Kustomize

Kustomize is a command-line tool which allows a different approach to configuration customization regarding Kubernetes YAML files.

Normally, the YAML files have to be copied and edited manually. Any changes will be permanent and change the standard configuration file. Kustomize instead lets you compose every resource together into a single YAML file. Patches can then be applied to customize the configurations while leaving the original YAML files untouched. Kustomize also provides methods to make customization easier, like generators.

First, at least one base has to be created. This includes a directory, in which several resources in the form of YAML files are packed together with a “kustomization.yaml” file. This Kustomization file groups the resources together and allows for further customizations. Optionally, an overlay can be added. An overlay is another directory with a “kustomization.yaml” file, which instead composes the bases together. This file allows even further customization. The bases have no knowledge of overlays, and can in fact be used by multiple of them.

Afterwards, patches can be included to change the configuration of the resources without changing the files themselves. A YAML file containing the patch is first placed in the same directory it is to be used in. The Kustomization file in the same directory is then edited to include the patch.

In the end, the build command can be used to build the new YAML, which contains every other file and their configurations. This file can then be used further, e.g. pipe it directly into kubectl.

In this project, Kustomize was merely used to compose the different resources of every technology together into Kustomization files. These bases were then further combined into an overlay, built into a single YAML using the build command, and then used with kubectl. While customizations inside the Kustomization files and patches could have been included in this project, it was decided that they were not needed due to the small scope of the project.

Quellen:<https://kubectl.docs.kubernetes.io/guides/introduction/kustomize/#1-make-a-kustomization-file>

<https://kubernetes.io/docs/tasks/manage-kubernetes-objects/kustomization/>