

# HEAL Documentation

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HEAL Software Inc.

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# Pyroscope Guide

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## Version History

Doc Version	Date	Changes Done
1.0	29 September 2025	Initial Release

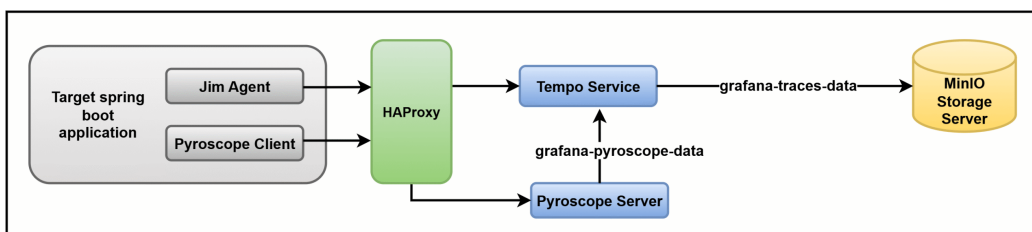
## Introduction

Pyroscope is a multi-tenant continuous profiling platform that captures, stores, and queries runtime profiles to deliver code-level performance insights with minimal overhead in the target environments. It integrates with Grafana to correlate profiling data with metrics, logs, and traces, enabling end-to-end visibility and faster root-cause analysis across services. The graph-based visualizations and comparison workflows help teams proactively optimize resource usage and reactively identify bottlenecks, improving reliability and latency.

Currently, this document outlines the architecture and prerequisites for enabling application performance profiling with Pyroscope, alongside **Grafana Tempo for distributed tracing** and **MinIO for compatible storage**, and specifies required container images and versions, network ports, and server-to-server connectivity.

**WARNING:** Pyroscope must not be installed/configured in any production environment; restrict usage strictly to non-production tiers.

## Architecture



## Required Components

The following components are required for the Pyroscope profiling setup:

**Pyroscope:** continuous profiling service on the app/observability tier.

**Grafana Tempo:** tracing backend service running on the app/observability tier

**MinIO:** compatible object storage.

**Grafana:** The visualization layer that provides dashboards for viewing the Pyroscope profile data.

## Prerequisites

Ensure the following prerequisites are met:

1. Download the below version of Docker images:

a. App server images

`grafana/pyroscope:1.14.0`

b. DB server images

`MinIO: RELEASE.2025-06-13T11-33-47Z`

c. Backend service

`grafana/tempo:2.8.1`

2. Required network ports are:

9000: MinIO.

9001: MinIO UI.

4040: Pyroscope.

4317, 14250, 3200: Tempo.

3. Server-wise connectivity

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From target to Web HAProxy: 9940.

From Web to App Server: 4040, 4317, 14250, 3200.

From App to DB Server: 9000.