Cloud Q Quick Start

Deploy a Recover Q Cluster

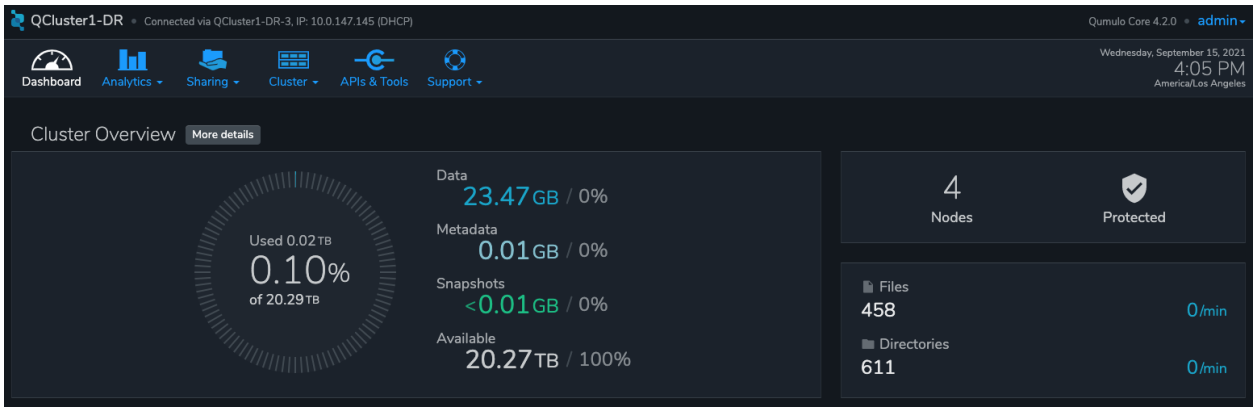
Dack Busch, Dec 10th, 2021

Overview

For disaster recovery and business continuity one or more clusters may be deployed in other Availability Zones or other Regions. The process to deploy in another Region is identical to the deployment addressed in the AWS Cloud Q Quick Start deployment guide. Similarly, an additional AZ may be leveraged by deploying a cluster in a second AZ within the chosen region and then replicating from the source cluster. Below are the steps to deploy a DR cluster.

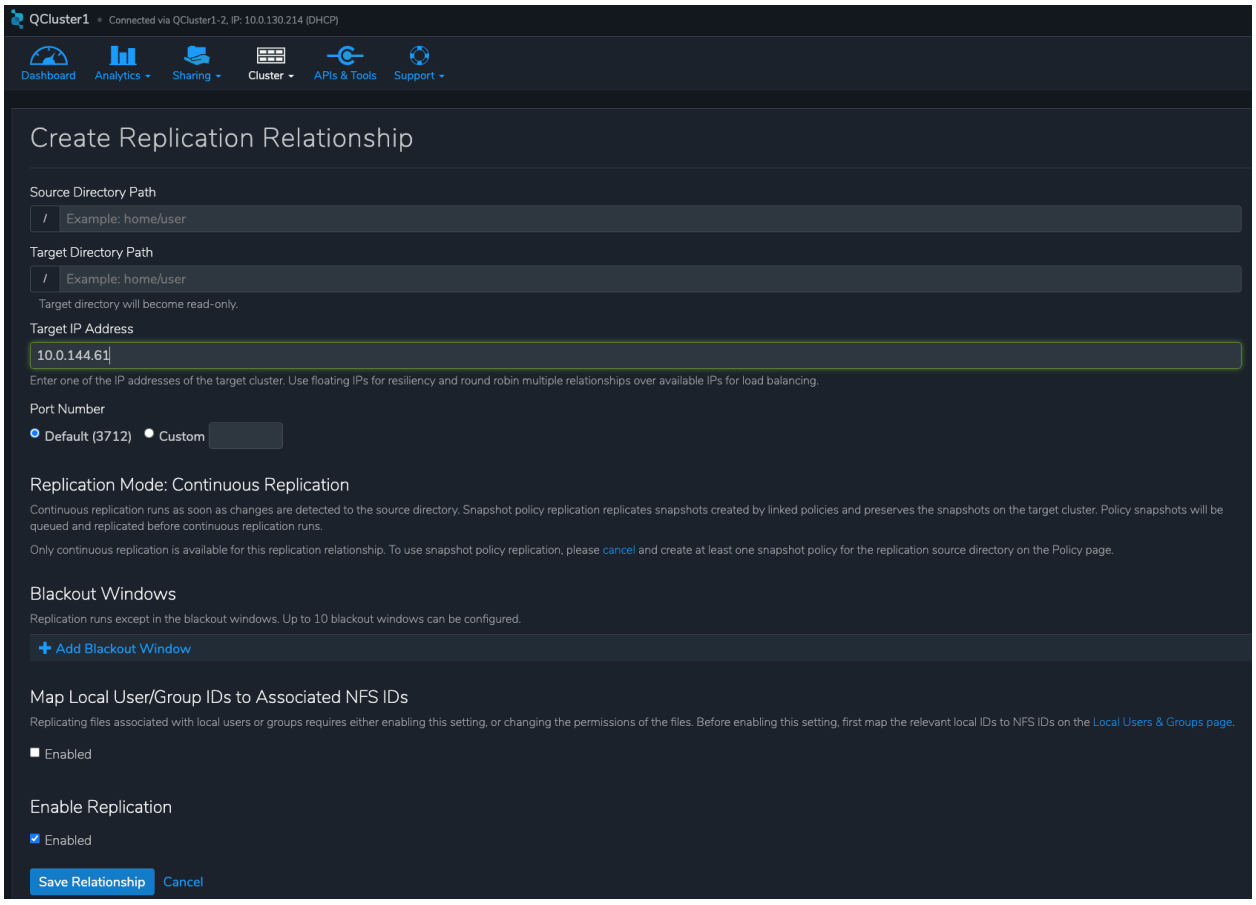
Deploy the DR Cluster

For this example let's assume the production cluster was deployed with a CloudFormation stack name of QCluster1 using the "New VPC" template. Launch another Quick Start selecting the **Deploy Cloud Q into an existing VPC with Advanced parameters** perma-link from the Deployment Guide. Now fill in the stack parameters to deploy the cluster in the VPC created with the QCluster1 CloudFormation stack and name this second stack, and the cluster, QCluster1-DR. However, choose the public and private subnet IDs associated with the **DR** subnets. By choosing the DR subnets the cluster will be placed in the second availability zone built by the QCluster1 stack. In this example a Qumulo Hybrid sc1 cluster with 20TB of usable capacity is built with four EC2 instances and a mix of gp2 and sc1 EBS volume types. This is an example where the DR cluster may be sized and configured with completely different parameters from the production cluster. Numerous reasons exist for this flexibility from cost savings to capacity planning, persisting snapshots for long periods of time, and curating file data before archival to S3. For these reasons, and many more, the addition of a DR cluster is not automated when deploying the production cluster, but rather, handled as a subsequent deployment to provide the flexibility of location, size, and capability.

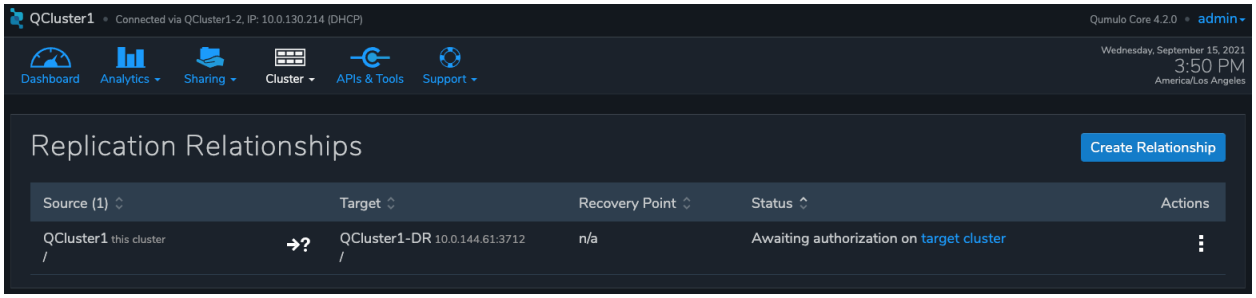


Configure Replication on the Source Qumulo cluster

With Qumulo Core's native replication, data may be copied from the production cluster to the DR cluster in a continuous fashion. This replication is asynchronous and resilient to any networking connectivity issues. Whether you are replicating to a cluster in the same VPC or a cluster in another region, the replication job will not lose data due to networking issues. In this example continuous replication will be enabled on the root directory of the source cluster to the root directory of the target cluster. However, replication is configurable per directory, making it easy to select what data you want to replicate to the DR cluster. First, click on **Cluster**, then choose **Replication**, then **Create Relationship**. The figure below shows the configuration of the replication relationship on the production source cluster, **QCluster1**, targeting the DR cluster **QCluster1-DR**. Note, a floating IP for the target cluster was used for the target IP address. Finally, select **Save Relationship.**

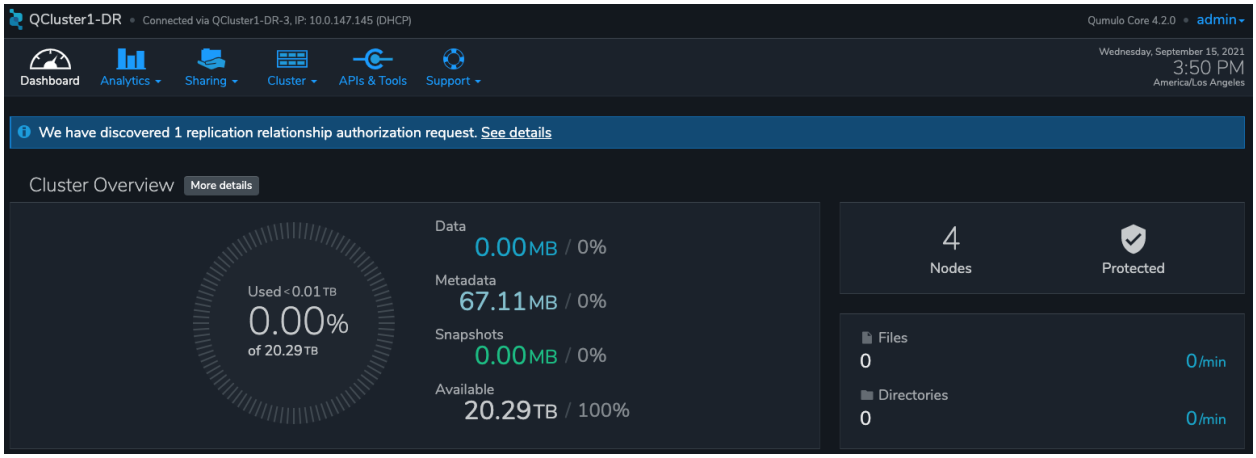


Now the source cluster, QCluster1, is waiting for the relationship to be accepted on the destination cluster QCluster1-DR.

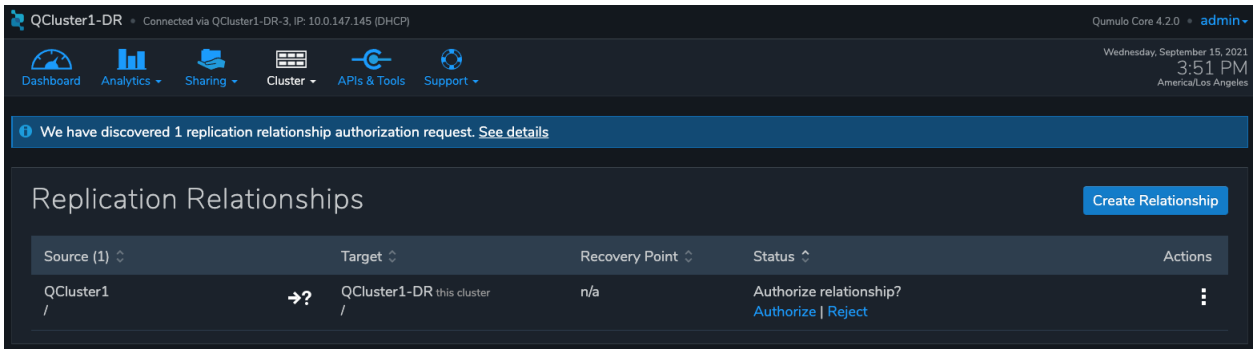


Accept the Replication request on the Target Qumulo cluster

The target, QCluster1-DR, will pop up a message alerting you to the fact that a new replication relationship has been requested. Click on **See Details**.



Now accept the replication request by selecting **Authorize** on QCluster1-DR which is the target for the replication as shown below.



Monitor the status of the Replication Relationship on the Source Qumulo cluster

At any time the status of the replication relationship is shown on the source cluster, QCluster1 in this example. Replication may be paused or terminated, as well. Replication performance is based on a combination of cluster workload, network bandwidth, and network latency. Replication between Availability Zones in the same VPC will be faster than replication between regions due to the latency of the network connectivity. Replication performance can be increased by creating multiple replication jobs for multiple directories rather than just replicating the root directory. Below are two screenshots showing the replication job in progress and complete.