



Bare Metal Build Guide
May 28th 2018

Doc Version 2.1

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1 AUTHORS PREFACE

In 2015, one of our corporate clients told us of their frustrations with the exorbitant licensing costs of commercial Security Information and Events Management (SIEM) products. The customer light heartedly asked whether we could build them an open source SIEM to get rid of these annual license fees. We thought that was a great idea and set out so to develop a SIEM product for Managed Security Service Providers (MSSP's) and Security Professionals. This product is called SIEMonster.

SIEMonster Version 1 was released in late April of 2016 and a commercial release in November 2016. The release has been an astounding success without over 100,000 downloads of the product. We have assisted individuals and companies integrate SIEMonster into small medium and extra-large companies all around the world. SIEMonster with the help of the community and a team of developers have been working hard since the Version1 release incorporating what the community wanted to see in a SIEM as well as things we wanted to see in the next release.

Along the way we have signed up MSSP's from around the world who have contributed to the rollout of SIEMonster and in return they have assisted us with rollout scripts, ideas and things we hadn't even considered.

We are now proud to release the latest Version 3.0 Final. We have added the following features to this release

- ELK Stack updated to version 6.2
- Built in Searchguard open source RBAC & encrypted node to node transport with GUI for user & role management
- Wazuh HIDS system with Kibana plugin and OpenSCAP options & simplified agent registration process
- Semi-automated installation process for both Rancher Docker orchestration & SIEMonster web application to give more visibility over the install process
- All new dashboard with options for 2fa, site administration with user role based access and faster load times
- Built in parsers for most proprietary devices
- Preloaded Minemeld threat intel feeds integrated with log ingest out of the box.
- COREOS with NFS support

We have also automated correlation with Palo Alto MineMeld Open Source Threat Intelligence and added two factor authentication and easier rollouts.

The transition has now been completed to a full containerize all aspects of the SIEMonster application pool using the popular Docker system. This allows us to run on any hardware, cloud or operating system. It also provides the architecture for docker containers to be moved to other servers during downtime without affecting the SIEM.

We welcome you to try out our fully functional SIEM product, and if you wish to upgrade to our Premium version with Advanced Correlation, Reporting, Auditing and support please contact sales@siemonster.com.

2 INTRODUCTION

SIEMonster Version 3 is built on the best open source components and custom develop from a wish list from the SIEMonster community. This document will cover the architecture, the features and the open source components that make up SIEMonster, so that all security professionals can run a SIEM in their organisations with no budget. If you would like more information about the architecture please see our High-Level Design.

SIEMonster is built on CoreOS, Docker with Rancher, Kubernetes orchestration. The product comes in Vbox, VMware, Bare-metal or Cloud install on AWS/Azure. SIEMonster can scale horizontally and vertically to support any enterprise client.

Some of these features include.

- OSINT from PaloAlto Minemeld.
- OSSEC Wazuh fork. Full integration with OSSEC Wazuh fork for Host Intrusion Detection and PCIDSS ruleset incorporated into Elastic.
- 411 demonstrated at DEFCON. Instant Incident Alerting via email or SMS or Console view via a secure portal and integration with "Slack"/"PagerDuty"/"Jira" using 411 Streams.
- Open Source AuditIT by Opmantek.
- Open Source Incident Response. Alerts maybe escalated as tickets to other operators or a whiteboard to show night shift analysts current issues.
- Elastalert & Event Monitor Alerting.
- Data Correlation Index, community rulesets and dashboards, community and open source free plugins that make the SIEM.
- Incorporate your existing Vulnerability Scans into the Dashboard, (OpenVAS, McAfee, Nessus etc.)
- We have also developed and built in LDAP integration, advanced correlation and two factor authentication.

3 BUILD INSTALLATION ARCHITECTURE OVERVIEW

SIEMonster V3 cloud deployment is a modular Docker container system which will run on all operating systems supporting Docker. Architecturally this was chosen for portability across platforms, supporting not only most container platforms such as AWS ECS, Azure etc. but also VMWare, VirtualBox and bare metal installs used by our corporate customers. This will provide simplified upgrade paths and scaling potential as well as high availability.

Flexible deployment solutions include most cloud container platforms such as AWS, Azure, Digital Ocean etc. Also, options are available for VMware ESX and bare metal installs. For AWS deployment, the platform chosen is the open source container management system provided by Rancher Labs. Rancher supplies the entire software stack needed to manage containers in production. Rancher software consists of four major components:

1. INFRASTRUCTURE ORCHESTRATION

Rancher takes in raw computing resources from any public or private cloud in the form of Linux hosts. Each Linux host can be a virtual machine or physical machine. Rancher does not expect more from each host than CPU, memory, local disk storage, and network connectivity. From Rancher's perspective, a VM instance from a cloud provider and a bare metal server are indistinguishable.

Rancher implements a portable layer of infrastructure services designed specifically to power containerized applications. Rancher infrastructure services include networking, storage, load balancer, DNS, and security. Rancher infrastructure services are typically deployed as containers themselves, so that the same Rancher infrastructure service can run on any Linux hosts from any cloud.

2. CONTAINER ORCHESTRATION AND SCHEDULING

Many users choose to run containerized applications using a container orchestration and scheduling framework. Rancher includes a distribution of all popular container orchestration and scheduling frameworks today, including Docker Swarm, Kubernetes, and Mesos. The same user can create multiple Swarm or Kubernetes clusters. They can then use the native Swarm or Kubernetes tools to manage their applications.

In addition to Swarm, Kubernetes, and Mesos, Rancher supports its own container orchestration and scheduling framework called Cattle. Cattle was originally designed as an extension to Docker Swarm. As Docker Swarm continues to develop, Cattle and Swarm started to diverge. Rancher will therefore support Cattle and Swarm as separate frameworks going forward. Cattle is used extensively by Rancher itself to orchestrate infrastructure services as well as setting up, managing, and upgrading Swarm, Kubernetes, and Mesos clusters.

3. APPLICATION CATALOG

Rancher users can deploy an entire multi-container clustered application from the application catalog with one click of a button. Users can manage the deployed applications and perform fully automated upgrades when new versions of the application become available. Rancher maintains a public catalog consisting of popular applications contributed by the Rancher community. Rancher users can create their own private catalogs. With this deployment, custom Rancher catalog applications have been created for the SIEMonster stack. Using the Rancher network overlay, the SIEMonster container application loads have been evenly balanced across four nodes.

4. ENTERPRISE-GRADE CONTROL

Rancher supports flexible user authentication plugins and comes with pre-built user authentication integration with Active Directory, LDAP, and GitHub. Rancher supports Role-Based Access Control (RBAC) at the level of environments, allowing users and groups to share or deny access to, for example, development and production environments.

4 VERSION 3 HAPPY SNAP FEATURES

All new mobile friendly interface



Sign In

Email Address	<input type="text" value="Email"/>
Password	<input type="password" value="Password"/>
Authentication Code	<input type="text" value="Optional"/>


Sign In

Home Alerts Dashboards ▾ Event Monitor Health Incident Response Prometheus Reports RabbitMQ OpenAudit Slack Support Threat Intel admin ▾

My Profile / 2FA Settings

Two Factor Authentication

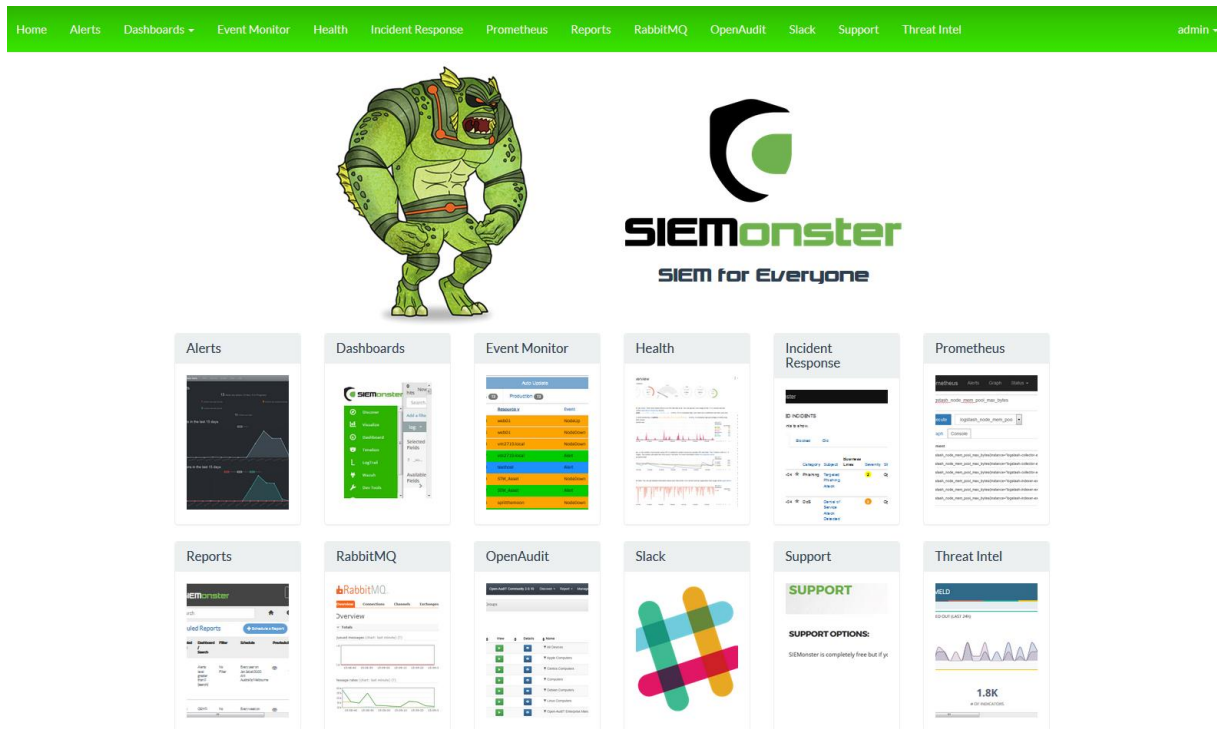
Disabled



You can use Google Authenticator, Authy, or Symantec's VIP Access to scan this QR code and generate authentication codes.

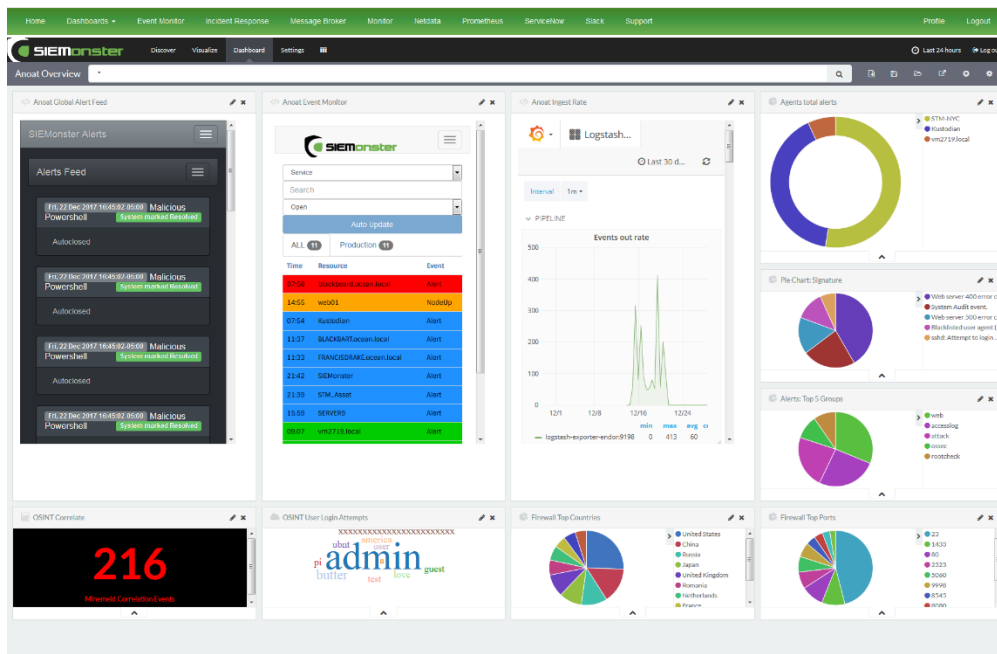
Secret Key: IU2T4KTGLVFDGI3UJ4XTE6TRLMZGSSKRGAUXMR2KJR6W6V2HEUUA

Updated fast loading dashboard



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Pre-Configured Dashboards



Role based access control with LDAP integration

LDAP Integration Settings

You can integrate with LDAP services for user authentication. Users not already in the SIEMonster system will be automatically added when logging in with their LDAP email address and password.

Hostname or IP Address (required)

localhost, 111.222.333.444

Port

636

TLS

☒ Enabled

Connection Timeout

1000

Service Account Username (required)

admin

User Roles

User Roles are used to allow access to different components within the SIEMonster system. Users can be assigned to multiple roles if needed.

Name

[admin](#)

[user](#)

New Role

Create Role

Users

Manage which users have access to SIEMonster including password resets, roles assigned to users, and other information.

Display Name	Role	Email Address
admin	admin	admin@siemonster.com

New User Email Address

New User Password

Create User

Password Requirements:

Customizable Dashboards

Dashboards

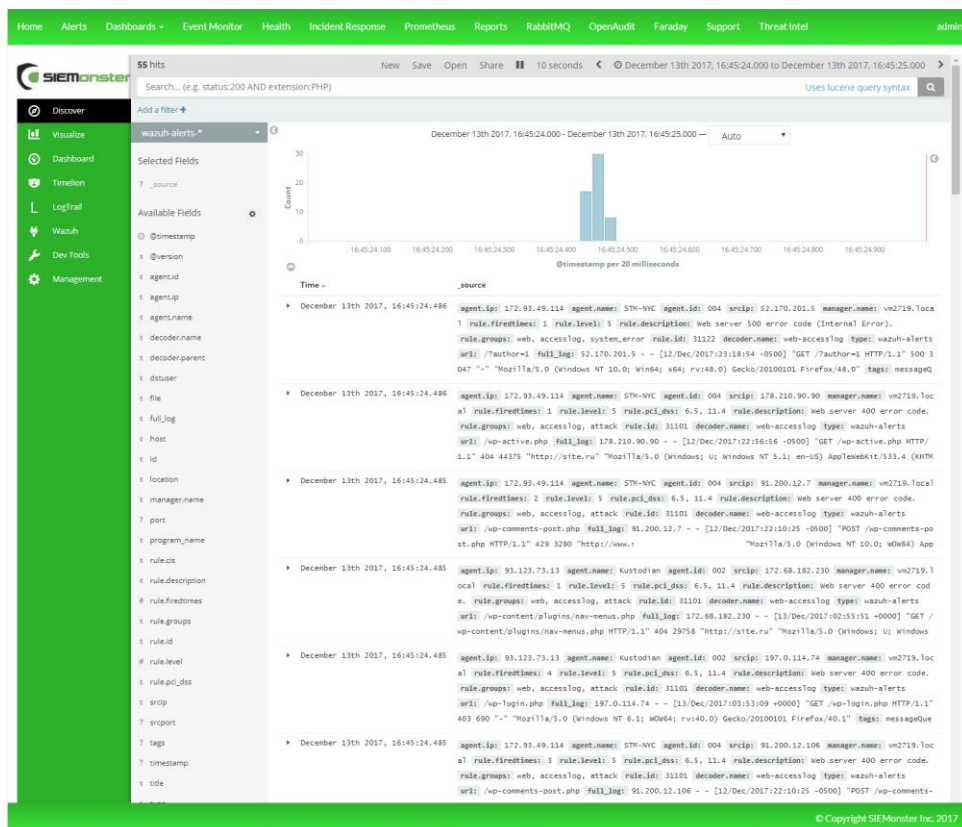
Apache	Enabled (read only for Admin role)	Settings
Cisco	Enabled (read only for Admin role)	Settings
HP Event Monitor	Enabled (read only for Admin role)	Settings
Palo Alto	Enabled (read only for Admin role)	Settings
SOC Demo	Enabled (read only for Admin role)	Settings
Ossec Alerts	Enabled (read only for Admin role)	Settings
PCI Compliance	Enabled (read only for Admin role)	Settings
Bro Connection	Enabled (read only for Admin role)	Settings
Nessus	Enabled (read only for Admin role)	Settings

Dashboard Name

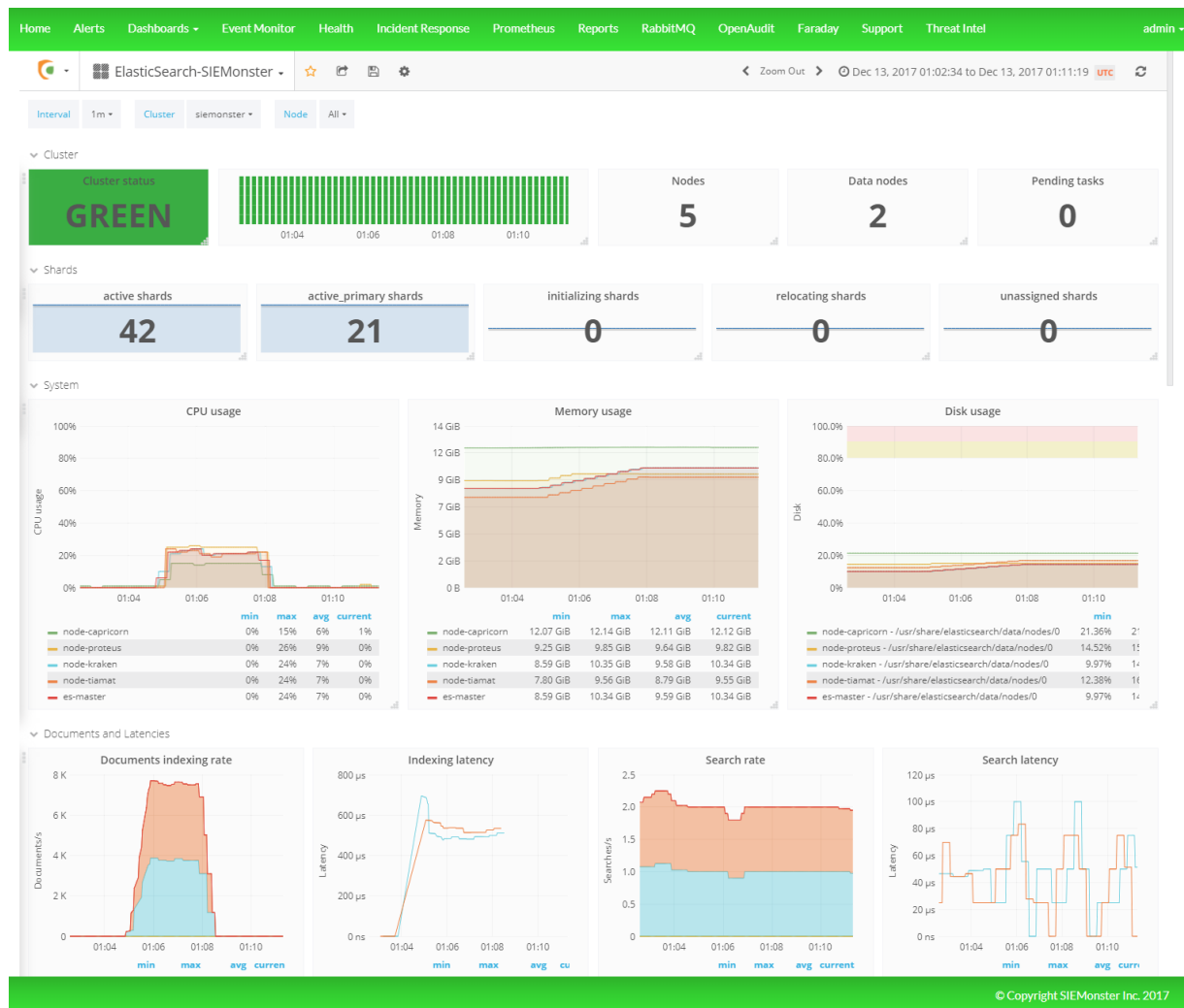
Url

Create Dashboard

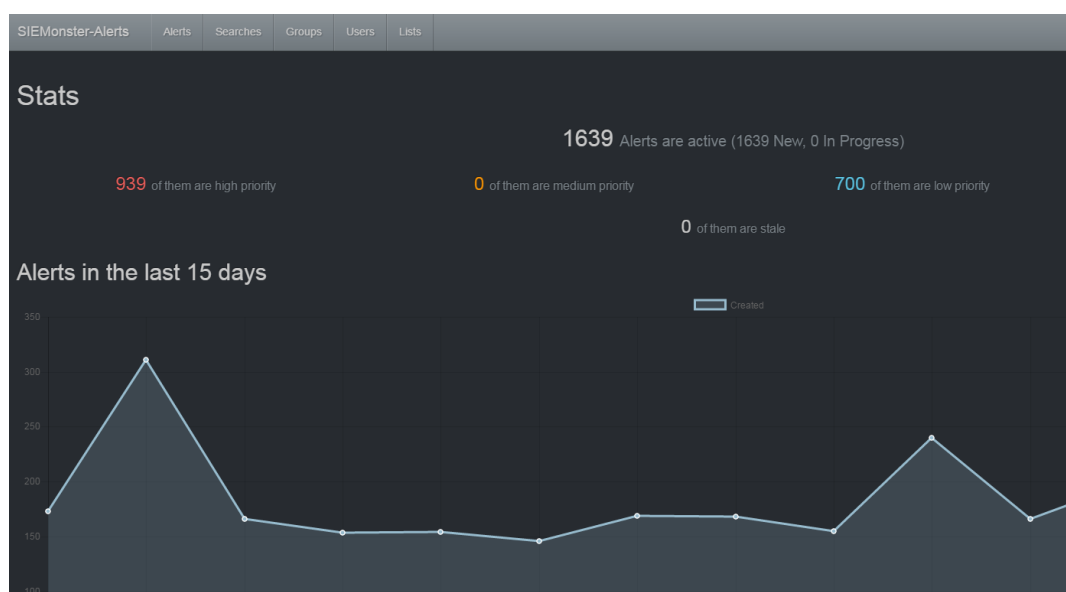
Raw Log searches



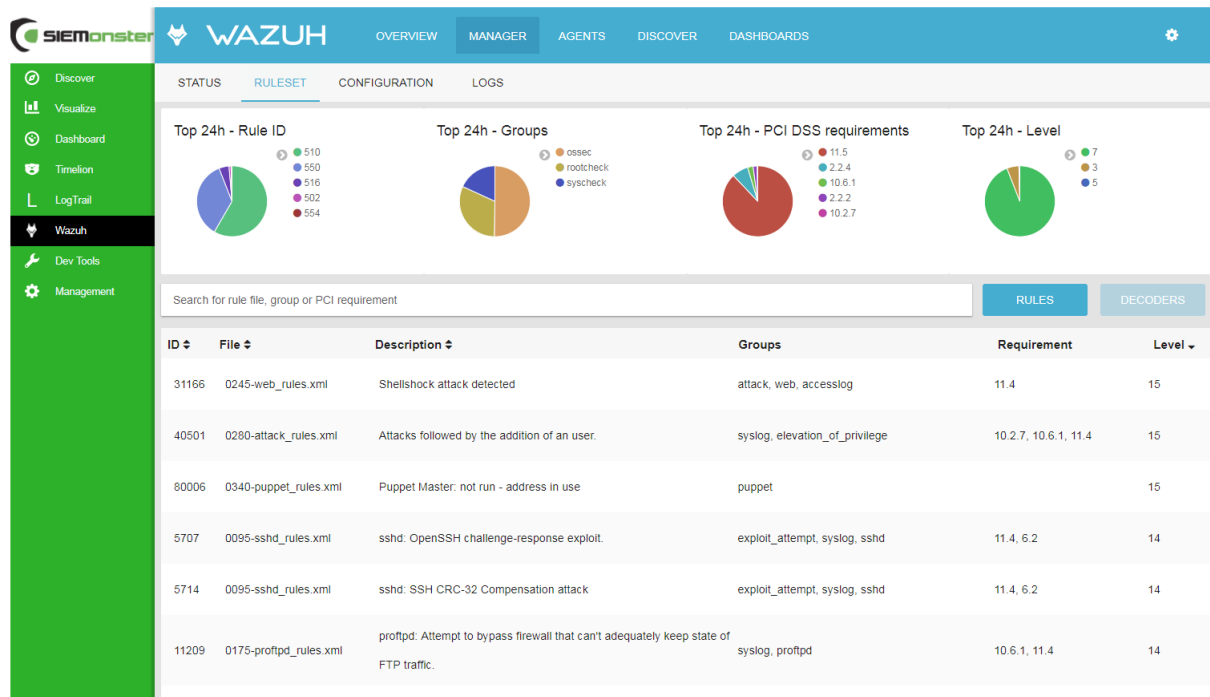
Full Stack Monitoring



Alerting



Wazuh HIDS Integration

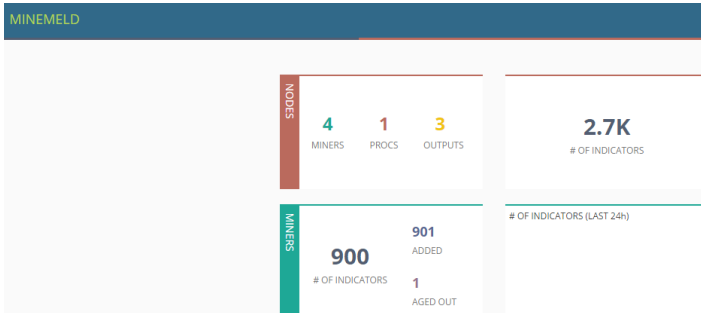


The Wazuh Manager interface displays the following components:

- Left Sidebar:** Navigation menu with options: Discover, Visualize, Dashboard, Timeline, LogTrail, Wazuh (selected), Dev Tools, and Management.
- Top Bar:** Wazuh logo and navigation tabs: OVERVIEW, MANAGER (selected), AGENTS, DISCOVER, DASHBOARD.
- Sub-tabs:** STATUS, RULESET (selected), CONFIGURATION, LOGS.
- Visualizations:** Four pie charts showing 'Top 24h' data:
 - Rule ID:** 510, 550, 516, 502, 554.
 - Groups:** ossec, rootcheck, syscheck.
 - PCI DSS requirements:** 11.5, 2.2.4, 10.6.1, 2.2.2, 10.2.7.
 - Level:** 7, 3, 5.
- Search Bar:** Search for rule file, group or PCI requirement.
- Table:**

ID	File	Description	Groups	Requirement	Level
31166	0245-web_rules.xml	Shellshock attack detected	attack, web, accesslog	11.4	15
40501	0280-attack_rules.xml	Attacks followed by the addition of an user.	syslog, elevation_of_privilege	10.2.7, 10.6.1, 11.4	15
80006	0340-puppet_rules.xml	Puppet Master: not run - address in use	puppet		15
5707	0095-sshd_rules.xml	sshd: OpenSSH challenge-response exploit.	exploit_attempt, syslog, sshd	11.4, 6.2	14
5714	0095-sshd_rules.xml	sshd: SSH CRC-32 Compensation attack	exploit_attempt, syslog, sshd	11.4, 6.2	14
11209	0175-proftpd_rules.xml	proftpd: Attempt to bypass firewall that can't adequately keep state of FTP traffic.	syslog, proftpd	10.6.1, 11.4	14

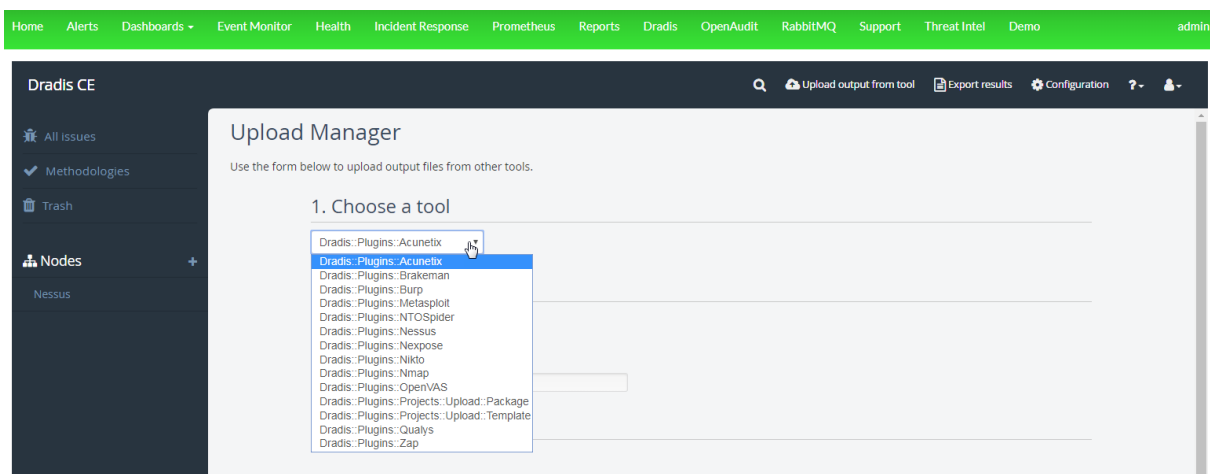
Threat Intel



The Threat Intel dashboard displays the following metrics:

- MINEMELD Summary:**
 - 4** MINERS
 - 1** PROCS
 - 3** OUTPUTS
 - 2.7K** # OF INDICATORS
- MINERS Details:**
 - 900** # OF INDICATORS
 - 901** ADDED
 - 1** AGED OUT
- Timeline:** # OF INDICATORS (LAST 24h)

Vulnerability Management



The Dradis CE interface shows the following components:

- Top Bar:** Home, Alerts, Dashboards, Event Monitor, Health, Incident Response, Prometheus, Reports, Dradis (selected), OpenAudit, RabbitMQ, Support, Threat Intel, Demo, admin.
- Left Sidebar:** All Issues, Methodologies, Trash, Nodes (selected), Nessus.
- Main Content:** Upload Manager.
 - Use the form below to upload output files from other tools.
 - 1. Choose a tool**
 - Dradis:Plugins:Acunetix
 - Dradis:Plugins:Acunetix (selected)
 - Dradis:Plugins:Brakeman
 - Dradis:Plugins:Burp
 - Dradis:Plugins:Metasploit
 - Dradis:Plugins:NTOSpider
 - Dradis:Plugins:Nessus
 - Dradis:Plugins:Nexpose
 - Dradis:Plugins:Niko
 - Dradis:Plugins:Nmap
 - Dradis:Plugins:OpenVAS
 - Dradis:Plugins:Projects:Upload:Package
 - Dradis:Plugins:Projects:Upload:Template
 - Dradis:Plugins:Qualys
 - Dradis:Plugins:Zap

Event Monitor

Service		Search		Open		Auto Update			
ALL 29		Production 29							
Severity	Status	Last Receive Time	Dupl.	Environment	Service	Resource	Event	Value	Text
Major	Open	Sun 27 Nov 17:04	1	Production	Website	web01	NodeUp	AWESOME	Web server is UP.
Major	Open	Sat 22 Oct 17:26	9	Production	HIDS	STM_AGENT	Intrusion Attempt	ATTACK	System user successfully logged to the system.
Major	Open	Sun 9 Oct 09:50	12	Production	Powershell	blackbeard.ocean.local	Powershell Activity	DETECTION	Malicious Powershell Activity
Major	Open	Thu 29 Sep 03:11	19	Production	Powershell	VPS-2F1-E1-11B	Powershell Activity	DETECTION	Malicious Powershell Activity
Major	Open	Thu 25 Aug 22:36	3	Production	HIDS	KUSTODIAN	Intrusion Attempt	ATTACK	Multiple common web attacks from same source ip.
Major	Open	Fri 17 Jun 09:24	0	Production	Website	localhost	NodeDown	ERROR	Web server is down.

Reporting

Home
Alerts
Dashboards
Event Monitor
Health
Incident Response
Prometheus
Reports
RabbitMQ
OpenAudit
Faraday
Support
Threat Intel
admin

SIEMonster
Scheduled Reports
Filters
Templates

Search

Create Report
BACK
MAIL NOW
SAVE

Report Details

Schedule Report Name*
My SIEMonster Report

Select Type*
Dashboard
Search

Select Search*
OSCAP Checks
Select Filter
No Filter

Folder Path
Folder Path

Report Format

Select Format*
Excel

Schedule Details

Frequency Type*
Hourly
runs every 1 hours which starts from next 30 th (0-59) minute in America/New_York

Time Window
Quick
Relative

From*
To

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Audit and Discovery

Home Alerts Dashboards ▾ Event Monitor **Queries** Incident Response Prometheus Reports Dradis OpenAudit RabbitMQ Support Threat Intel Demo admin

Home / Queries
Queries

Queries Export Create Advanced Filter ?


50 records per page Search:

View	Details	Name	Description	Organisation	Delete
		Acrobat	Adobe Acrobat installations (software name contains 'acrobat' or 'adobe reader').	Default Organisation	
		AD Controllers	Active Directory Domain Controllers	Default Organisation	
		Antivirus	Installed AntiVirus software (software name contains 'virus' or 'trend micro' or 'endpoint').	Default Organisation	
		Audit Dates	The first and last times a device was audited.	Default Organisation	
		Billing Report	Name, last seen on and by, type, class, manufacturer, model, serial, user, location.	Default Organisation	
		Consumed IP Addresses	The ip addresses used by a group.	Default Organisation	
		Database	All databases.	Default Organisation	
		Device	Icon, name, ip address, manufacturer, model, serial.	Default Organisation	
		Devices Without Credentials	Device details - name, ip, last seen on and by for those devices only discovered by Nmap and have therefore not been audited.	Default Organisation	


SIEMonster


Search Guard Configuration


Discover
Visualize
Dashboard
Timelion
Wazuh
Sentinel
Dev Tools
Management
Search Guard




Permissions and Roles

 Role Mappings


 Search Guard Roles


 Action Groups


Authentication Backends

 Internal User Database

System

 Authentication & Authorisation

 License & System Info

 Purge Cache

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5 CONFIGURATION BUILDER PACKAGE

The SIEMonster team have put together a package to allow for a fully customizable ISO installation for use with bare metal deployments.

This option allows you to configure ISO installers, this will allow you to hard set IP addresses, proxies, disk size before you build. This is a good option for most corporate environments.

The SIEMonster custom configuration provides the means to quickly rollout a cluster using bare metal servers of your choice comprising the base build for all 5 servers required.

The five servers are comprised of

- Proteus (Application Server/Ingestion Server)
- Capricorn (Application Server)
- Kraken (Elasticsearch)
- Tiamat (Elasticsearch)
- Makara (Rancher / Orchestration Server / Ingestion Server)

System requirements should allow for 8GB RAM for each instance and minimum 250GB free disk space, (50GB per instance). Supported build platforms:

- Mac OS X
- Ubuntu
- Debian
- CentOS

5.1 CUSTOM INSTALLER CREATION OVERVIEW

The high-level overview of the image building process is set out below.

- Download the package from the website using the Configuration Builder link
- Install prerequisites
- Edit the configuration file for static IP range, Gateway, DNS, Proxy & SSH credentials
- Run the configuration builder script to create the custom installer files for each host
- Edit the config file for static IP range, Proxy and Disk Size, Memory & Credentials
- Download the latest CoreOS Production ISO and write to disc
- Boot each instance from disc
- Install customized CoreOS to disk
- Access the Rancher Server & add SIEMonster Catalog entry, NFS and required access control plus SSL certificates for the load balancer
- Add Rancher hosts from the Rancher UI

The goal of this project is to create an ISO image, through which a user can deploy a 5-node Rancher SIEMonster cluster. Customizations:

- Static IP Range Assignment
- Proxy
- Gateway
- DNS
- SSH Password

5.2 PREPARING THE CUSTOM INSTALLER FILES

1. Click on Download on the SIEMonster website, register and Download the latest SIEMonster Configuration Builder file.
SHA256 c1a30dd85eb03eea21aed149bac39285d4a37faa3f03cc48b75e5584dc1c14a2

2. Prepare the installation on a separate Linux machine, e.g. you can use an Ubuntu Live virtual machine.

Target system Ubuntu/Debian.

Prerequisites:

sudo apt install python-pip

pip install j2cli

pip install cot

SSH server accessible from Bare Metal target

Configure:

Edit ova_params.sh – see example below

chmod +x *.sh

Build:

./build_iso.sh

3. An output folder will be created, containing the custom cloud-config installer files for each host.
4. You now have the required installer files and can proceed to Chapter 6 Installation

```
#!/bin/bash

export COREOS_PASSWORD='s13M0nSterV3'

# Proxy configuration
#export HTTP_PROXY='http://10.0.1.17:8888'
# NO_PROXY always MUST contains localhost,127.0.0.1
#export NO_PROXY='localhost,127.0.0.1,.example.com'

export CORE_HOSTNAMES='makara capricorn proteus kraken tiamat'

# Static ip configuration
export STATIC_IF='ens32'
export STATIC_IPS='192.168.0.150 192.168.0.151 192.168.0.152 192.168.0.153 192.168.0.154'
export STATIC_NETMASK='255.255.255.0'
export STATIC_GATEWAY='192.168.0.1'
export STATIC_DNS='8.8.8.8 8.8.4.4'

# Docker images
export RANCHER_SERVER_DOCKER_IMAGE='rancher/server:v1.6.17'
export RANCHER_AGENT_DOCKER_IMAGE='rancher/agent:v1.2.10'
```

Ensure 'STATIC_IF' value matches the network interface name.

6 INSTALLATION

The ISO Image deployment overview contains the following steps.

- Down of CoreOS Production ISO Image and transfer to disk
- Install CoreOS using custom configuration files
- Create Rancher cluster deployment with credentialed access
- NFS creation for configuration centralization
- SSL certificate insertion
- SIEMonster Catalog item for one click install

6.1 COREOS INSTALL

First download the latest stable bootable CoreOS ISO file:

<https://coreos.com/os/docs/latest/booting-with-iso.html>

Burn the image to disk or transfer to bootable USB and boot each of the 5 servers from this image. Allocate a name for each server – Makara, Capricorn, Proteus, Kraken & Tiamat

Once loaded the system will auto login:

```
This is localhost (Linux x86_64 4.14.11-coreos) 08:28:36
SSH host key: SHA256:Fh4f2jgwJ312aXIPi7x67zr2z7817qtgWRv5eiDRyxY (ED25519)
SSH host key: SHA256:Upi6q0g9GtWR1PhFjBBgqQRp5MUMJ2oJPYnCKtzF2eA (ECDSA)
SSH host key: SHA256:BUzh8CAX5sR1g7zjFdh2Qv+BnRkWq+Unmb01UJVhTaQ (DSA)
SSH host key: SHA256:5ep1GxJKX1oyDrIjodV779bUD9h/itEjkzWqGcLwkw4 (RSA)
ens33: fe80::20c:29ff:fe80:9c26

localhost login: core (automatic login)
Container Linux by CoreOS stable (1576.5.0)
Update Strategy: No Reboots
core@localhost ~ $ _
```

1. On each instance, in the console use SCP to copy the relevant cloud-config.yaml file from the server where they were created.
For example, if you created them on a machine with IP 192.168.1.30 in the folder home/test/rancher_manual_install/out/ then the command for Makara would be:
scp test@192.168.1.30:/home/test/rancher_manual_install/out/cloud-config_makara.yaml .
Another option is to create a new user in the console:
sudo adduser -m newuser -G sudo
sudo passwd newuser
You can then use SCP where the yaml files were created, e.g.
scp cloud-config_makara.yaml newuser@<makara ip>:/home/newuser
2. Once the relevant yaml file is on the server, CoreOS can be installed with the custom configuration. For example, on the Makara instance:
sudo coreos-install -d /dev/sda -c cloud-config_makara.yaml

```

SSH host key: SHA256:XjKwHtM+UWYtR+GEL5Sp0QZ5U00WtMXK91S99+GpSU (RSA)
ens33: 192.168.0.18 fe80::20c:29ff:fe8c:b6ad

localhost login: core (automatic login)
Container Linux by CoreOS stable (1688.5.3)
Update Strategy: No Reboots
core@localhost ~ $ [ 246.941874] random: crng init done

core@localhost ~ $ scp l[REDACTED]@192.168.0.7:/home/[REDACTED]/Rancher_manual_install/out/
cloud-config_makara.yaml .
The authenticity of host '192.168.0.7 (192.168.0.7)' can't be established.
ECDSA key fingerprint is SHA256:e96L4nLA8TCUHR6AD6+8LkgURDtnjFSEWLuTNE0HD14.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.0.7' (ECDSA) to the list of known hosts.
[REDACTED]@192.168.0.7's password:
cloud-config_makara.yaml 100% 3617 3.2MB/s 00:00
core@localhost ~ $ sudo coreos-install -d /dev/sda -c cloud-config_makara.yaml

```

3. Once the install has completed, shut down the instances and disconnect the CD/DVD drive (ISO).

```

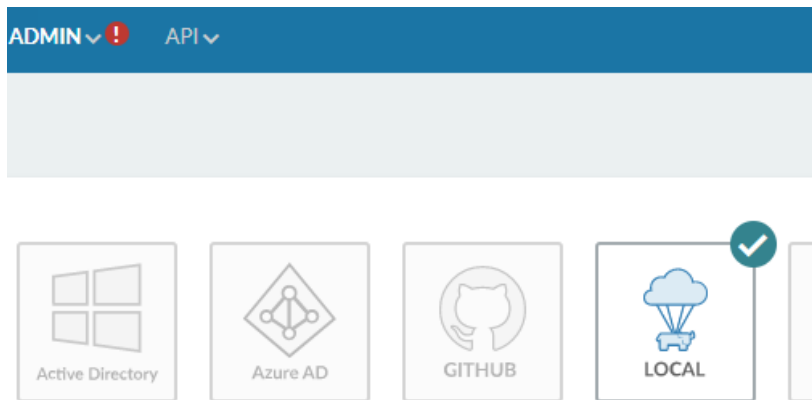
Installing cloud-config...
Success! CoreOS Container Linux stable 1688.5.3 is installed on /dev/sda
core@localhost ~ $ _

```

4. Power on each machine and when booted to login prompt, establish an SSH session to each instance using the credentials set in sections 5.3/5.4 (default credentials (rancher/s13M0nSterV3), if they were not changed.)
5. The Rancher Server container on Makara will start automatically, allow a few minutes for this process and then access the URL <https://<makara ip address>:8080>

6.2 RANCHER

1. First setup access control – Admin – Access Control



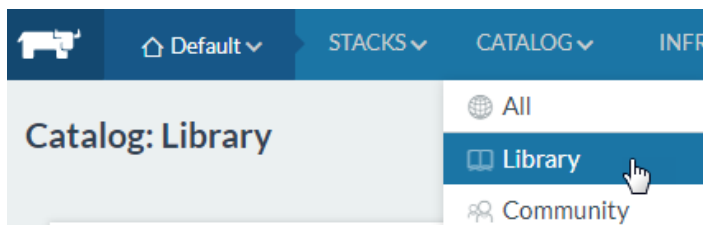
Add username & password and Enable Local Auth

2. Enable Access Control

[Click to enable access control and log in.](#)

Enable Local Auth

2. Install Rancher NFS from public catalog item.



Two settings are required, use the Makara IP address as the NFS Server and /nfs as the Export Base Directory

Configuration Options


NFS Server* <input type="text" value="192.168.0.150"/> <small>IP or hostname of the default NFS Server</small>	Export Base Directory* <input type="text" value="/nfs"/> <small>The default exported base directory</small>
Mount Options <input type="text"/> <small>Comma delimited list of default mount options, for example: 'proto=udp'. Do not specify 'nfsvers' option, it will be ignored.</small>	NFS Version* <input type="text" value="nfsvers=4"/> <small>Default NFS version to use</small>
On Remove* <input type="text" value="purge"/> <small>On removal of Rancher NFS volume, should the underlying data be retained or purged.</small>	Debug Mode <input type="text" value="false"/> <small>Enable or disable verbose logging</small>


PREVIEW ▼
Launch
Cancel


3. Install agents – Go to Infrastructure – Hosts


▼ **INFRASTRUCTURE** ▼ **ADMIN** ▼ **API** ▼


Hosts
 Containers
 Storage
 Secrets
 Certificates
 Registries


Custom


 AMAZON EC2


 Azure


 DigitalOcean


 packet

Manage available machine drivers

- 1 Start up a Linux machine somewhere and install a supported version of Docker on it.
- 2 Make sure any security groups or firewalls allow traffic:
 - From and To all other hosts on **UDP** ports **500** and **4500** (for IPsec networking)
- 3 Optional: Add labels to be applied to the host.

Add Label

Key

Value

makara

=

1

-

ProTip: Paste one or more lines of key=value pairs into any key field for easy bulk entry.
- 4 Specify the public IP that should be registered for this host. If left empty, Rancher will auto-detect the IP to use. This generally works for machines with unique public IPs, but will not work if the machine is behind a firewall/NAT or if it is the same machine that is running the **rancher/server** container.
- 5 Copy, paste, and run the command below to register the host with Rancher:


```
sudo docker run -e CATTLE_AGENT_IP="192.168.0.150" -e CATTLE_HOST_LABELS="makara=1" --rm --privileged -v /var/run/docker.sock:/var/run/docker.sock -v /var/lib/rancher:/var/lib/rancher rancher/agent:v1.2.10 http://192.168.0.150:8080/v1/scripts/0A93CFAB145B9ADE4282:1514678400000:1kr8gdbqntTEDuvPins8BESpw
```

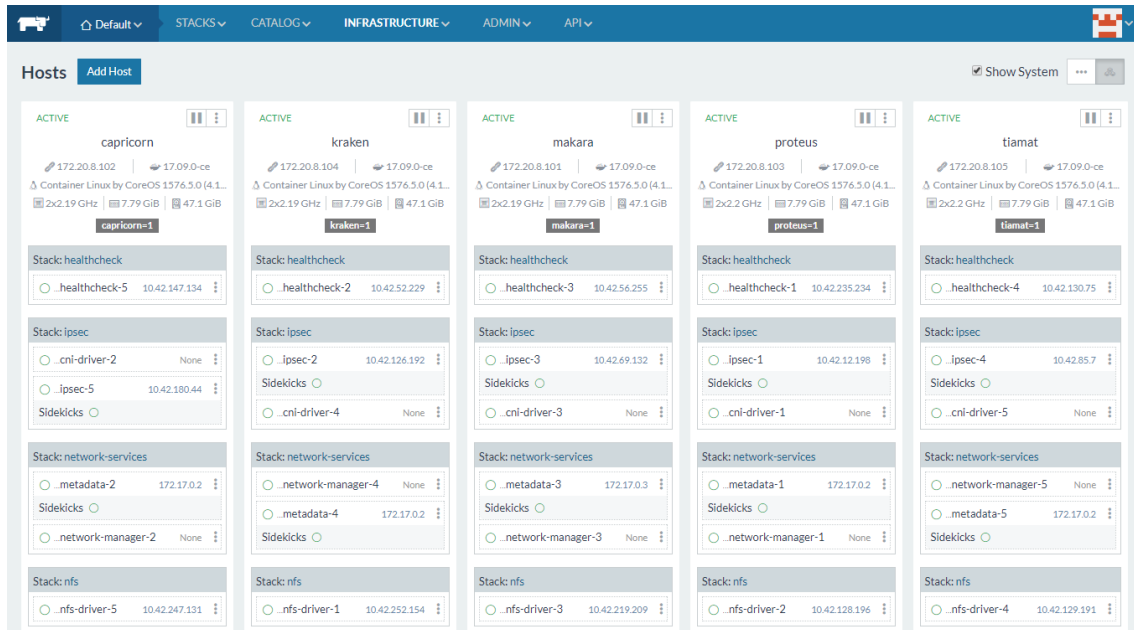
Copy

Initially add a label makara = 1 and use the copy button in step 5 and paste into the SSH session for Makara

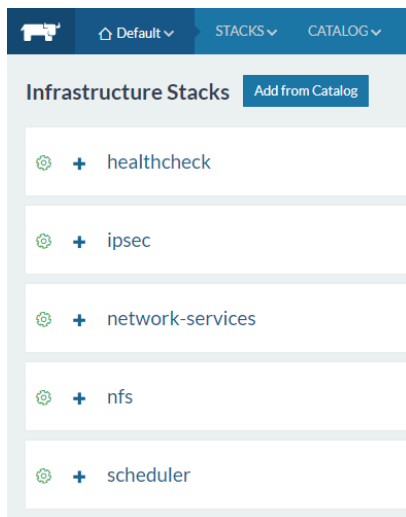
Then change the label to capricorn = 1 and paste to Capricorn SSH session.

Repeat for the remaining hosts – proteus, kraken, tiamat

Within a few minutes all the hosts should appear under Infrastructure – Hosts



Wait until the hosts are stabilized in the Green state. Verify under Stacks – Infrastructure



1. As the access to the web application is via SSL only, certificates are required to be generated for the chosen local domain. A sample template, 'openssl.cnf' and script (generate_certs.sh) to generate certificates can be found at <https://github.com/siemonster/misc>. If using Windows, copy these files to a Linux/Mac virtual or physical machine to proceed.
2. Modify the openssl.cnf template to match the required local domain. For example, if the chosen domain is 'vmware.portal.siemonster.com' (Must be a domain with 4 names) then make the changes as follows:

```
[req]
distinguished_name = req_distinguished_name
req_extensions = v3_req

[req_distinguished_name]
countryName = AU
countryName_default = AU
stateOrProvinceName = VIC
stateOrProvinceName_default = VIC
localityName = Melbourne
localityName_default = Melbourne
organizationalUnitName = SIEMonster
organizationalUnitName_default = SIEMonster
commonName = vmware.portal.siemonster.com
commonName_max = 64

[ v3_req ]
# Extensions to add to a certificate request
basicConstraints = CA:FALSE
keyUsage = nonRepudiation, digitalSignature, keyEncipherment
subjectAltName = @alt_names

[alt_names]
DNS.1 = vmware.portal.siemonster.com
DNS.2 = *.vmware.portal.siemonster.com
```

- Next make the script 'generate_certs.sh' executable (`chmod +x generate_certs.sh`), and run to produce the certificates and .p12 keystore.
- In the Rancher UI, navigate to Infrastructure – Certificates, edit the existing siemportal certificate, updating the private key and certificate.
- Copy and paste the contents of the server.key and server.crt, or upload to the Private Key and Certificate fields and save:

Edit Certificate

Name*	Description
siemportal	e.g. EV cert for mydomain.com

Note: The Private Key is intentionally blank because the field is write-only. You will need to provide the Private Key again to update the certificate, even if it hasn't changed.

Private Key*	Certificate*	Chain Certs
Paste in the private key, starting with -----BEGIN RSA PRIVATE	-----BEGIN CERTIFICATE----- MIIDZjCCAk6gAwIBAgIJAkG95GzxTWHFMA0GCSqGSIb3DQEBCwUAMEQxCzAJBgNVBAYTAkFVMQwwCgYDVQQLIDANWSUMxEjAQBgNVBACMCU1lbGJvdXJuZTETMBEGA1UE	Optional; Paste in the additional chained certificates, starting

Save Cancel

- The 'Name' field must be set to 'siemportal' this is mandatory for the Load Balancer.
- As the SIEMonster application uses multiple subdomains, it is necessary to import the keyStore.p12 cert into the local trusted certificate authorities for clean SSL sessions. This is so your browser doesn't keep popping up do you trust this connection. To do this follow the operating system below.

For Windows:

Administrators is the minimum group membership required to complete this procedure.
To add certificates to the Trusted Root Certification Authorities store for a local computer

- Click Start, click Start Search, type mmc, and then press ENTER.
- On the File menu, click Add/Remove Snap-in.
- Under Available snap-ins, click Certificates, and then click Add.
- Under This snap-in will always manage certificates for, click Computer account, and then click Next.
- Click Local computer, and click Finish.
- If you have no more snap-ins to add to the console, click OK.
- In the console tree, double-click Certificates.
- Right-click the Trusted Root Certification Authorities store.
- Click Import to import the keystore.p12 certificate and follow the steps in the Certificate Import Wizard.

For Mac OS X

- To open Keychain Access, start by clicking on Go in the Finder menu and then select Utilities.
- When the Utilities window opens up, look for and click on the icon named Keychain Access.
- Note: Alternatively, you can open the Keychain Access by typing "Keychain Access" in the Spotlight search field at the top.
- Within the Keychain Access menu select File > click Import Items
- Browse to the .p12 or .pfx file that you want to import and open it.
- In the Add Certificates window select **System** in the Keychain drop-down and click **Add**
- Enter your admin password to authorize the changes and click **Modify Keychain**
- Leave the password field blank and click 'OK'.

For Linux using Firefox

- Open Firefox. Click Edit > Preferences.
- Privacy & Security – scroll to bottom, View Certificates
- Your Certificates – Import keystore.p12
- Leave the password field blank and click 'OK'.

Your Certificates	People	Servers	Authorities	Others
You have certificates from these organizations that identify you				
Certificate Name	Security Device	Serial Number	Expires On	
SIEMonster	Software Security Device	00:86:29:71:3D:F8:BD:7A:E3	January 5, 2028	

6.3 STACK DEPLOYMENT

1. Add the SIEMonster V3 Catalog URL under Admin – Settings
<https://github.com/siemonster/v3-final>

Custom
You can define your own custom catalog sources here. Each one needs a unique name and a URL that `git clone` can handle (see docs for more info).

+ Add Catalog

Name	URL
<input type="text" value="SIEMonster"/>	<input type="text" value="https://github.com/siemonster/v3-final"/>

2. Navigate to the SIEMonster catalog and click 'View Details' for the SIEMonster V3 App.
3. Under 'New Stack', substitute projectname for the required application name. This name will be used for your site domain in the next step.

Example:

siemonster-project-vmware change this to siemportal
siemonster-project-siemportal

4. Under Configuration Options, substitute projectname for the name chosen

For example

Name:

siemonster-project-siemportal will become

Site domain name:

siemportal.corp.clientname.com (domain name must have 4 names)

Before

Name*

siemonster-project-vmware

Configuration Options

Site domain name*

vmware.portal.siemonster.com

Specify the domain name of the site.

After

Name*

siemonster-project-siemportal



Configuration Options

Site domain name*

siemportal.corp.clientname.com



Specify the domain name of the site.

- Set the Elasticsearch JAVA HEAP SIZE per the machine specifications. For Elasticsearch Data Nodes, this should be set to a value half of the available system RAM. For the Master & Client nodes, the heap sizes can be left as default as these can be modified to suit at any time post install.

Heap size (master nodes)*

1g

Heap size to be allocated for Java (mater nodes)

Heap size (data nodes)*

4g

Heap size to be allocated for Java (mater nodes)

Heap size (client nodes)*

1g

Heap size to be allocated for Java (mater nodes)

- Set the administrator email address for the SIEMonster Web interface. **This will be the same email** that will be used in Chapter 7 – Web Application Setup.

Web Application Admin Email*

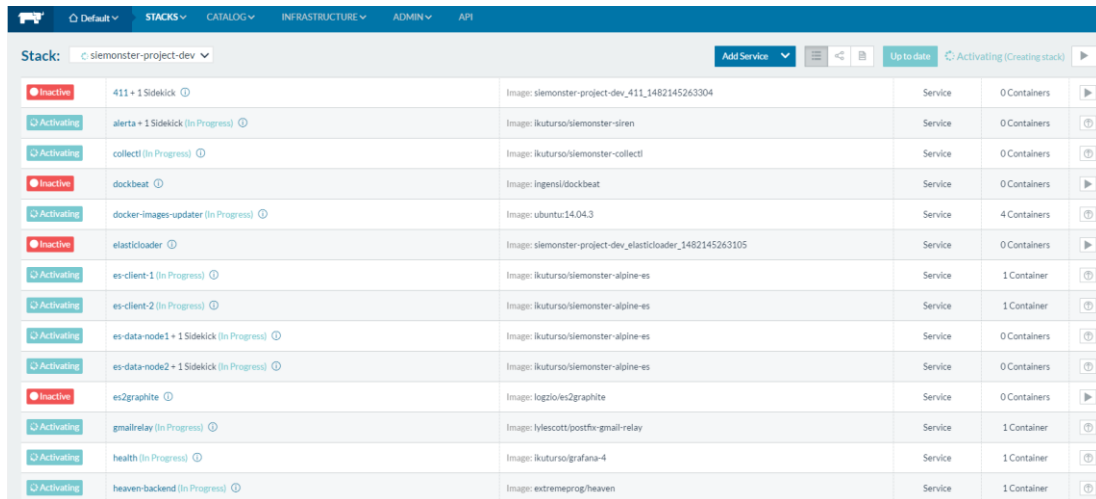
admin@siemonster.com

Set the ADMIN email

- The remaining application passwords should be changed from the defaults, see Appendix A for change management table. Aside from the CertAuth, Truststore & KeyStore passwords, all passwords can be changed post-install if required.
- The SITE_ID option should be left at default, as initially the Logstash Heap Size
- If Gmail alert relaying is required set the appropriate values. It is recommended to setup a Gmail account specifically for this purpose.

10. Finally, click on 'Launch'.

11. The stack will take around 5 - 60 minutes to build, depending on internet connection speed. The status can be viewed under Stacks – User



Stack:	siemonster-project-dev	Up to date	Activating (Creating stack)
Inactive	411 + 1 Sidekick	Image: siemonster-project-dev_411_1482145263304	Service 0 Containers
Activating	alerta + 1 Sidekick (In Progress)	Image: ikuturso/siemonster-siren	Service 0 Containers
Activating	collectd (In Progress)	Image: ikuturso/siemonster-collectd	Service 0 Containers
Inactive	dockbeat	Image: ingensid/dockbeat	Service 0 Containers
Activating	docker-images-updater (In Progress)	Image: ubuntu:14.04.3	Service 4 Containers
Inactive	elasticsearch	Image: siemonster-project-dev_elasticsearch_1482145263305	Service 0 Containers
Activating	es-client-1 (In Progress)	Image: ikuturso/siemonster-alpine-es	Service 1 Container
Activating	es-client-2 (In Progress)	Image: ikuturso/siemonster-alpine-es	Service 1 Container
Activating	es-data-node1 + 1 Sidekick (In Progress)	Image: ikuturso/siemonster-alpine-es	Service 0 Containers
Activating	es-data-node2 + 1 Sidekick (In Progress)	Image: ikuturso/siemonster-alpine-es	Service 0 Containers
Inactive	es2graphite	Image: logzio/es2graphite	Service 0 Containers
Activating	gmailrelay (In Progress)	Image: lylescott/postfix-gmail-relay	Service 1 Container
Activating	health (In Progress)	Image: ikuturso/grafana-4	Service 1 Container
Activating	heaven-backend (In Progress)	Image: extremeprog/heaven	Service 1 Container

On completion, the status will turn to green for all items:

Up to date			Add Service	28 Services	41 Containers
Active	411 + 1 Sidekick	Image: ikuturso/411v3	Service	2 Containers	
Active	alerta + 1 Sidekick	Image: ikuturso/siemonster-siren	Service	2 Containers	
Active	alermanager	Image: ikuturso/alertmanager	Service	1 Container	
Active	cadvisor	Image: google/cadvisorv0.27.1	Service	5 Containers	
Active	es-client-1	Image: ikuturso/siemonster-client1:5.5.2 Ports: 9200	Service	1 Container	
Active	es-client-2	Image: ikuturso/siemonster-client2:5.5.2 Ports: 9200	Service	1 Container	
Active	es-data-node1 + 1 Sidekick	Image: ikuturso/siemonster-data1:5.5.2	Service	2 Containers	
Active	es-data-node2 + 1 Sidekick	Image: ikuturso/siemonster-data2:5.5.2	Service	2 Containers	
Active	es-master	Image: ikuturso/siemonster-esmaster:5.5.2	Service	1 Container	

If using a local DNS entry for example a hosts file. You will need to add your entries to a host file.

Local DNS Settings

The Makara server is the endpoint used by the load balancer. This will be the IP address used for the Rancher Server.

Using a local DNS server, zone entries are required for site.dname.com and *.site.dname.com, e.g. siemportal.corp.clientname.com
*. siemportal.corp.clientname.com

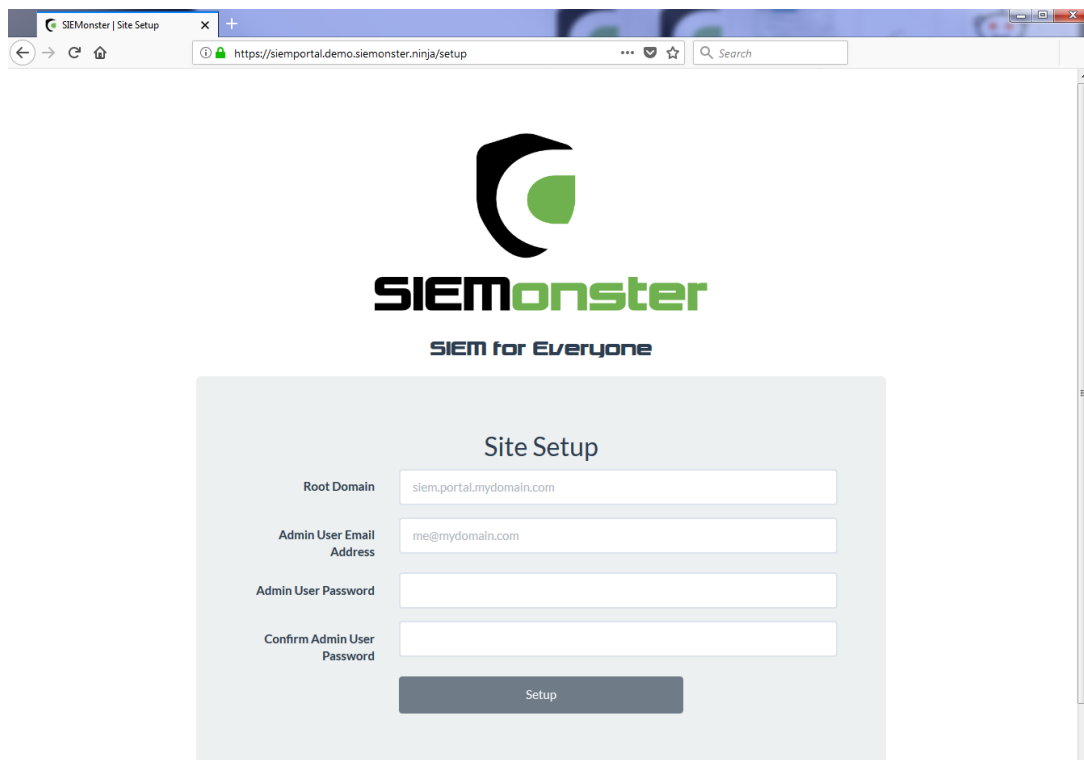
Where there is no DNS server, the following entries can simply be added to the local hosts file using the Makara IP address

```
192.168.0.29 vmware.portal.siemonster.com
192.168.0.29 prometheus.vmware.portal.siemonster.com
192.168.0.29 alertmanager.vmware.portal.siemonster.com
192.168.0.29 dradis.vmware.portal.siemonster.com
192.168.0.29 ir.vmware.portal.siemonster.com
```

192.168.0.29 411.vmware.portal.siemonster.com
192.168.0.29 reporting.vmware.portal.siemonster.com
192.168.0.29 minemeld.vmware.portal.siemonster.com
192.168.0.29 health.vmware.portal.siemonster.com
192.168.0.29 sm-kibana.vmware.portal.siemonster.com
192.168.0.29 openaudit.vmware.portal.siemonster.com
192.168.0.29 rabbitmq.vmware.portal.siemonster.com
192.168.0.29 alerta.vmware.portal.siemonster.com

Leave a few minutes for the DNS to propagate if using a DNS server and the system health checks to complete before opening the web application URL, e.g. <https://siemportal.corp.clientname.com> from the example shown previously.

7 WEB APPLICATION SETUP



- For the Root Domain, enter the domain name used in Section 6.
e.g. siemportal.corp.clientname.com
- The Admin User email address should be the same as that entered in section 6.3 Stack Deployment
- Strong passwords are enforced and must be 8 Characters in Length, upper and lower-case letters, at least 1 number, at least 1 symbol
Click 'Setup' on completion.

On successful setup, a sign in page will appear:

Sign In

Email Address

admin@siemonster.com

Password

••••••••



Authentication Code

Optional

Sign in

Sign in with the credentials entered during the above Setup phase. Note that the Authentication Code for 2FA if required, can be setup after initial login.

Home Alerts Dashboards ~ Event Monitor Health Incident Response Prometheus Reports RabbitMQ OpenAudit Slack Support Threat Intel admin ~



SIEMonster

SIEM for Everyone

Alerts

Dashboards

Event Monitor

Health

Incident Response

Prometheus

Reports

RabbitMQ

OpenAudit

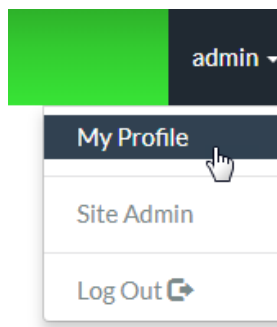
Slack

Support

Threat Intel

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8 USER SETUP



For each logged on user there is an option available under the user menu, top right, to modify the users profile.

This includes changing the display name, changing the password or adding two factor authentication.

8.1 USER ROLES

User Roles are used to allow access to different components within the SIEM. Two roles are preconfigured during deployment – admin and user.

The admin role contains all default role options for frames (home page tiles) and dashboards (Kibana).

New frames may also be added using the 'Create Frame' option:



Similarly, after creating new dashboards within Kibana, menu links to these items may be added using the 'Create Dashboard' option.



Role: admin

Frames

Alerts	Enabled (read only for Admin role)	Settings
Dashboards	Enabled (read only for Admin role)	Settings
Event Monitor	Enabled (read only for Admin role)	Settings
Health	Enabled (read only for Admin role)	Settings
Incident Response	Enabled (read only for Admin role)	Settings
Prometheus	Enabled (read only for Admin role)	Settings
Reports	Enabled (read only for Admin role)	Settings
Dradis	Enabled (read only for Admin role)	Settings
OpenAudit	Enabled (read only for Admin role)	Settings
RabbitMQ	Enabled (read only for Admin role)	Settings

Using the 'Settings' option, the frame can be modified if required and an image used to reflect the properties of the frame.

Health

URL

<https://health.siemportal.demo.siemonster.ninja/dashboard/db/elasticsearch>

Frame Image

No file chosen

Similarly, the default Dashboard URLs may be modified to suit if required.

Apache

URL

<http://sm-kibana.siemportal.demo.siemonster.ninja/app/kibana#/dashboard/Apache>

The 'users' role is designed for new users who have been allocated login credentials without a specific role. This is useful when allocating members of an LDAP group. A single support access tile is provided.

Dradis	Disabled	
OpenAudit	Disabled	
RabbitMQ	Disabled	
Support	Enabled	Settings
Threat Intel	Disabled	
Demo	Disabled	

New roles may be added using the 'Create Role' option.

Access to relevant frames can be enabled and settings modified if required.

Frames

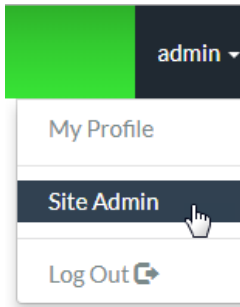
Alerts	Disabled	
Dashboards	Enabled	Settings

If the Dashboards frame is enabled, a Dashboard settings section will appear, providing options to enable or disable dashboards specific to the role.

Dashboards

Apache	Disabled	
Cisco	Disabled	
HP Event Monitor	Enabled	Settings

9 SITE ADMINISTRATION



Under the Profile option is the Site Administration option.

This is used to setup site email settings, new local or LDAP users, roles and custom dashboard setup for each user.

9.1 SITE EMAIL

Email settings are configured to use Mailgun, for which a free account can be setup at <https://www.mailgun.com/>. This mail account is for the web application only, which will send out notifications when a user logs on to the SIEM.

9.2 LDAP SETTINGS

LDAP settings can be used to setup Active Directory users. It is recommended to create a group within the AD and then add users to this group who will require access.

Once completed, click on 'Save LDAP Settings'. The entered details will first be confirmed correct before being saved.

LDAP users in the chosen group will now be able to login using their corporate email address and active directory password.

Hostname or IP Address (required)	<input type="text" value="172.18.1.92"/>
Port	<input type="text" value="636"/>
TLS	<input checked="" type="checkbox"/> Enabled
Connection Timeout	<input type="text" value="1000"/>
Service Account Username (required)	<input type="text" value="admin"/>
Service Account Password (required)	<input type="password" value="....."/>
User Search Base (required)	<input type="text" value="dc=mycompany, dc=com"/>
Group Search Base	<input type="text" value="SIEMGroup"/>
<input type="button" value="Save LDAP Settings"/>	

10 OPERATIONAL OVERVIEW

10.1 LOG VIEW

The logs for each container can be viewed within the Rancher Server UI as follows:

First click on a container

Started-Once	docker-images-updater ⓘ
Started-Once	elasticloader ⓘ
Active	es-client-1 ⓘ
Active	es-client-2 ⓘ

Next click on the menu to the right and choose View Logs:

Running
siemmonster-project-e4-es-client-1-1
10.42.232.167
proteus
ikurturso/siemmonster-alpine-es

Restart
Stop
Delete
Execute Shell
View Logs
View in API

```

20/12/2016 09:07:26 [2016-12-19 22:07:26,483][WARN ][bootstrap] unable to install syscall filter: seccomp unavailable: your kernel is bu
20/12/2016 09:07:27 [2016-12-19 22:07:27,589][INFO ][node] [node-proteus] version[2.4.2], pid[17], build[161c65a/2016-11-17T11:51:11Z]
20/12/2016 09:07:27 [2016-12-19 22:07:27,589][INFO ][node] [node-proteus] initializing ...
20/12/2016 09:07:32 [2016-12-19 22:07:32,047][INFO ][plugins] [node-proteus] modules [reindex, lang-expression, lang-groovy], plugins
20/12/2016 09:07:32 [2016-12-19 22:07:32,104][INFO ][env] [node-proteus] using [1] data paths, mounts [[/usr/share/elasticsearch/c
20/12/2016 09:07:32 [2016-12-19 22:07:32,104][INFO ][env] [node-proteus] heap size [1007.3mb], compressed ordinary object pointers
20/12/2016 09:07:42 [2016-12-19 22:07:42,473][INFO ][node] [node-proteus] initialized
20/12/2016 09:07:42 [2016-12-19 22:07:42,474][INFO ][node] [node-proteus] starting ...
20/12/2016 09:07:42 [2016-12-19 22:07:42,840][INFO ][transport] [node-proteus] publish_address {10.42.232.167:9300}, bound_addresses {[
20/12/2016 09:07:42 [2016-12-19 22:07:42,888][INFO ][discovery] [node-proteus] siemmonster/DysyNqMHSwi4XG2FFTHS-g
20/12/2016 09:07:46 [2016-12-19 22:07:46,305][INFO ][cluster.service] [node-proteus] detected_master {node-kraken}{0AVVbBKsRiS4RQqWS_aQJA}{10.
20/12/2016 09:07:46 [2016-12-19 22:07:46,496][INFO ][http] [node-proteus] publish_address {10.42.232.167:9200}, bound_addresses {[
20/12/2016 09:07:46 [2016-12-19 22:07:46,497][INFO ][node] [node-proteus] started
20/12/2016 09:07:52 [2016-12-19 22:07:52,270][INFO ][cluster.service] [node-proteus] added {{node-capricorn}{hZFFvAPST2-ZmPKhqEDXJg}{10.42.203

```

Connected

Scroll to Top

Scroll to Bottom

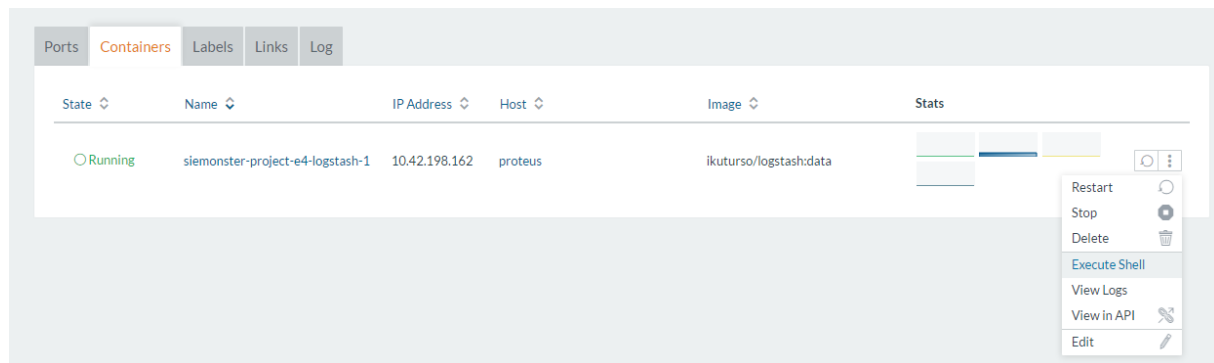
Clear Screen

Close

Useful for diagnostics and maintenance, the logs for any container can be viewed in this manner.

10.2 SHELL INTERACTION

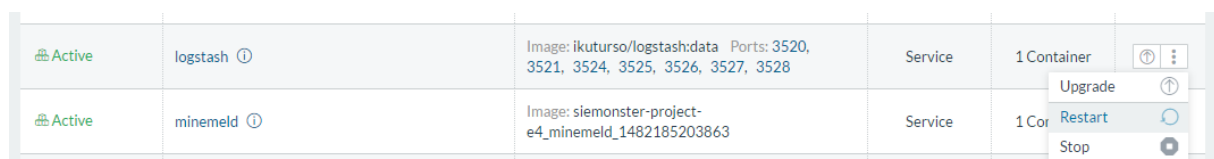
Following the above steps and choosing the 'Execute Shell' option, a terminal may be opened to each container if any maintenance is required. For access to the configuration files, rules, etc. see the following section – VPN access.



```
root@siemonster-project-e4-logstash-1:/# cd config-dir/
root@siemonster-project-e4-logstash-1:/config-dir# ls -l
total 64
-rw-r--r-- 1 root root 1105 Dec 18 01:12 00-inputs.conf
-rw-r--r-- 1 root root 1038 Dec 18 01:12 01-ossec-filter.conf
-rw-r--r-- 1 root root 9337 Dec 18 01:12 03-multisyslog-filter.conf
-rw-r--r-- 1 root root 500 Dec 18 01:12 05-osint-filter.conf
-rw-r--r-- 1 root root 1600 Dec 18 01:12 07-hp-printer-filter.conf
-rw-r--r-- 1 root root 3023 Dec 18 01:12 10-windows-events-filter.conf
-rw-r--r-- 1 root root 1067 Dec 18 01:12 15-suricata.conf
-rw-r--r-- 1 root root 1077 Dec 18 01:12 20-pfsense-filter.conf
-rw-r--r-- 1 root root 4814 Dec 18 01:12 25-paloalto-filter.conf
-rw-r--r-- 1 root root 4225 Dec 18 01:12 30-apache-filter.conf
-rw-r--r-- 1 root root 116 Dec 18 01:12 95-metrics-filter.conf
-rw-r--r-- 1 root root 2407 Dec 18 01:13 99-outputs.conf
root@siemonster-project-e4-logstash-1:/config-dir#
```

Close

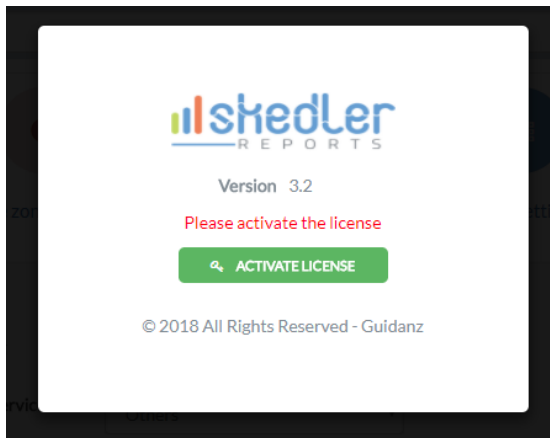
If any changes have been made, the container can be restarted on the main screen:




11 SKEDLER LICENSING

Reports - Menu

Click on 'Activate License'



License Activation

Proxy Setting 

Name*

Email*

Company Name*

License Key*


☐ I agree to the [terms and conditions](#)

ONLINE ACTIVATION

Use the provided trial license key fill out the details to activate the license.

Configure the Email and Time Zone settings as appropriate.

Options are also available for setting a proxy, Slack messages and uploading a custom logo.

 Scheduled Reports

Search

Email Settings

Time zone Settings

Slack Settings

Proxy Settings

Ot

Email Setting

On

Supported Service*

Sender's Email*

Password*

Admin Email*

Save

Gmail

Select Service

Others

Gmail

SES

SES-US-EAST-1

SES-US-WEST-2

SES-EU-WEST-1

Appendix A: Change Management for password.

Use only Alphanumeric passwords, e.g. Ys3CretpAss624

Application	Username	Password
Grafana (Health)	admin	admin
Web App Mongo	siemuser01	s13M0nSterV3
Mongo Hash Salt	N/A	6b44d8edb86b4ca8bb8f3aaa35ddaf7d
RabbitMQ	admin	admin
Wazuh API	siemonster	s13M0nSterV3
Logstash	logstash	s13M0nSterV3
CA	N/A	s13M0nSterV3
411	admin	admin
IR	admin	admin
Minemeld	admin	minemeld
Truststore	N/A	s13M0nSterV3
Keystore	N/A	s13M0nSterV3
Elastic	elastic	s13M0nSterV3
Beats	beats	s13M0nSterV3
Skedler	skedler	s13M0nSterV3
MySQL	fouronone	s13M0nSterV3
MySQL Root	root	s13M0nSterV3
Rancher	admin	s13M0nSterV3
SSH	rancher	s13M0nSterV3