DataSunrise

Configuring DataSunrise with Azure Resource Manager Template on Microsoft Azure

Instruction Manual

April, 2022

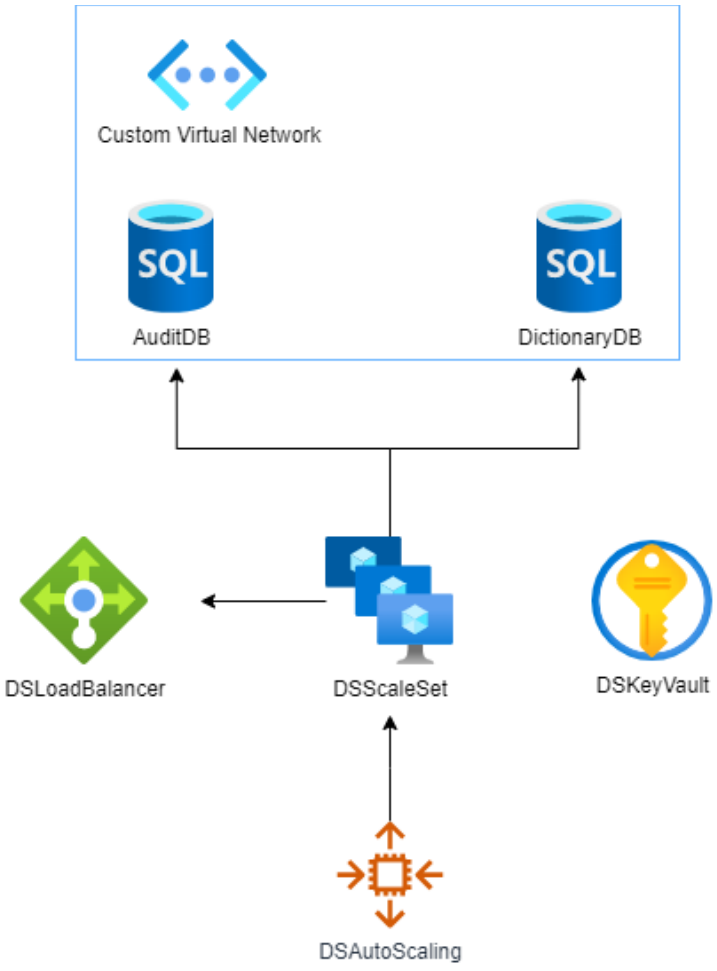
Table of Contents

1. Introduction

Manual deployment of a High Availability (HA) configuration requires accurate implementation of settings with all the dependencies applied correctly. Moreover, the product installation process may take much more time by also including the maintenance of a reliable and stable solution to run the production environment. To avoid all of the possible issues and eliminate the presuming inconveniences, DataSunrise provides a dedicated script for HA infrastructure deployment within the Microsoft Azure service based on the Azure Resource Manager (ARM) template. The deployment process is automated and does not require any manual adjusting.

1.1. Description and structural scheme of an Azure Resource Manager

The following picture displays the most important objects created by Azure Resource Manager as they are listed in the template. Creation order is parallel considering objects' dependencies (marked with arrows).



1. Custom Virtual Network (Microsoft.Network/ virtualNetworks): Virtual Network where the subnets are located. Manages free communication between Azure resources;

2. DictionaryDb (Microsoft.DBforPostgreSQL/servers): Azure database instance used to store DataSunrise settings (Dictionary);

3. AuditDB (Microsoft.DBforPostgreSQL/servers): Azure database instance used to store DataSunrise's audit journal and other journals (Audit Storage);

4. DSLoadBalancer (Microsoft.Network/loadBalancers): Load Balancer;

5. DSScaleSet (Microsoft.Compute/virtualMachineScaleSets): Virtual Machine Scale Set, includes configuration of the failover cluster;

6. DSKeyVault (Microsoft.KeyVault/vaults): Key Vault used to store credentials for ARM resources;

7. DSAutoScaleSettings (Microsoft.Insights/Autoscalesettings): Auto scaling settings that define the method of deployment of new VMs of the failover cluster.

Note: there are different dependent resources that will be created as well. Describing them here will not bring any useful information.

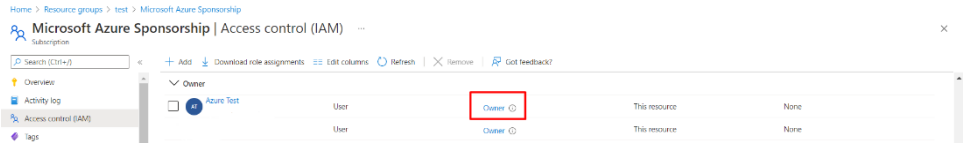
2. Prerequisites

There are some entities that should exist in your Azure environment before you start the deployment process. Here is the list of required items:

- Azure resource group where all the configured resources will be deployed;
- Azure resource group that will be used as the environment for the virtual network with the subnets that you will use;
- Azure virtual network (VNET) that will be used as the environment where the resource manager template will be deployed;
- Subnets within the VNET that you will designate for your DataSunrise cluster running in the specified VNET;
- Subnets to be used should have the following service endpoints attached:
    - Microsoft.Sql server endpoint : required in case MS SQL databases are used.

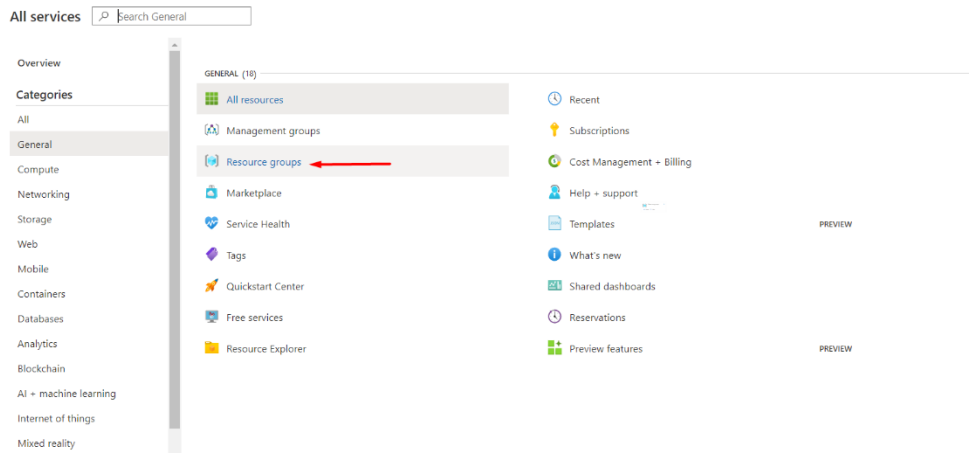
Important:

Your Azure account subscription should be assigned to the Owner role to use Managed Identity resource to connect to Azure CLI and to deploy the required Azure resources for successful DataSunrise implementation. You can check it in **Subscriptions -> <your-subscription> -> Access control -> Role assignments**.



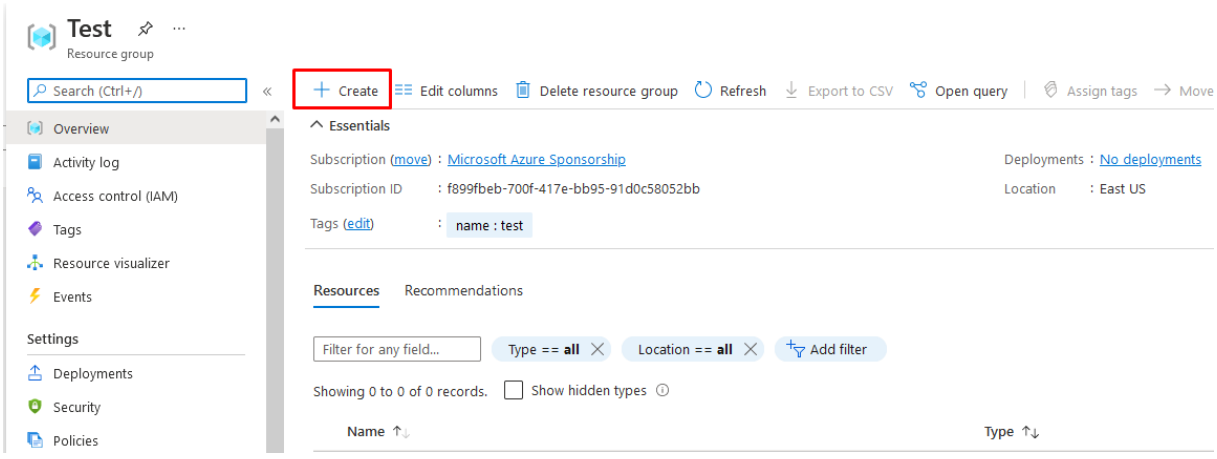
3. Deploying an Azure Resource Manager Template

To deploy DataSunrise in HA configuration, navigate to the **Resource groups** subsection of **All services -> General:**

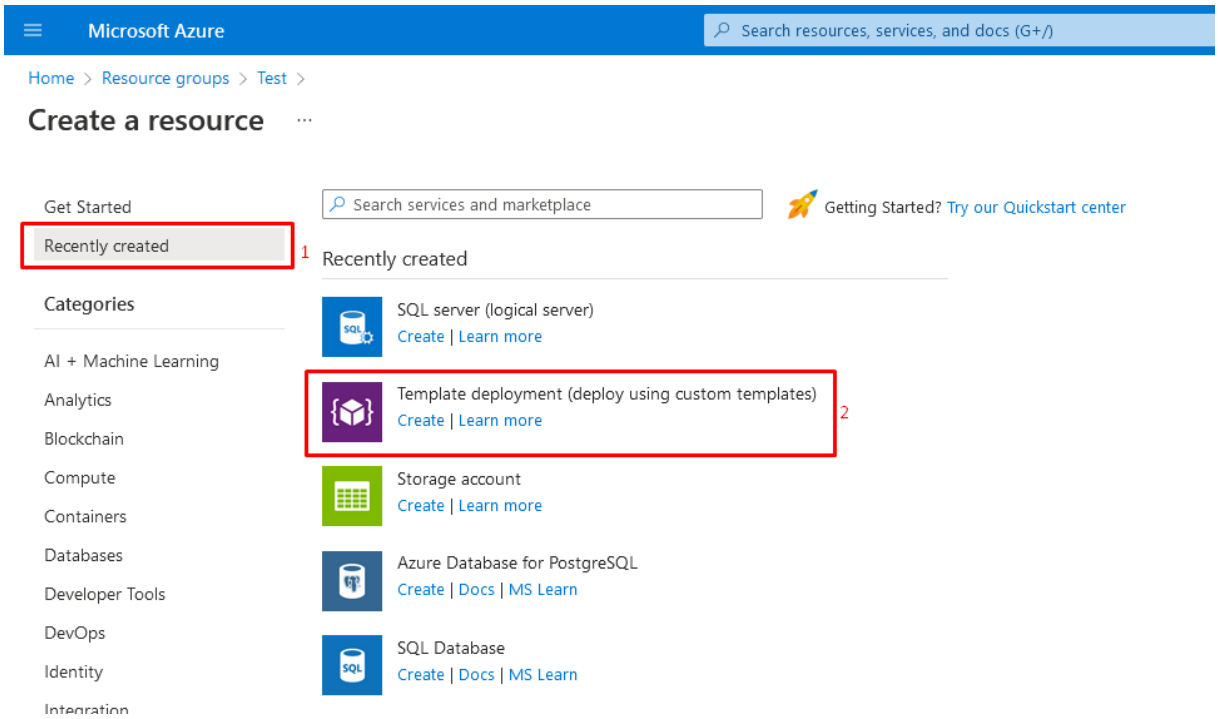


Select the required resource group or create a new one.

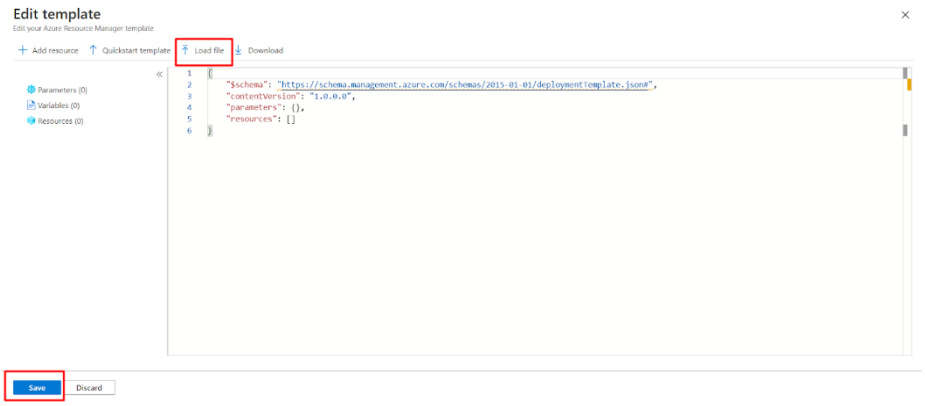
Inside the selected resource group click **+Create** to configure the ARM template deployment:



Choose **Template deployment (deploy using custom templates)** (you can use the *Search services…* functionality), then **Build your own template in the editor***:*



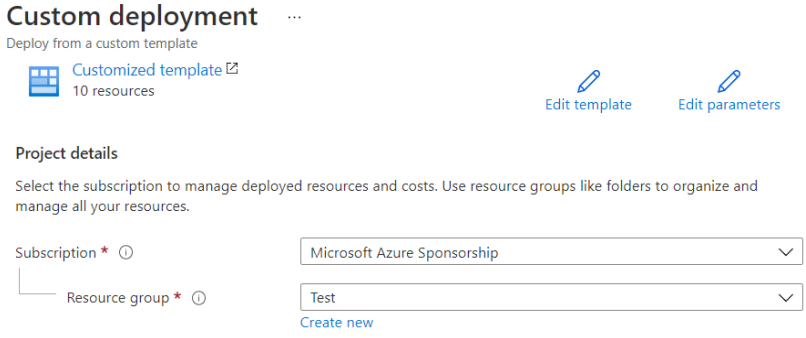
Then choose *Load file*. In the next window select the prepared *.json* file and upload it to the portal. Having uploaded the template configuration file, click **Save**.



3.1. Filling In the requested parameters

3.1.1. Project details

Note: * is for required information



1. *Subscription* - select the available subscription type for your Azure account.
2. *Resource group* - the resource group name that was chosen in the **Deploying resource manager template** section is set automatically.

3.1.2. Instance details

In this section, ARM template parameters are presented. You need to specify the requested parameters for DataSunrise implementation on Azure.

Let's take a look at them one by one.

Virtual Machine configuration.

1. *Region:* preferred location of your Azure resources. It will be set automatically after the resource group is chosen.

2. *Admin Username:* specify the Linux machine *admin username* here. You will use it to connect to your machine using SSH.

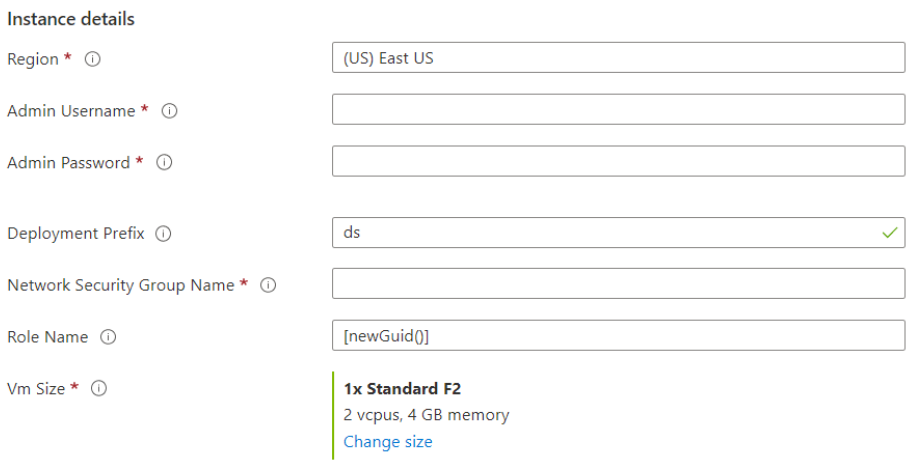
3. *Admin Password:* specify the *password* that will be used along with the *Admin Username* as credentials for the Linux machine where DataSunrise server will be installed.

4. *Deployment Prefix:* a prefix that will be used for all ARM resources.

5. *Network Security Group Name:* specify this parameter with the *network security group* name that will be environmental.

6. *Role Name:* specify the role name that will be assigned in the Managed Identity.

7. *Vm Size:* specify the *size of the virtual machine* that will be created. The default value is *Standard_F2*.



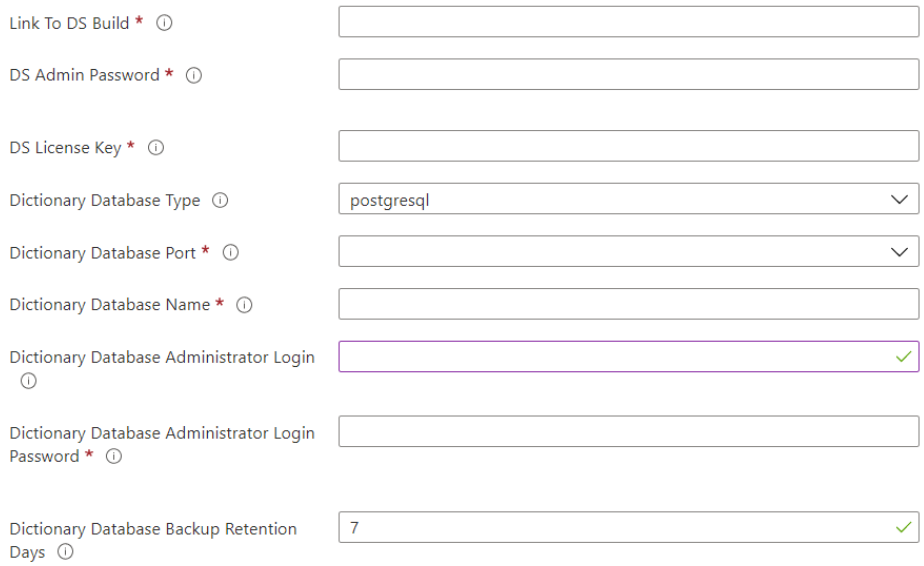
Note: you can choose other virtual machine size values. Please, enter the most convenient value depending on your location and availability set.

Subnets environment

8. *Subnet Resource Group Name:* specify the name of the *resource group* where the VNET is stored.
9. *Virtual Network Name:* specify the *virtual network name* where the subnets are stored.
10. *Subnet Name:* specify the *subnet name* that will be used as the environment.

DataSunrise configuration

11. *Link To DS Build:* provide a *link* to download latest DataSunrise.
12. *DS Admin Password:* specify the value that will be used as DataSunrise *admin* user *password* to log in into the Web Console.
13. *DS License Key:* provide your DataSunrise license key.
14. *Dictionary Database Type:* Dictionary database type. The default value is *postgresql*.
15. *Dictionary Database Port: port number* that will be used by Dictionary database. The default value is *5432*.
16. *Dictionary Database Name:* Dictionary database name.
17. *Dictionary Database Administrator Login:* specify the *name* of the *user* that will be used to access the Dictionary database.
18. *Dictionary Database Administrator Login Password:* specify the *password* that will be used along with the Database Administrator as credentials for the Dictionary database.
19. *Dictionary Database Backup Retention Days:* specify the value that will be used as the number of database server backup retention days.



20. *Audit Database Type:* Audit database type. The default value is *postgresql*.
21. *Audit Database Port: port number* that will be used by Audit database. The default value is *5432*.
22. *Audit Database Name: Audit Storage* database name.
23. *Audit Database Administrator Login:* specify the *name* of the *user* that will be used to access the Audit database.
24. *Audit Database Administrator Login Password:* specify the *password* that will be used along with the Database Administrator as credentials for the Audit database.
25. *Audit Database Backup Retention Days:* specify the value that will be used as the number of database server backup retention days.

Target database configuration

26. *Target DB Name:* enter target database *name*.
27. *Target DB Type:* choose target database *type*.
28. *Target DB Host:* specify the target database *host* value.

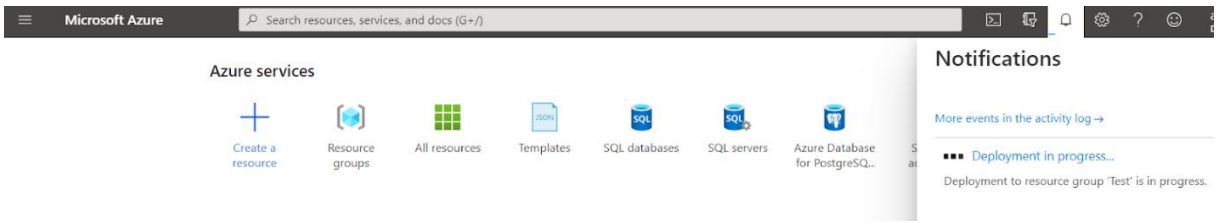
29. *Target DB Port:* enter target database *port number*.
30. *Target DB Proxy Port:* port number that will be used as a *proxy port* for your target database.
31. *Target DB Instance Name:* specify the value that will be used as *instance name*.
32. *Target DB Login:* enter the target database *username* that will be used to connect to the target database.
33. *Target DB Login Password:* enter the target database user *password*.

3.2. Finishing the Deployment

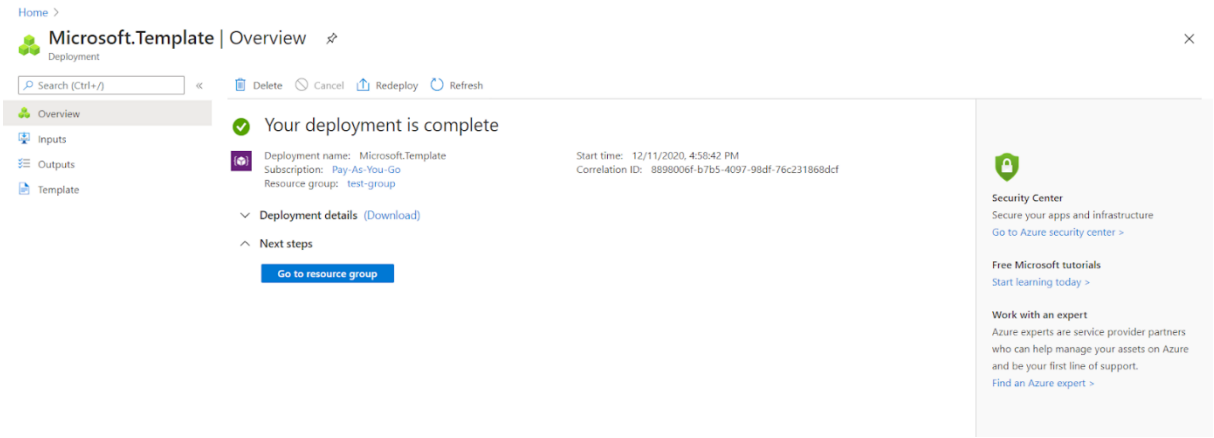
After all the parameters are filled in and the *Validation is passed*, click the **Create** button.

Deployment process has started. To view the particular deployment of every resource, click the link in the top right corner of the screen.

You can also view the *Deployment in progress* message in the **Notifications** drop-down menu.



Once the deployment is finished successfully, *Your deployment is complete* message will be displayed. Click **Go to resource group** to view the created resources.

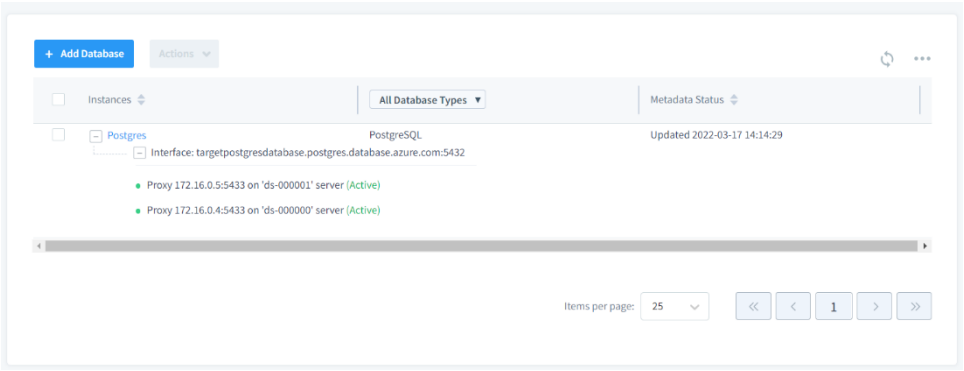


All the resources are successfully deployed and listed inside the resource group.

3.3. Connecting to the DataSunrise Web UI

To connect to the DataSunrise's Web Console, use LoadBalancer public IP address. It will automatically connect to one of the configured nodes. You also need to use this IP address to connect to your protected database through a proxy and to connect to your Virtual Machine using SSH.

The Target DB will be automatically added to the DataSunrise server.



4. Summary

DataSunrise ARM template is successfully deployed. DataSunrise Configuration and Audit databases are configured on a PostgreSQL server. Public Load Balancer IP address is configured to access the Web Console, protected databases and to establish a connection through SSH.

HA configuration is set. Autoscaling settings are applied depending on the amount of the DataSunrise servers being alive. Virtual machine contributor role is assigned to the virtual machine scale set to access the Azure CLI.