DevOps Shack

K9s in Kubernetes

What is k9s?

`k9s` is a powerful terminal-based user interface for managing and interacting with Kubernetes clusters. It provides an efficient way to manage Kubernetes resources, offering a more user-friendly experience compared to the standard `kubectl` command-line tool.

Key Features of `k9s`

1. **Real-Time Monitoring**:
   - View and monitor Kubernetes resources in real-time, including pods, deployments, services, and more.
2. **Resource Management**:
   - Create, update, delete, and edit Kubernetes resources directly from the terminal.
3. **Logs and Metrics**:
   - Access logs and metrics for troubleshooting and performance monitoring.
4. **Navigation**:
   - Intuitive navigation to browse through namespaces, pods, services, deployments, etc.
5. **Shortcuts**:
   - Various keyboard shortcuts to streamline operations and improve efficiency.

Installation

You can install `k9s` using different methods depending on your operating system:

- **Linux**:

  ```
  curl -sS https://webinstall.dev/k9s | bash

  export PATH=$PATH:$HOME/.local/bin
  ```

- **macOS**:

  ```
  brew install derailed/k9s/k9s
  ```

- **Windows**:

  ```
  choco install k9s
  ```

Basic Usage

1. **Launch `k9s`**:

   ```
   k9s
   ```

2. **Initial Screen**: The initial screen shows a list of resources in the current context and namespace.

Navigation and Commands

Global Commands

- `?`: Show help and available commands.
- `q` or `Esc`: Quit the current view or exit `k9s`.
- `Ctrl-r`: Refresh the current view.
- `Ctrl-a`: View all available resources.

Resource Viewing

- `:`: Open the resource filter to type and select resources (e.g., `:pods`).
- `:ns`: Switch namespaces (e.g., `:ns my-namespace`).
- `d`: Describe the selected resource.
- `l`: View logs of the selected pod.
- `Shift+l`: View previous logs of the selected pod.
- `Ctrl-f`: Forward search within the view.
- `Ctrl-b`: Backward search within the view.
- `e`: Edit the selected resource.
- `Ctrl-d`: Delete the selected resource.

- `s`: Open a shell in the selected pod.
- `Shift+s`: View shell history.
- `Ctrl-e`: Execute a command in the selected pod.
- `v`: View the selected resource in YAML format.
- `Ctrl-y`: Yank the selected resource as YAML to the clipboard.
- `Ctrl-u`: Edit the current namespace.

Resource Management

- `a`: Attach to the selected pod.
- `k`: Kill the selected pod.
- `t`: Sort the current view by resource type.
- `o`: Sort the current view by resource name.
- `Ctrl-k`: Kill the selected container.
- `Ctrl-l`: View logs of the selected container.

Logs and Metrics

- `p`: View the previous logs of a pod.
- `Shift-f`: Set up port forwarding for a pod.
- `Ctrl-p`: View metrics (if the metrics server is configured).

Example Workflow

1. **Viewing Pods**:
   - Start `k9s` and press `:pods` to view all pods in the current namespace.
   - Use arrow keys to navigate through the list of pods.
2. **Viewing Logs**:
   - Select a pod and press `l` to view its logs.
   - Use arrow keys to scroll through the logs and press `q` to quit the log view.
3. **Describing a Pod**:
   - Select a pod and press `d` to view detailed information about the pod.
4. **Editing a Resource**:
   - Select a resource (e.g., pod, deployment) and press `e` to edit it using your default editor.
5. **Deleting a Pod**:
   - Select a pod and press `Ctrl-d` to delete it.
6. **Opening a Shell in a Pod**:
   - Select a pod and press `s` to open a shell in the pod.

Detailed Command List

Here's a detailed list of commands for `k9s`:

Command	Description
`?`	Show help menu
`q` or `Esc`	Quit current view or exit `k9s`
`Ctrl-r`	Refresh view
`Ctrl-a`	View all resources
`:`	Open resource filter
`:ns <namespace>`	Switch namespace
`d`	Describe selected resource
`l`	View logs of selected pod
`Shift+l`	View previous logs of selected pod
`Ctrl-f`	Forward search
`Ctrl-b`	Backward search
`e`	Edit selected resource
`Ctrl-d`	Delete selected resource
`s`	Open shell in selected pod
`Shift+s`	View shell history

Command	Description
`Ctrl-e`	Execute command in selected pod
`v`	View resource as YAML
`Ctrl-y`	Yank resource as YAML
`a`	Attach to selected pod
`k`	Kill selected pod
`t`	Sort view by resource type
`o`	Sort view by resource name
`Ctrl-k`	Kill selected container
`Ctrl-l`	View logs of selected container
`p`	View previous logs of pod
`Shift-f`	Port-forward to pod
`Ctrl-p`	View metrics (requires metrics-server)
`:clear`	Clear the screen
`Ctrl-c`	Copy selected text
`Ctrl-v`	Paste copied text

Conclusion

`k9s` provides a convenient and powerful way to manage Kubernetes clusters from the terminal. With its real-time monitoring, resource management capabilities, and efficient navigation, it significantly enhances the Kubernetes management experience. Whether you are troubleshooting, monitoring, or managing resources, `k9s` offers a robust set of tools and shortcuts to make your tasks easier and more efficient.