Key considerations for advanced application life-cycle management in Kubernetes clusters

Deploying and managing the life-cycles of applications running across your Kubernetes cluster environment is as important as overall cluster management. DevOps teams need unified and simplified options for constructing and deploying applications and application updates automatically and at scale. Here are three ways Red Hat® Advanced Cluster Management for Kubernetes can help.

1. More easily deploy applications at scale
An important feature of a unified multicluster Kubernetes management system is the ability to use a single tool to consistently manage the life cycle of containerized applications running within the clusters.

With Red Hat Advanced Cluster Management, you can:
- More easily deploy applications at scale
- Manage the entire life cycle of the containerized applications running within the clusters.
- Automate the application life cycle with Red Hat Ansible® Automation Platform. Execute Ansible Playbooks as pre- and post-hooks in the application deployment process.
- Easily deploy applications from Git, Helm, or Object Storage.
- Define applications using open standards and deploy the applications using placement policies that are integrated into existing continuous integration/continuous delivery (CI/CD) pipelines and governance controls.
- Deploy applications using GitOps methodologies by defining the repositories as channels. By writing or updating code and application resources in the repositories, the applications are automatically redeployed with the newer code.
- Support Git, Helm, and Object Store repository integration to offer the flexibility of choice.
- Integrate with Argo CD, a common application life-cycle tool, to simplify and add security to application deployments.

2. Deploy applications from multiple sources
Source control management tools like Git are widely used in the developer community. These repositories are the source of truth for code and application resources. As developers write and update code in their repositories, they need applications that are running across the cluster environment to be automatically updated.

With Red Hat Advanced Cluster Management, you can:
- More quickly visualize application relationships across clusters.
- View an aggregated list of deployed applications with the ability to edit, search, and delete applications. Identify which clusters the application is deployed to, any deployment time windows, and the creation date.
- View a detailed graphical application topology that links the application and its related resources. For example, you can see the subscription, any Red Hat Ansible Automation Platform jobs, and the clusters the application is deployed to, as well as other resources like deployments, replica sets, services, and routes.
- Make updates graphically or using code. The graphical user interface (UI) for application deployment also provides editing capabilities and a side-by-side view with the Infrastructure-as-Code (IaC) YAML.
- Troubleshoot deployments from the visual indicators. If a deployment has an issue, the visual queue shows yellow or red, with the ability to view the pod YAML, and logs to see errors.

3. More quickly visualize application relationships across clusters
As the use of modern containerized applications grows, it’s important to have visibility into application inventory, health, and performance—and be able to more easily search on any application constructs and related Kubernetes resources.

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To learn more about Red Hat Advanced Cluster Management for Kubernetes, sign up for a free trial.

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