Exploring the Types of Quotas

In this lesson, we will explore the several types/groups of Quotas.

WE'LL COVER THE FOLLOWING

We can divide quotas into several groups.

1. Compute Resource Quotas

Compute resource quotas limit the total sum of the compute resources. They are as follows:

Resource Name	Description
`cpu`	Across all pods in a non-terminal state, the sum of CPU requests cannot exceed this value.
`limits.cpu`	Across all pods in a non-terminal state, the sum of CPU limits cannot exceed this value.
`limits.memory`	Across all pods in a non-terminal state, the sum of memory limits cannot exceed this value.
`memory`	Across all pods in a non-terminal

	state, the sum of memory requests cannot exceed this value.
`requests.cpu`	Across all pods in a non-terminal state, the sum of CPU requests cannot exceed this value.
`requests.memory`	Across all pods in a non-terminal state, the sum of memory requests cannot exceed this value.

2. Storage Resource Quotas

Storage resource quotas limit the total sum of the storage resources. We did not yet explore storage (beyond a few local examples) so you might want to keep the list that follows for future reference:

Resource Name	Description
`requests.storage`	Across all persistent volume claims, the sum of storage requests cannot exceed this value.
`persistentvolumeclaims`	The total number of persistent volume claims that can exist in the namespace.
`[PREFIX]/requests.storage`	Across all persistent volume claims associated with the storage-class-name, the sum of storage requests cannot exceed this value.
`[PREFIX]/persistentvolumeclaims`	Across all persistent volume claims associated with the storage-class-name, the total number of persistent volume claims that can

	exist in the namespace.
`requests.ephemeral-storage`	Across all pods in the namespace, the sum of local ephemeral storage requests cannot exceed this value.
`limits.ephemeral-storage`	Across all pods in the namespace, the sum of local ephemeral storage limits cannot exceed this value.

> 📝 Please note that `[PREFIX]` should be replaced with `<storage-class-name>.storageclass.storage.k8s.io`.

3. Object Count Quotas

Object count quotas limit the number of objects of a given type. They are as follows:

Resource Name	Description
`configmaps`	The total number of config maps that can exist in the namespace.
`persistentvolumeclaims`	The total number of persistent volume claims that can exist in the namespace.
`pods`	The total number of pods in a non-terminal state that can exist in the namespace. A pod is in a terminal state if status.phase in (Failed, Succeeded) is true.
`replicationcontrollers`	The total number of replication controllers that can exist in the

	namespace.
`resourcequotas`	The total number of resource quotas that can exist in the namespace.
`services`	The total number of services that can exist in the namespace.
`services.loadbalancers`	The total number of services of type load balancer that can exist in the namespace.
`services.nodeports`	The total number of services of type node port that can exist in the namespace.
`secrets`	The total number of secrets that can exist in the namespace.

In the next lesson, you can test your understanding of resources management with the help of a quick quiz.