

Deploying Secure Elasticsearch Clusters with Search Guard Helm Charts

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In today's cloud-native world, deploying and managing complex applications on Kubernetes has become increasingly common. For organizations relying on Elasticsearch for their data needs, ensuring a secure and efficient deployment is crucial. This is where Search Guard Elasticsearch Helm Charts come into play, offering a streamlined approach to deploy and operate Elasticsearch with the robust Search Guard Security and Alerting Plugin on Kubernetes environments.

What are Search Guard Elasticsearch Helm Charts?

Search Guard Elasticsearch Helm Charts provide a powerful and flexible way to deploy Elasticsearch clusters with built-in security features on Kubernetes. These charts package pre-configured Kubernetes resources, making it easy to set up and manage Elasticsearch deployments with Search Guard's advanced security capabilities.

Key Benefits of Using Search Guard Elasticsearch Helm Charts

- **Simplified Deployment:** Quickly deploy secure Elasticsearch clusters on Kubernetes without manual configuration.
- **Enhanced Security:** Leverage Search Guard's comprehensive security features out-of-the-box.
- **Scalability:** Easily scale your Elasticsearch deployment to meet changing demands.
- **Customization:** Fine-tune your deployment with various configuration options.
- **TLS Management:** We support different options to install TLS certificates automatically, so you never have to worry about certificates again

How to Deploy Search Guard Elasticsearch Helm Charts

Search Guard offers multiple ways to deploy their Helm Charts, catering to different preferences and environments:

1. **Helm Repository:** The most straightforward method is to use the official Search Guard Helm repository:

```
helm repo add search-guard https://helm.search-guard.com
helm repo update
helm search "search guard"
helm install sg-elk search-guard/search-guard-helm
```

2. **GitLab:** For those who prefer to examine the source or contribute, the charts are available on GitLab:

```
$ git clone git@git.floragunn.com:search-guard/search-guard-helm.git
$ helm dependency update search-guard-helm
$ helm install sg-elk search-guard-helm
```

3. **AWS:** Deploy directly on Amazon Web Services for seamless integration with your existing AWS infrastructure. This option provides the possibility to set up Kubernetes cluster on AWS while having the awscli installed and configured, and install Search Guard Helm charts in the cluster. This script is provided for demo purposes. Please consider the required AWS resources and Helm chart configuration in the `./tools/sgawsops.sh`.

```
./tools/sg_aws_kops.sh -c mytestcluster
```

Security Configuration with Flexible PKI Approaches

One of the standout features of Search Guard Helm Charts is the variety of PKI (Public Key Infrastructure) approaches available for securing your Elasticsearch cluster. These options cater to different security requirements and operational preferences:

Setup with custom CA certificate

For production environments, leverage your existing certificate authority to issue and manage certificates, ensuring the highest level of trust and security. This option uses your CA to generate all required certificates automatically.

[Demo Configuration](#)

Setup with custom Elasticsearch cluster nodes certificates

You can also use already existing certificates for each node in the Elasticsearch cluster and for the Ingress services.

[Demo Configuration](#)

Setup with single certificates for Elasticsearch cluster nodes

This option uses a single custom certificate for transport layer security and using self-signed certificates for exposed Ingress services.

[Demo Configuration](#)

Why Choose Search Guard Helm Elasticsearch Charts for Your Deployment?

When it comes to deploying Elasticsearch on Kubernetes, the **Elasticsearch Helm Chart** landscape offers various options. However, Search Guard Helm Charts stand out by providing:

1. **Integrated Security:** Unlike basic Elasticsearch deployments, Search Guard charts come with a [comprehensive security suite built-in](#).
2. **Integrated Alerting:** Search Guard ships with a powerful and free [Alerting solution for Elasticsearch and Kibana](#).
3. **Ease of Use:** Simplify the complex task of securing Elasticsearch clusters on Kubernetes.
4. **Flexibility:** Fine-tune your deployment with various configuration options.
5. **Regular Updates:** Stay current with the latest Elasticsearch versions and security features.
6. **Community and Enterprise Support:** Benefit from [community resources](#) and optional enterprise-grade support.

Conclusion

Search Guard Helm Charts offer a powerful solution for organizations looking to deploy secure Elasticsearch clusters on Kubernetes. By combining the flexibility of Helm with Search Guard's robust security features, these charts provide a seamless way to set up, manage, and scale your Elasticsearch deployments. Whether you're a small team or a large enterprise, Search Guard Helm Charts can help you leverage the power of Elasticsearch while ensuring your data remains secure and compliant.

Get started with [Search Guard Elasticsearch Helm Charts](#) today and experience the ease of deploying secure Elasticsearch clusters on Kubernetes!

This article was published on the Search Guard blog: <https://search-guard.com/blog/search-guard-elasticsearch-helm-charts/>

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