERTIFICATES (OPTIONAL)

If you have a prepared SSL certificate and are ready to install them immediately, you need to create a folder named *ssl* in the working directory and copy your two files into this folder. It is important to consider the names of these files. For the key file, use *cert.key* and for the certificate file, use *cert.crt*.

If you don't have these files, you can generate them later. Just skip this step for now.

Your folder structure should look like this now:

```
~
  - snh-titan/
```

```
   - snh2-enterprise-script.zip
 - ssl/
   - cert.crt
   - cert.key
 - install_script.sh
 - setup_info.dat
 - …
```

RUNNING THE INSTALLATION SCRIPT

Execute the *install_script.sh* file using root privileges:

```
sudo chmod +x install_script.sh
sudo ./install_script.sh
```

This way, you will start the installation script. It will perform the initial setup of the virtual python environment and will download the necessary libraries. Please note that during the installation, it may prompt you to restart certain services. If you see this prompt, go ahead, and restart them. This depends on the system on which you are installing SNH Titan. If the installation window closes after the reboot, run the above command again. It won't affect the installation process.

After the system has finished preparing the environment and has installed the necessary libraries, you will see an interactive welcome screen of the SNH Titan installer with options to choose from. You can use the keyboard arrow keys + enter to select the option you need.

CONFIGURATION

To start the configuration, select option "1. Install SNH-Titan". Important installation and configuration data will now be downloaded. After completion, the configuration begins.

Defining an Administrator Account

First you will be asked to provide account credentials for an initial administrator's account. Please note down the administrator credentials that you choose in a secure place such as a password vault. Otherwise, you will be locked out of the system.

Select "3. Set data" to create the administrator credentials.

```
? Prepare environment variables ['DJANGO_SUPERUSER_USERNAME', 'DJANGO_SUPERUSER_EMAIL', 'DJANGO_SUPERUSER_PASSWORD']. (Use arrow keys)
 » 1. Continue
   2. Get data
   3. Set data
   4. Back
```

```
? Please enter value for DJANGO_SUPERUSER_USERNAME: admin
? Please enter value for DJANGO_SUPERUSER_EMAIL: test@test.123
 ♦ Values of current data: ♦
♦ Current DJANGO_SUPERUSER_USERNAME: 'admin' ♦
♦ Current DJANGO_SUPERUSER_EMAIL: 'test@test.123' ♦
```

```
Key DJANGO_SUPERUSER_PASSWORD not found in /home/user/snh-titan/snh2-enterprise-script/.env.
+-------------------------------------------------------------+
| Password for SuperUser was generated:   IJiNUxKO3K248gNc |
+-------------------------------------------------------------+
```

> Please keep this information in a safe place. Please If you ever forget or lose your credentials, Maltego Support will be able to recover the account by creating a new super user account.

Defining an SMTP Mail-Server (Optional)

> This step is optional. If you do not have SMTP Mail server that the SNH Titan Enterprise instance should use, it will still be able to send mails. These mails however will certainly land in the spam folder of your users. Therefore, we recommend providing custom mail server information.

```
? Prepare environment variables ['EMAIL_HOST', 'EMAIL_USE_SSL', 'EMAIL_PORT', 'EMAIL_HOST_USER', 'EMAIL_HOST_PASSWORD', 'EMAIL_FROM']
 » 1. Continue
   2. Get data
   3. Set data
   4. Back
   5. Skip this step
```

If you already have such data, please provide it here. If you don't need to set up a SMTP Mail Server, select "5. Skip this step"

Defining the host name

You will be asked for the 'CSRF_TRUSTED_HOST' value. This is the host URL on which the server will be available for your users. This can either be a public URL, an internal subdomain, or an IP address. Please enter the value including 'https://'.

Select "3. Set data" to insert a host name.

```
? Prepare environment variables ['CSRF_TRUSTED_HOST']. (Use arrow keys)
 » 1. Continue
    2. Get data
    3. Set data
    4. Back
```

```
? Prepare environment variables ['CSRF_TRUSTED_HOST']. 3. Set data
? Please enter value for CSRF_TRUSTED_HOST: https://192.168.201.162
♦ Values of current data: ♦
♦ Current CSRF_TRUSTED_HOST: 'https://192.168.201.162' ♦
```

Example values are:

```
https://10.23.0.43
https://snh2-titan-enterprise.your-organization.com
```

Config database path and storage path

```
? Prepare environment variables ['SNH2_FILES_DIR', 'SNH2_DATABASE_DIR']. (Use arrow keys)
    1. Continue
    2. Get data
    3. Set data
    4. Back
 » 5. Skip this step [Use default paths]
```

```
♦ Current SNH2_FILES_DIR: '/home/user/snh-titan/snh2-enterprise-script/datadir' ♦
♦ Current SNH2_DATABASE_DIR: '/home/user/snh-titan/snh2-enterprise-script/datadir' ♦
? Prepare environment variables ['SNH2_FILES_DIR', 'SNH2_DATABASE_DIR']. (Use arrow keys)
    1. Continue
    2. Get data
    3. Set data
 » 4. Back
    5. Skip this step [Use default paths]
```

With "3. Set Data" you can set the paths for database and storage.

To select the default paths, first select "5. Skip this Step" and then "1. Continue".

Specifying SSL-Certificates

As one of the installation steps, you will be prompted to request SSL certificates. As mentioned earlier, there are several options for handling this. If you already have certificates and have saved them in the ssl folder, choose the first option.

If you do not currently have certificates but wish to continue with the installation and start using the application, select the No option, and in this case, self-signed certificates will be generated.

If you have certificates but forgot to place them in the required directory, choose the "Skip this step" option. **Important:** Before launching the application, take the necessary actions and copy both files with the correct naming into the ssl folder!

STARTING THE APPLICATION

```
? Are you ready to start SNH-Titan? (Use arrow keys)
 » 1. Start SNH-Titan
   2. Exit
```

This is the final step before launching the application. This step is needed in case you need to clarify any data or as mentioned earlier, install SSL certificates.

If you have already entered all the necessary information, choose the first option "Start SNH-Titan".

After launching the application, you will see two information windows. The first one will display your URL, and the second one will show the Super Token, which you will need for the initial setup of SNH Titan. Copy this key and close the installation menu.

> Please note down your Super Token in a secure location. If you don't extend your licenses early enough and the super token is gone, you can lock yourself out. Maltego-Service hours would be required to recover that token.

```
@ SNH-Titan Init swarm. @
? Are you ready to start SNH-Titan? 1. Start SNH-Titan
@ Run SNH-Titan @
+----------------------------------------------------------+
| SNH-Titan started successfully. Open https://192.168.201.162 |
+----------------------------------------------------------+

+--------------------------------------------------------------------------------------+
| For the initial startup, you will need a Super Token: 9c0a28af-f1a8-4136-a082-257d50fde9a9 |
+--------------------------------------------------------------------------------------+
```

If you chose "Exit" and decided to start the application afterwards, run the install_script.sh file again and skip all steps until you get to the final screen and select "Start SNH-Titan". Again: Note down the keys as specified.

All access data was saved in a text file by the installation script. Please put this file in a safe place and delete it from the system.

ACTIVATING THE INSTALLATION

To activate SNH Titan, you need to open the URL of the server where the application is running, select the option "You are the system administrator? Click here to upload a license file" and paste the key you received earlier upon completing the SNH Titan installation into the input field.
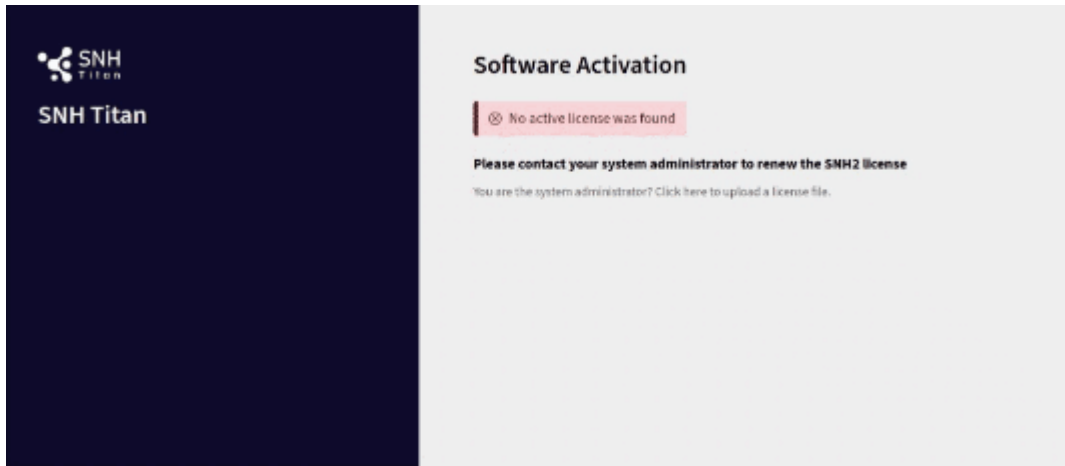
There is now a file in your installation directory in which all the important credentials for this installation are stored.

`~/snh-titan/important_credentials`

Here you will also find the "secret_super_token" that you need for the next step of the software activation. Klicken sie auf "Click here to upload a license file" an enter the "secret_super_token" into the field "Recovery Key". Confirm with "ENTER"
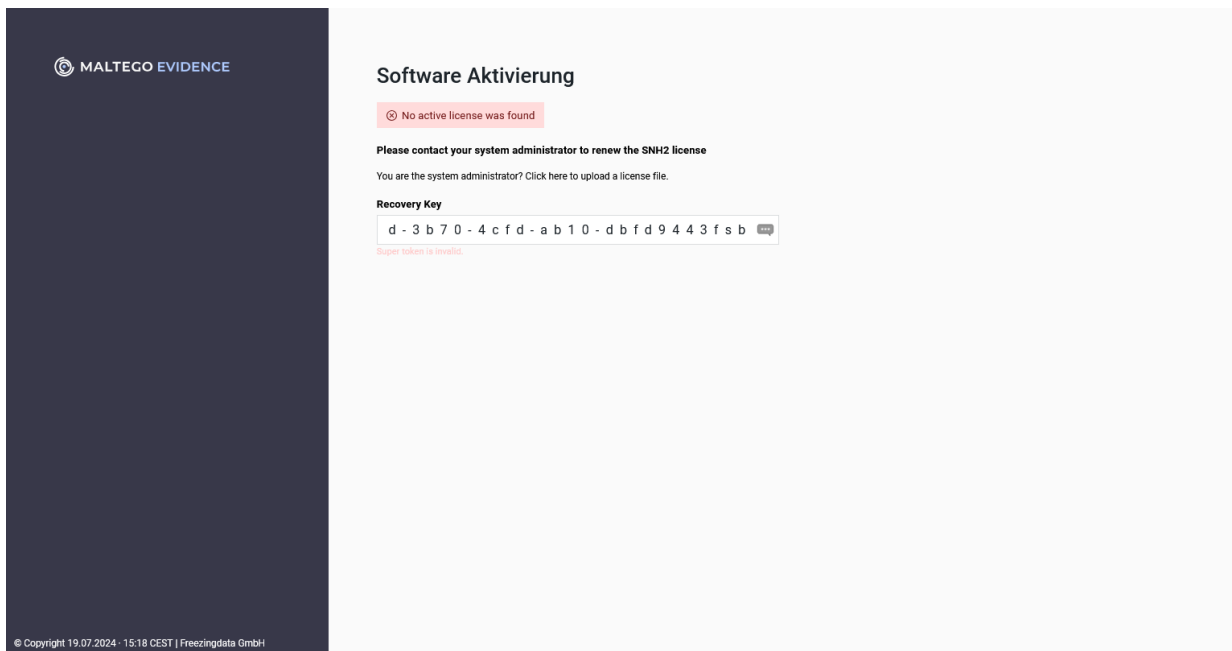
You are probably in contact with Maltego at this point. Please send them the Hardware-ID that is displayed on the right-hand side. If in doubt, which one to use, please use the "Mac-Address". An activation key will be generated specifically for your system. The activation key is a .dat file. Upload the obtained file into the system by clicking on the option "Click or drag file here to upload a new license file" or simply drag the file into this area.
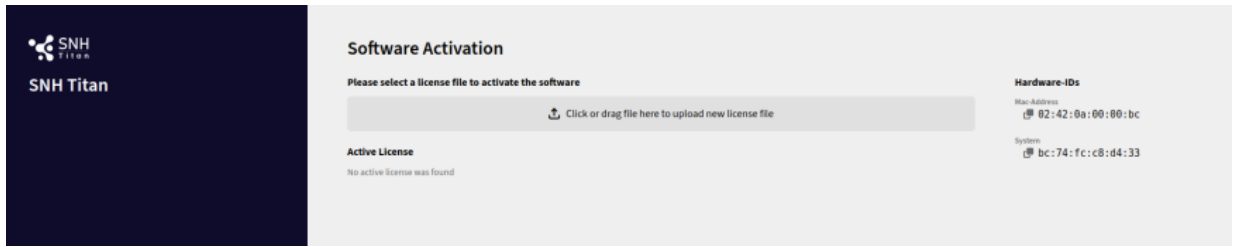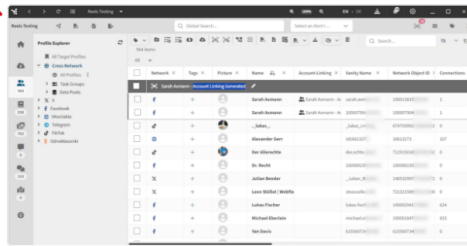
After successfully activating the license on your system, you will see information about your license, including the available number of runners, users, and the license duration. To proceed, click the "Let's start" button.

Using the superuser credentials that you created during the application installation, you can log in to SNH Titan.

Now you can start working with SNH Titan!

Check out our manual for more information on how to generate users, groups and much more!