OpenLogic

DATASHEET

Kubernetes Foundations Service

What Is Kubernetes?

Kubernetes is an open source system for automating deployment, scaling, and management of containerized applications.

It groups containers that make up an application into logical units for easy management and discovery. Kubernetes builds upon 15 years of experience of running production workloads at Google, combined with best-of-breed ideas and practices from the community.

Duration

Delivered within 10 business days. A minimum of two weeks notice is required.

Delivery

Delivered on site at your premises by one of our enterprise architects. Full access to the facility will be required. Any limitation or security process will need to be communicated two weeks prior to the commencement of the service.

Kubernetes Foundations Service, performed by the Rogue Wave OpenLogic team, will deploy a fully automated Kubernetes Production Cluster on any substrate of your choice.

Your Kubernetes Cluster will be built following an iterative approach. This process will help you run different tasks simultaneously while we fine-tune your cluster configuration. Migration processes, deployment services, and

applications on top can be started with the initial Kubernetes deployment.

As part of the deliverables, you will have a fully automated script or set of scripts to reproduce and recreate your customized Kubernetes Cluster in any other environment of your choice as many times as you need without incurring any further consulting or delivery cost.

Components

The Kubernetes Foundations Service is built on the latest version of CentOS. OpenLogic provides the CentOS images to the main public cloud providers, such as AWS and Azure. Our CentOS images are secured and CIS compliant. Spacewalk is the system included to provide management of the CentOS packages at scale.

Ansible scripts are used across the board for all the components, feeding from upstream projects where available. Ansible is the configuration management platform leader in its category with over 47% of the market.

The Kubernetes high available deployment is built from Kubespray or Kops (not available for all substrates), incubated projects at the Cloud Native Computing Foundation, which governs the Kubernetes project. This guarantees our no lock-in approach and the continuity of the technologies used. Options on storage, networking, and other components will be discussed and decided during the service delivery.

Monitoring and log aggregation are delivered through Ansible automation scripts using open source software (OSS): Elastic, Kibana, Logstash, Prometheus, Grafana, and Fluentd. The monitoring suite is deployed in the Kubernetes Foundation and fully supported by our enterprise class support service alongside the rest of the technologies.

Enterprise-level support is provided to the building tools, the Kubernetes technologies used, the monitoring suite, and all the OSS applications running on the clusters that are part of the OpenLogic supported technologies, including, but not limited to, MongoDB, Cassandra, MariaDB, Nginx, Apache Tomcat, Node. js, Prometheus, JEE, PHP, Kafka, Docker, Artifactory, Jenkins, ActiveMQ, Apache Camel, and Spark.

A full two-day training course is provided on microservices, containers, and orchestration following this outline:

- DevOps.
- Microservices development concerns.
- The Twelve-Factor App manifesto.
- Docker Enterprise considerations.
- Docker best practices.
- Kubernetes key concepts.
- Kubernetes architecture.
- Kubernetes networking.
- Kubernetes storage.
- Kubernetes security concepts.
- Kubernetes CLI.
- Kubernetes/Docker development pipeline.
- CI/CD with Kubernetes and Docker.

Handover of your Kubernetes automated cluster is provided, including an overview of the automation script and configuration, the different components and high availability/failover capabilities, and a Q&A session with the stakeholders.

Consultative support is provided on the full stack (operating system, Kubernetes, applications, and monitoring):

- Guidance and best practices on how to use your Kubernetes Cluster.
- How to migrate existing applications, containerize services, or scale the systems.
- Upgrades to the latest versions of all the components of the stack.
- Break-fix support.

Add-ons

Rogue Wave OpenLogic can also implement and deliver additional components on your Kubernetes Cluster:

- Implementation of a CI/CD environment based on best practices and OSS technologies.
- Additional training courses and certifications:
  – Certified Kubernetes Administrator (CKA) by the Linux Foundation.
  – Kubernetes Fundamentals (LFS258) by the Linux Foundation.
  – CI/CD implementation training by OpenLogic.
- Custom Ansible scripts and integration into your monitored cluster.
- Migration of workloads to cloud-native architectures.
- Development of functionality and upstream contributions to the projects in the stack.