



Managing Documentation Complexity: SEAPATH's Approach to Wiki Refactoring

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 **jami**
a gnu package


Zephyr
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LF Energy SEAPATH's presentation

- Open-source hypervisor for electrical substations
- Brings IT people and OT people together
- Two sides:
 - Infrastructure deployment
 - Infrastructure management
- High entry cost



Strong, resilient documentation needed

Multiple documentation platform



GitHub hosts the code and contains one README per repository



Ansible Galaxy provides documentation as code for each role



Confluence wiki was provided from the start by LF Energy and explains the general context

The screenshot shows a documentation platform for the SEAPATH project. The left sidebar contains a navigation menu with sections like 'Content', 'Getting started', 'SEAPATH fundamentals', 'Real-time', 'High availability cluster', 'Time Synchronization', 'Time synchronization on ...', 'Time synchronization con...', 'Time synchronization man...', 'Virtual machine', 'Monitoring', 'Simulate a ...', 'Cybersecurity', 'Hypervisor', 'Supervision', 'Advanced config', and 'Deploy your a ...'. Below this are sections for 'Documentation (1)', 'Modules (1)', and 'Roles (55)'. The main content area is titled 'Time synchronization on SEAPATH' and includes sections for 'Why It's Needed', 'What SEAPATH Provides', and a detailed 'Timemaster Role' configuration table. At the bottom, there is a 'README' section with a link to 'License' and the heading 'Setup machines with Ansible'.

Time synchronization on SEAPATH

By Florent Carré 1 min Add a reaction

Why It's Needed

In an IEC 61850 environment, all devices — physical or virtual — must share a highly accurate time reference to correctly timestamp and correlate events exchanged over SV, GOOSE or MMS. Any drift between nodes can lead to inconsistent logs or even malfunctions.

What SEAPATH Provides

SEAPATH lets you configure both Precision Time Protocol (PTP) and Network Time Protocol (NTP) for your infrastructure.

Timemaster Role

This role configures timemaster

Requirements

No requirement.

Role Variables

Variable	Required	Type	Default	Comments
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README License

Setup machines with Ansible

Introduction

The SEAPATH distribution images are generated and preconfigured on other repositories. However, some elements cannot be statically configured during image creation or are specific settings that cannot be included in a generic image

To perform these tasks we use Ansible which is a tool designed to configure Linux machines.

The Ansible documentation is accessible at <https://docs.ansible.com/>.

The SEAPATH Ansible documentation is accessible on [ansible galaxy](#).

This Readme only tackles how to handle the SEAPATH ansible sources and launch the default playbooks. For any advanced scenarios and setup, refer to the [SEAPATH Wiki](#).



Multiple documentation platform

- Balancing the documentation by taking advantage of all three
 - GitHub READMEs explain how to handle the sources
 - Ansible Galaxy describes each variable thoroughly
 - The wiki explains the concepts and links to the others

/!\ One entry point must be clearly identified: the wiki

Structuring the wiki

Two possible approaches to organize information

- By usage (installation → configuration → management)
- By topics (network, high availability, time synchronization ...)

- Installation
 - Network
 - High availability
 - Time Synchronization
- Configuration
 - Network
 - High availability
 - Time Synchronization
- Management
 - ...

- Network
 - Installation
 - Configuration
 - Management
- High availability
 - Installation
 - Configuration
 - Management
- Time synchronization
 - ...

Structuring the wiki

- >  Getting started
- >  SEAPATH fundamentals
- >  Advanced configurations
- >  Deploy your application on SEAPATH
- >  Tests and CI
- >  Who is using SEAPATH ?
- >  Project management

- Keeping a small number of parts (only seven)
- Easily identifying the starting point
- Organizing the parts from more general to more specialized

Pages naming convention

Wiki serves two purposes: documentation and demonstration

Better to be understandable than perfectly correct

“SEAPATH fundamentals”
instead of “Core Features”

“Deploy your application on SEAPATH”
instead of “Workload Deployment”

“Advanced configurations”
instead of “Extended features”

- >  Real-time
- >  High availability cluster
- >  Time Synchronization
- >  Cybersecurity
- >  Hypervisor network
- >  Supervision
- >  Deploying virtual machines
- >  Deploying containers
-  Ansible usage
-  Update a physical machine
- >  Advanced SEAPATH image installation

Pages naming convention

- Keeping the same structure for all the topics
 - Dividing the topics among the different actors
 - Each feature is built on the same structure :
 - General explanation
 - Configuration (with Ansible)
 - Management once deployed
 - Additional pages
- ✓ ☐ High availability cluster
 - ☐ High availability cluster on SEAPATH
 - ☐ Cluster configuration
 - ☐ Cluster management
 - ☐ Create an extended bridge over the cluster
 - ☐ Cluster maintenance
 - ✓ ☐ Hypervisor network
 - ☐ Hypervisor Network on SEAPATH
 - ☐ Network configuration and deployment
 - ☐ Network management
 - ☐ Use Open vSwitch bridges on SEAPATH
 - ☐ Use SR-IOV NIC on SEAPATH
 - ✓ ☐ Real-time
 - ☐ Real-time on SEAPATH
 - ☐ Real-time configuration
 - ☐ Real-time management
 - ☐ Hardware configuration for real-time

About the wiki tool

Confluence

Good parts

- Easy edits (also for non-developers)
- Pretty rendering
- Multi-person editing

Bad parts

- Not wiki as code
 - Often misaligned
- Not related to versions



Thank you for your attention

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<https://lfenergy.org/projects/seapath/>



<https://github.com/seapath>



<https://wiki.lfenergy.org/display/SEAP/SEAPATH>



[#seapath](https://lfenergy.slack.com)