

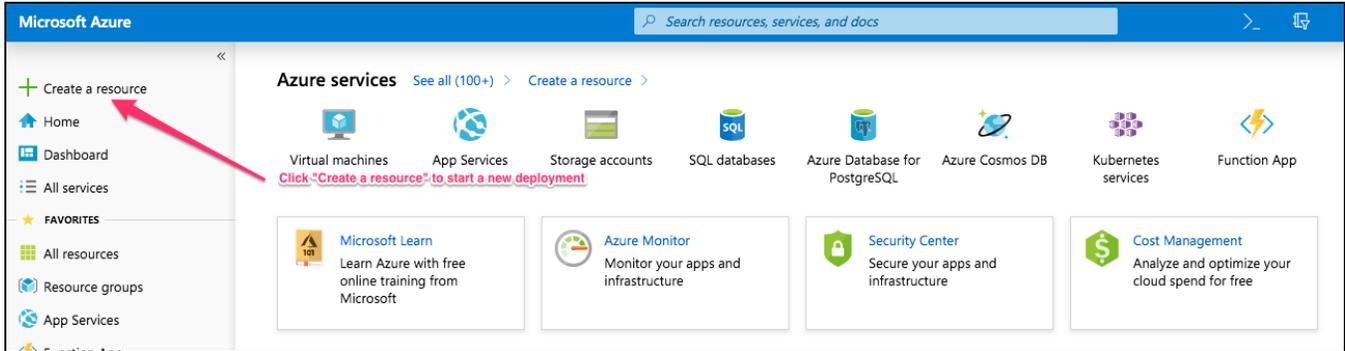
Creating a Lustre Cluster on Azure

The steps below will show how to create a Lustre Cluster on Microsoft's Azure infrastructure. It will start with a Lustre template in the Azure marketplace.

You will need an Azure account.

Login to your account and go to the dashboard. You can get to the dashboard from anywhere by clicking on the blue "Microsoft Azure" in the upper left corner of the GUI.

To get started click on "Create a resource" to get ready to start deployments of a new instance of Lustre



In the search box that appears, type "lustre" and hit return. For some reason the completions that start to show up do not work as expected

Microsoft Azure Search resources, services, an

Home > New

New Search for lustre, hit enter

lustre

Azure Marketplace [See all](#) **Popular**

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choose "Lustre on Azure" in Compute category.

Dashboard > New > Marketplace > Get Started

Marketplace

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- Get Started
- Compute
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Get Started

Search: lustre

Pricing: All | Operating System: All | Publisher: All

Results

Choose "Lustre on Azure" under Compute category

NAME	PUBLISHER	CATEGORY
 Lustre on Azure	DDN Whamcloud	Compute
 Cloud Edition for Lustre Client	DDN Whamcloud	Storage

click "Create"

Dashboard > New > Marketplace > Get Started > Lustre on Azure

Lustre on Azure

DDN Whamcloud

 **Lustre on Azure**
DDN Whamcloud

[Click "Create"](#)

[Create](#) [Save for later](#)

Cloud Edition for Lustre software is a scalable, parallel file system purpose-built for HPC. Ideally suited for dynamic, pay-as-you-go applications, from rapid simulation and prototyping to cloud bursting peak HPC workloads. [Click for more information](#)

In the "Basics" screen that appears you will fill out the fields in the template.

Lustre Filesystem name - this will be name of your lustre filesystem and also prepended to the names of VM hosts. For example here it is specified as Idemo so our MGS node will be Idemomgs.

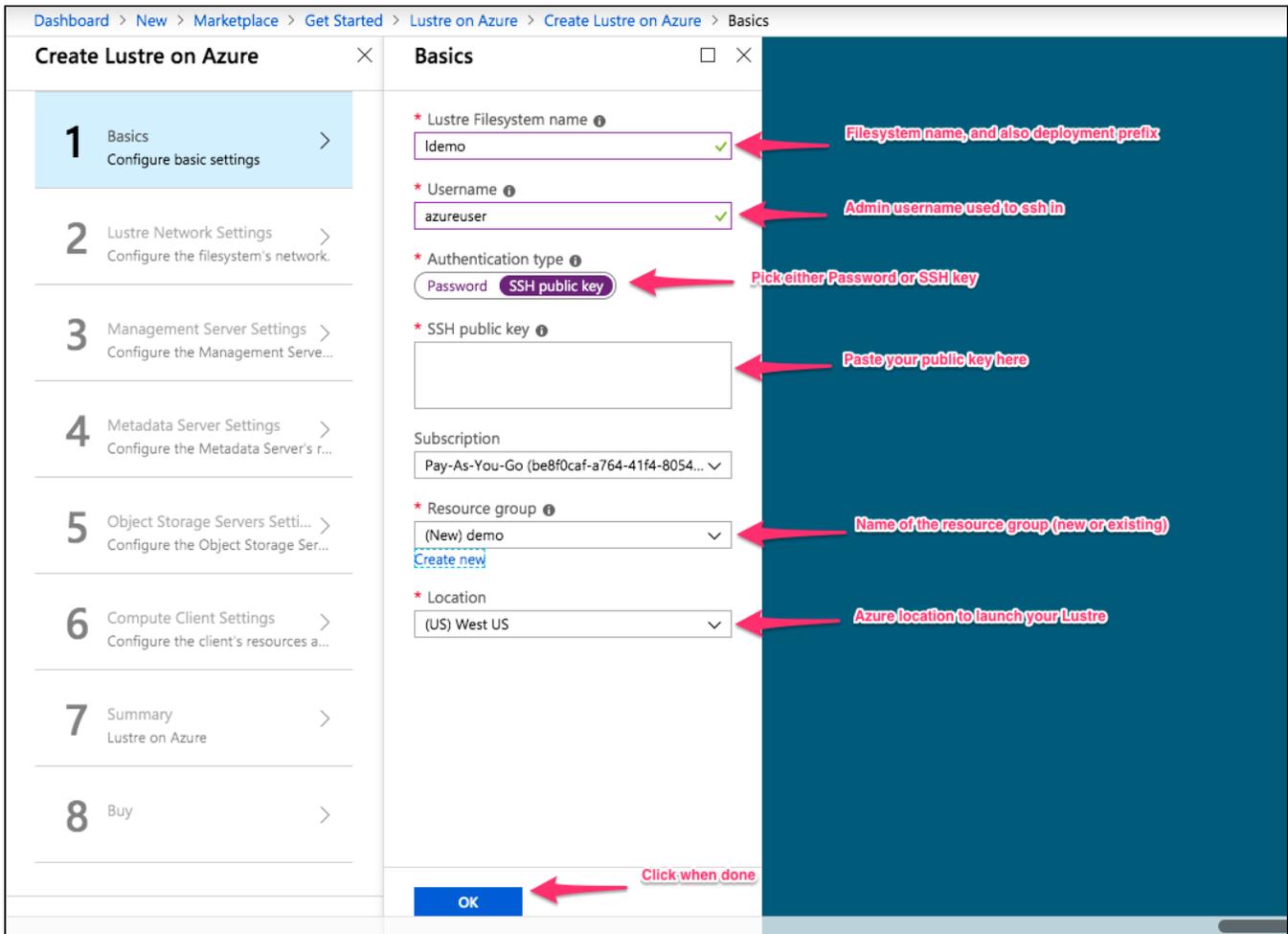
Username - This is the username for the administrator account.

Authentication type - You can choose to use a password or a key. You can cut and paste a public key here. For windows you can load your private key into puttygen and cut and paste the openssh version of the public key into the box. Whatever you do here will be propagated to all the VMs in the Lustre Cluster.

Resource Group - Is the unique name for your group of resources (the resources that make up your Lustre cluster). You can create a new resource group or use existing one (must be empty)

Location - Choose the Azure region you would like to deploy to from the drop down list.

When done hit "OK" to move to the next screen.



In the "Lustre Network Settings", fill out the fill in the template

Lustre virtual network - this is the virtual network that the VM will be using. You can create new or use existing one.

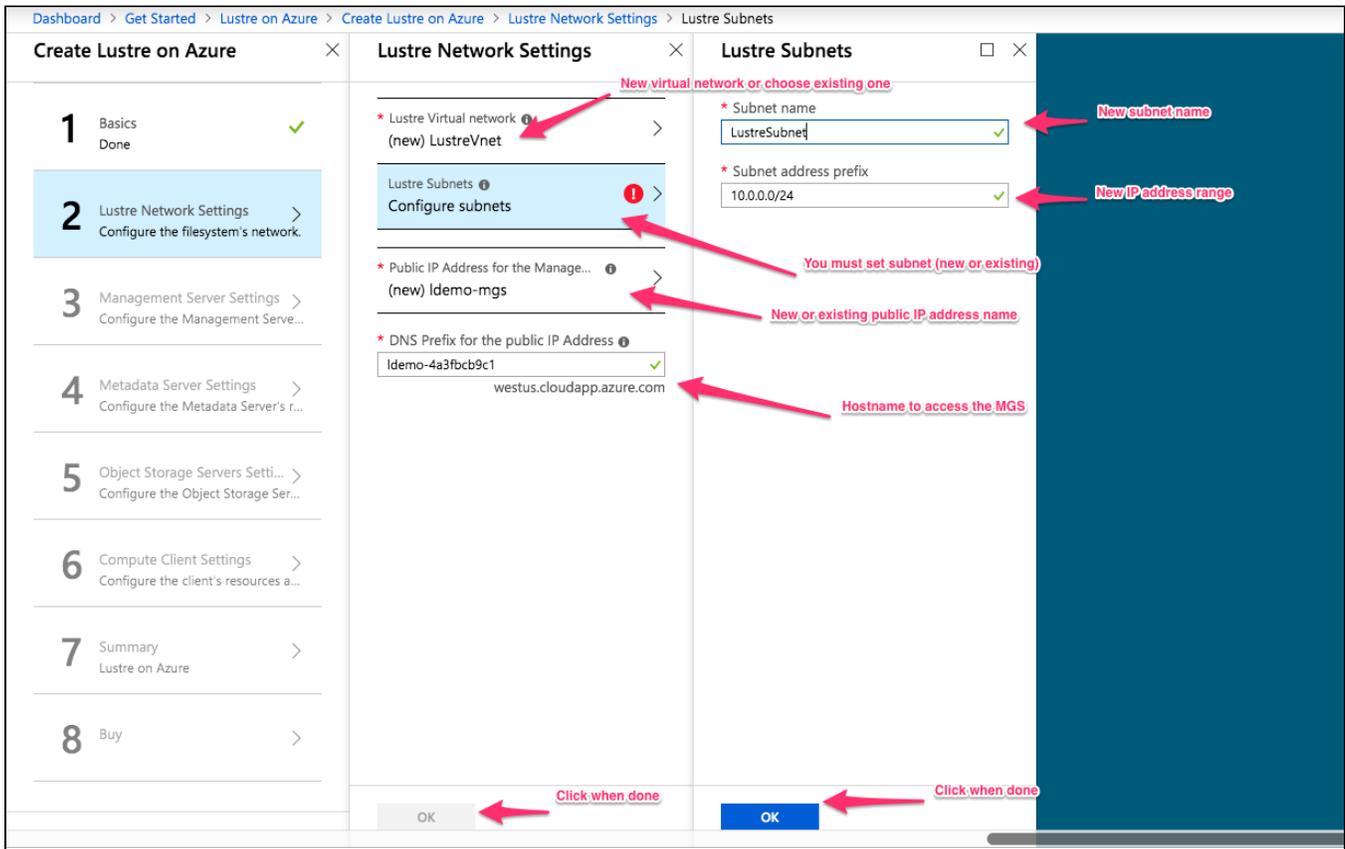
Lustre Subnets - this is the subnet that VM will be using. A new one will be created in case of new virtual network.

Public IP address name for MGS - This is the resource name for the public IP address. Not the hostname of the MGS which is what you will ssh into.

You can let it create a new one or use existing one. If you choose "None", you might not be able to ssh in your cluster.

DNS Prefix for public IP Address - This is the hostname of the public MGS node. Note that underneath the box is the rest of the public address.

When done with "Lustre Subnets", hit "OK" to go back to "Lustre Network Settings", hit "OK" again to move to the next screen.



in the "Management Server Setting", you can choose the type of VM for Management server (MGS)

click "Change size" if you want to choose a different size

When done, hit "OK" to move to the next screen

Dashboard > Get Started > Lustre on Azure > Create Lustre on Azure > Management Server Settings

Create Lustre on Azure

- 1 Basics Done ✓
- 2 Lustre Network Settings Done ✓
- 3 Management Server Settings >**
Configure the Management Server...
- 4 Metadata Server Settings >
Configure the Metadata Server's r...
- 5 Object Storage Servers Setti... >
Configure the Object Storage Ser...
- 6 Compute Client Settings >
Configure the client's resources a...
- 7 Summary >
Lustre on Azure
- 8 Buy >

Management Server Setti...

* Management Server size ⓘ

1x Standard DS3 v2
4 vcpus, 14 GB memory

[Change size](#) ← **Change to different VM size if you want**

OK ← **Click when done**

In the "Metadata Server Settings", you can choose the type of VM for Metadata server (MDS)

Click "Change size" if you want to choose a different size

Click the drop down menu for "Size of each MDT disk" if you want to change the Metadata Target size (MDT). default is set to 512GB.

Note: MDT is not the VM boot disk. It is Lustre Metadata disk

When done, hit "OK" to move to the next screen

Dashboard > Get Started > Lustre on Azure > Create Lustre on Azure > Metadata Server Settings

Create Lustre on Azure

- 1 Basics Done ✓
- 2 Lustre Network Settings Done ✓
- 3 Management Server Settings Done ✓
- 4 Metadata Server Settings >**
Configure the Metadata Server's r...
- 5 Object Storage Servers Setti... >
Configure the Object Storage Ser...
- 6 Compute Client Settings >
Configure the client's resources a...
- 7 Summary >
Lustre on Azure
- 8 Buy >

Metadata Server Settings

* Metadata Server size ⓘ
1x Standard D13 v2
8 vcpus, 56 GB memory
[Change size](#) ← **Change to different VM size if you want**

* Size of each MDT disk (GB) ⓘ ← **Change to different disk size**

- 512GB
- 128GB
- 512GB**
- 2TB
- 8TB
- 16TB

OK ←

In the "Object Storage Servers Settings",

First enter the number of Object Storage Servers (OSS) you would like to use. Default is 2

Then select the type of VM for Object Storage server (OSS)

Click "Change size" if you want to choose a different size

Also choose the size of each of the 3 OSTs that will be attached to your OSS

When done, hit "OK" to move to the next screen.

Dashboard > Get Started > Lustre on Azure > Create Lustre on Azure > Object Storage Servers Settings

Create Lustre on Azure

- 1 Basics Done ✓
- 2 Lustre Network Settings Done ✓
- 3 Management Server Settings Done ✓
- 4 Metadata Server Settings Done ✓
- 5 Object Storage Servers Settings** > Configure the Object Storage Servers
- 6 Compute Client Settings > Configure the client's resources
- 7 Summary Lustre on Azure >
- 8 Buy >

Object Storage Servers Settings

- * Number of Object Storage Servers ⓘ
2 ← **Number of Object Storage Servers**
- * Object Storage Servers size ⓘ
1x Standard DS13 v2
8 vcpus, 56 GB memory
[Change size](#) ← **Change to different VM size if you want**
- * Total storage per OSS (with 3 disks) ⓘ ← **Each OSS has 3 OSTs**
3x512GB
3x128GB
3x512GB
3x2TB
3x4TB
3x8TB
3x16TB

OK ← **Click when done**

In the "Compute Client Settings", client lustre image is free of charge. You only pay for VM.

First enter number of compute client. Default is 2.

Click "Change size" if you want to choose a different size

When done, hit "OK" to move to the next screen.

Dashboard > Get Started > Lustre on Azure > Create Lustre on Azure > Compute Client Settings

Create Lustre on Azure

- 1 Basics Done ✓
- 2 Lustre Network Settings Done ✓
- 3 Management Server Settings Done ✓
- 4 Metadata Server Settings Done ✓
- 5 Object Storage Servers Setti... Done ✓
- 6 Compute Client Settings** > Configure the client's resources a...
- 7 Summary Lustre on Azure >
- 8 Buy >

Compute Client Settings

* Number of Clients ⓘ
2 ← Number of compute clients

* Compute Client size ⓘ
1x Standard F4s
4 vcpus, 8 GB memory
Change size ← Change to different VM size if you want

OK ← Click when done

In the "Summary" screen, a summary of what has been entered is shown in the summary.

Verify information you have entered and click "OK" when done

Home > New > Marketplace > Get Started > Lustre on Azure > Create Lustre on Azure > Summary

Create Lustre on Azure

- 1 Basics ✓
Done

- 2 Lustre Network Settings ✓
Done

- 3 Management Server Settings ✓
Done

- 4 Metadata Server Settings ✓
Done

- 5 Object Storage Servers Setti... ✓
Done

- 6 Compute Client Settings ✓
Done

- 7 Summary >
Lustre on Azure

- 8 Buy >

Summary

i Validation passed ← Must be passed or error info will show here

Basics	
Subscription	Pay-As-You-Go
Resource group	demo
Location	(US) West US
Lustre Filesystem name	
Username	ldemo
SSH public key	azureuser
	ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQCIWcpSq...
Lustre Network Settings	
Lustre Virtual network	LustreVnet
Subnet	LustreSubnet
Subnet address prefix	10.2.0.0/24
Public IP Address for the Ma...	ldemo-mgs
DNS Prefix for the public IP ...	ldemo-6e00f8c34e
Management Server Settings	
Management Server size	Standard DS3 v2
Metadata Server Settings	
Metadata Server size	Standard D13 v2
Size of each MDT disk (GB)	512GB
Object Storage Servers Settings	
Number of Object Storage S...	2
Object Storage Servers size	Standard DS13 v2
Total storage per OSS (with ...	3x512GB
Compute Client Settings	
Number of Clients	2
Compute Client size	Standard F4s

OK
← Click when ready
Download template and parameters

Read the terms of use and purchase your Lustre Filesystem.

Enter name, email address and phone number

when done click "Create"

Home > New > Marketplace > Get Started > Lustre on Azure > Create Lustre on Azure > Create

Create Lustre on Azure

- 1 Basics Done ✓
- 2 Lustre Network Settings Done ✓
- 3 Management Server Settings Done ✓
- 4 Metadata Server Settings Done ✓
- 5 Object Storage Servers Setti... Done ✓
- 6 Compute Client Settings Done ✓
- 7 Summary Lustre on Azure ✓
- 8 Buy >

Create

Lustre on Azure
by DDN Whamcloud
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Deploying this template will result in various actions being performed, which may include the deployment of one or more Azure resources or Marketplace offerings and/or transmission of the information you provided as part of the deployment process to one or more parties, as specified in the template. You are responsible for reviewing the text of the template to determine which actions will be performed and which resources or offerings will be deployed, and for locating and reviewing the pricing and legal terms associated with those resources or offerings.

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Name:

* Preferred e-mail address:
Required field.
Must be a valid e-mail.

* Preferred phone number:
Required field.

 [Click when ready to purchase](#)

Next you will see the dashboard notification with deployment in progress...

Azure services See all (100+) > Create a resource >

Virtual machines App Services Storage accounts SQL databases Azure Database for PostgreSQL Azure Cosmos DB Kubernetes services

Microsoft Learn Learn Azure with free online training from Microsoft

Azure Monitor Monitor your apps and infrastructure

Security Center Secure your apps and infrastructure

Cost Management Analyze and cloud spend

Notifications

More events in the activity log → Dismiss all ...

■ ■ ■ Deployment in progress... Running ×

Deployment to resource group 'demo' is in progress. a few seconds ago

Click on "Deployment in progress...", you will see the status of your deployment

Deployment

Search (Ctrl+/)

Delete Cancel Redeploy Refresh

[Click to see update](#)

Your deployment is underway

Check the status of your deployment, manage resources, or troubleshoot deployment issues. Pin this page to your dashboard to easily find it next time.

Deployment name: ddn-whamcloud-5345716.lustre_on_azure-20190515090242
 Subscription: Pay-As-You-Go
 Resource group: demo

DEPLOYMENT DETAILS (Download)

Start time: 5/15/2019, 9:02:42 AM
 Duration: 4 minutes 27 seconds
 Correlation ID: dab40746-4759-429b-abcd-8c7e0ac84cda

RESOURCE	TYPE	STATUS	OPERATION DETAILS
Idemooss0/init	Microsoft.Compute/virtualMa...	Created	Operation details
Idemooss1/init	Microsoft.Compute/virtualMa...	OK	Operation details
Idemomds/init	Microsoft.Compute/virtualMa...	OK	Operation details
Idemomgs/init	Microsoft.Compute/virtualMa...	OK	Operation details
Idemooss0	Microsoft.Compute/virtualMa...	OK	Operation details
Idemooss1	Microsoft.Compute/virtualMa...	OK	Operation details
Idemomds	Microsoft.Compute/virtualMa...	OK	Operation details
Idemomgs	Microsoft.Compute/virtualMa...	OK	Operation details
Idemooss1	Microsoft.Network/networkin...	Created	Operation details
Idemooss0	Microsoft.Network/networkin...	Created	Operation details
Idemomds	Microsoft.Network/networkin...	Created	Operation details
Idemomgs	Microsoft.Network/networkin...	Created	Operation details
Idemo-mgs	Microsoft.Network/publicIPa...	OK	Operation details
Idemoclient0	Microsoft.Network/publicIPa...	OK	Operation details
Idemoclient	Microsoft.Compute/availabil...	OK	Operation details
Idemovnet	Microsoft.Resources/deploy...	OK	Operation details
Idemooss	Microsoft.Compute/availabil...	OK	Operation details
pid-f3de12ff-b17c-5c6e-afff-67	Microsoft.Resources/deploy...	OK	Operation details

Once the status changes to "Your deployment is complete"

Click on "Outputs" to view the "lustre Gred Report" (ie ganglia)

Search (Ctrl+/) << Delete Cancel Redeploy Refresh

Overview

Inputs

Outputs [Click here to see Output info.](#)

Template

✓ Your deployment is complete

Check the status of your deployment, manage resources, or troubleshoot deployment issues. Pin this page to your dashboard to easily find it next time.

Deployment name: ddn-whamcloud-5345716.lustre_on_azure-20190515090242
 Subscription: [Pay-As-You-Go](#)
 Resource group: [demo](#)

DEPLOYMENT DETAILS [\(Download\)](#)

Start time: 5/15/2019, 9:02:42 AM
 Duration: 6 minutes 38 seconds
 Correlation ID: dab40746-4759-429b-abcd-8c7e0ac84cda

RESOURCE	TYPE	STATUS	OPERATION DETAILS
✓ Idemoclient1/init	Microsoft.Compute/virtualMa...	OK	Operation details
✓ Idemoclient0/init	Microsoft.Compute/virtualMa...	OK	Operation details
✓ Idemoclient1	Microsoft.Compute/virtualMa...	OK	Operation details
✓ Idemoclient0	Microsoft.Compute/virtualMa...	OK	Operation details
✓ Idemoclient1	Microsoft.Network/networkin...	Created	Operation details
✓ monitoring	Microsoft.Resources/deploy...	OK	Operation details
✓ Idemoclient0	Microsoft.Network/networkin...	Created	Operation details
✓ Idemoos0/init	Microsoft.Compute/virtualMa...	OK	Operation details
✓ Idemoos1/init	Microsoft.Compute/virtualMa...	OK	Operation details
✓ Idemomds/init	Microsoft.Compute/virtualMa...	OK	Operation details
✓ Idemomgs/init	Microsoft.Compute/virtualMa...	OK	Operation details
✓ Idemoos0	Microsoft.Compute/virtualMa...	OK	Operation details
✓ Idemoos1	Microsoft.Compute/virtualMa...	OK	Operation details
✓ Idemomds	Microsoft.Compute/virtualMa...	OK	Operation details
✓ Idemomgs	Microsoft.Compute/virtualMa...	OK	Operation details
✓ Idemoos0	Microsoft.Network/networkin...	Created	Operation details
✓ Idemoos1	Microsoft.Network/networkin...	Created	Operation details
✓ Idemomds	Microsoft.Network/networkin...	Created	Operation details
✓ Idemomgs	Microsoft.Network/networkin...	Created	Operation details
✓ Idemo-mgs	Microsoft.Network/publicIPa...	OK	Operation details
✓ Idemoclient0	Microsoft.Network/publicIPa...	OK	Operation details
✓ Idemoclient	Microsoft.Compute/availabil...	OK	Operation details
✓ Idemovnet	Microsoft.Resources/deploy...	OK	Operation details
✓ Idemoos	Microsoft.Compute/availabil...	OK	Operation details
✓ pid-f3de12ff-b17c-5c6e-afff-67	Microsoft.Resources/deploy...	OK	Operation details

In the "Outputs" screen,

mgsNID - this is the private IP address of the MGS

mgsDomainName - this is public hostname for MGS

gangliaURL - this is the URL to view the grid report

mountCommand - this is the command to mount lustre. All compute clients created in this deployment should mount. if not run command 'mount -a' on the client

Deployment

Search (Ctrl+/)

Overview

Inputs

Outputs

Template

mgsNID: 10.2.0.4

mgsDomainName: Idemo-6e00f8c34e.westus.cloudapp.azure.com

gangliaUrl: http://Idemo-6e00f8c34e.westus.cloudapp.azure.com/ganglia/

mountCommand: mount -t lustre 10.2.0.4@tcp/Idemo /your_mount_point_directory

Copy and paste the "gangliaURL" on a different browser to view grid report

Main Search Views Aggregate Graphs Compare Hosts Events Reports Automatic Rotation Live Dashboard Cubism Mobile

Idemo Grid Report at Wed, 15 May 2019 16:24:35 +0000 Get Fresh Data

Last hour 2hr 4hr day week month year job or from Go Clear

Sorted ascending descending by name by hosts up by hosts down

Idemo Grid > --Choose a Source ↓

Idemo Grid (3 sources) [\(tree view\)](#)

CPUs Total: 28
Hosts up: 4
Hosts down: 0

Current Load Avg (15, 5, 1m): 3%, 4%, 3%
Avg Utilization (last hour): 5%
Localtime: 2019-05-15 16:24

Idemo Grid Load last hour

1-min	Now: 1.0	Min: 0.0	Avg: 1.4	Max: 2.1
Nodes	Now: 4.0	Min: 3.0	Avg: 4.0	Max: 4.0
CPUs	Now: 28.0	Min: 27.5	Avg: 28.0	Max: 28.0
Procs	Now: 0.0	Min: 0.0	Avg: 345.2m	Max: 2.0

Idemo Grid Memory last hour

Mem	Now: 5.46	Min: 1.80	Avg: 5.20	Max: 5.40
Cache	Now: 0.0	Min: 0.0	Avg: 0.0	Max: 0.0
Cache	Now: 1.85	Min: 828.7m	Avg: 1.80	Max: 1.80
Cache	Now: 40.7m	Min: 37.7m	Avg: 37.9m	Max: 40.2m
Free	Now: 171.50	Min: 118.40	Avg: 168.90	Max: 171.80
Swap	Now: 0.0	Min: 0.0	Avg: 0.0	Max: 0.0
Total	Now: 178.80	Min: 164.10	Avg: 178.50	Max: 178.80

Idemo Grid CPU last hour

User	Now: 0.0%	Min: 0.0%	Avg: 0.0%	Max: 0.0%
System	Now: 0.0%	Min: 0.0%	Avg: 0.0%	Max: 0.0%
System	Now: 0.0%	Min: 0.0%	Avg: 0.0%	Max: 0.0%
Mem	Now: 4.0%	Min: 0.0%	Avg: 4.0%	Max: 3.2%
Steal	Now: 0.0%	Min: 0.0%	Avg: 0.0%	Max: 0.0%
Idle	Now: 0.0%	Min: 0.0%	Avg: 0.0%	Max: 0.0%
Idle	Now: 95.9%	Min: 90.3%	Avg: 95.9%	Max: 99.9%

Idemo Grid Network last hour

In	Now: 73.0K	Min: 10.0m	Avg: 496.4k	Max: 5.0M
Out	Now: 27.7K	Min: 15.5m	Avg: 27.7K	Max: 32.4K

MDS (physical view)

CPUs Total: 8
Hosts up: 1
Hosts down: 0

Current Load Avg (15, 5, 1m): 2%, 2%, 1%
Avg Utilization (last hour): 2%
Localtime: 2019-05-15 16:24

MDS Cluster Load last hour

1-min	Now: 90.0m	Min: 70.0m	Avg: 197.2m	Max: 420.0
Nodes	Now: 1.0	Min: 1.0	Avg: 1.0	Max: 1.0
CPUs	Now: 8.0	Min: 8.0	Avg: 8.0	Max: 8.0
Procs	Now: 0.0	Min: 0.0	Avg: 74.7m	Max: 1.0

MDS Cluster Network last hour

In	Now: 15.2K	Min: 13.6K	Avg: 14.1K	Max: 15.2K
Out	Now: 7.8K	Min: 4.5K	Avg: 6.3K	Max: 7.4K

MGS (physical view)

CPUs Total: 4
Hosts up: 1
Hosts down: 0

Current Load Avg (15, 5, 1m): 14%, 18%, 15%
Avg Utilization (last hour): 22%
Localtime: 2019-05-15 16:24

MGS Cluster Load last hour

1-min	Now: 648.0m	Min: 370.0m	Avg: 863.7m	Max: 1.0
Nodes	Now: 1.0	Min: 1.0	Avg: 1.0	Max: 1.0
CPUs	Now: 4.0	Min: 4.0	Avg: 4.0	Max: 4.0
Procs	Now: 0.0	Min: 0.0	Avg: 167.7m	Max: 1.0

MGS Cluster Network last hour

In	Now: 25.1K	Min: 17.1K	Avg: 24.1K	Max: 26.5K
Out	Now: 4.1K	Min: 4.1K	Avg: 4.1K	Max: 5.1K

OSS (physical view)

CPUs Total: 16
Hosts up: 2
Hosts down: 0

Current Load Avg (15, 5, 1m): 1%, 1%, 0%
Avg Utilization (last hour): 2%
Localtime: 2019-05-15 16:24

OSS Cluster Load last hour

1-min	Now: 80.0m	Min: 10.0m	Avg: 337.0m	Max: 780.0
Nodes	Now: 2.0	Min: 2.0	Avg: 2.0	Max: 2.0
CPUs	Now: 16.0	Min: 16.0	Avg: 16.0	Max: 16.0
Procs	Now: 0.0	Min: 0.0	Avg: 77.9m	Max: 1.0

OSS Cluster Network last hour

In	Now: 32.7K	Min: 32.7K	Avg: 747.8k	Max: 5.0M
Out	Now: 15.8K	Min: 15.1K	Avg: 17.1K	Max: 22.7K

Snapshot of the Idemo Grid | Legend

MDS MGS OSS

Ganglia Web Frontend version 3.7.1 [Check for Updates](#).
Ganglia Web Backend (gmetad) version 3.7.2 [Check for Updates](#).
Downloading and parsing ganglia's XML tree took 0.0631s.
Images created with RRDtool version 1.4.8.
Powered by Dwoo 1.1.

To access the Servers (MGS, MDS, OSS), we must go through MGS public IP

From the deployment complete screen "Overview", click on virtual machine name ending mgs. In this case "Idemomgs"

✓ Your deployment is complete

Check the status of your deployment, manage resources, or troubleshoot deployment issues. Pin this page to your dashboard to easily find it next time.

Deployment name: `ddn-whamcloud-5345716.lustre_on_azure-20190515090242`
 Subscription: [Pay-As-You-Go](#)
 Resource group: `demo`

DEPLOYMENT DETAILS (Download)

Start time: 5/15/2019, 9:02:42 AM
 Duration: 6 minutes 38 seconds
 Correlation ID: `dab40746-4759-429b-abcd-8c7e0ac84cda`

RESOURCE	TYPE	STATUS	OPERATION DETAILS
✓ Idemoclient1/init	Microsoft.Compute/virtualMachines/extensions	OK	Operation details
✓ Idemoclient0/init	Microsoft.Compute/virtualMachines/extensions	OK	Operation details
✓ Idemoclient1	Microsoft.Compute/virtualMachines	OK	Operation details
✓ Idemoclient0	Microsoft.Compute/virtualMachines	OK	Operation details
✓ Idemoclient1	Microsoft.Network/networkInterfaces	Created	Operation details
✓ monitoring	Microsoft.Resources/deployments	OK	Operation details
✓ Idemoclient0	Microsoft.Network/networkInterfaces	Created	Operation details
✓ Idemooss0/init	Microsoft.Compute/virtualMachines/extensions	OK	Operation details
✓ Idemooss1/init	Microsoft.Compute/virtualMachines/extensions	OK	Operation details
✓ Idemomds/init	Microsoft.Compute/virtualMachines/extensions	OK	Operation details
✓ Idemomgs/init	Microsoft.Compute/virtualMachines/extensions	OK	Operation details
✓ Idemooss0	Microsoft.Compute/virtualMachines	OK	Operation details
✓ Idemooss1	Microsoft.Compute/virtualMachines	OK	Operation details
✓ Idemomds	Microsoft.Compute/virtualMachines	OK	Operation details
✓ Idemomgs	Microsoft.Compute/virtualMachines	OK	Operation details

[Click to view MGS VM access info](#)

On MGS VM screen,

Click "Connect" to view info on the right

Choose "SSH", then copy the Login command and paste on to your terminal

Idemomgs
Virtual machine

Search (Ctrl+/)

Connect Start Restart Stop Capture Delete Refresh

Resource group (change): `demo` Computer name
 Status: Running Operating system
 Location: West US Size
 Subscription (change): `Pay-As-You-Go` Public IP address
 Subscription ID: `5fec6ec-d6a2-4fbb-b3c8-648197ae5b1b` Private IP address
 Virtual network/subnet
 DNS name

Tags (change): `LustreType: mgt` DNS name

Show data for last: 1 hour 6 hours 12 hours 1 day 7 days 30 days

CPU (average) Network (total)

Click connect to view info on the right

Copy and paste to a terminal

Idemomgs

To improve security, enable just-in-time access on this VM. →

RDP SSH

To connect to your virtual machine via SSH, select an IP address, optionally change the port number, and use one of the following commands:

* IP address

* Port number

Login using VM local account

Inbound traffic to the Public IP address may be blocked. You can update inbound port rules in the **VM Networking** page.

You can troubleshoot VM connection issues by opening the **Diagnose and solve problems** page.

If you need to access the other nodes in the cluster and you have used the key option, you have two options.

The best method is to run a ssh-agent and ssh with forwarding enabled so the MGS node can get the private key from your workstation.

The other less secure way as you make you are exposing your private key would be to copy your private key to the MGS so it can be used to access the other nodes.

Similar method can be used to access 'client0' (client0 acts as the gateway to access all compute clients)