



VDI with
UDS Enterprise 3.5
and Microsoft Azure

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Introduction

Azure is a proprietary Microsoft platform that provides cloud services. Some of its advanced features include the ability to run virtual machines, virtual applications, databases, backups, and many other tasks. It integrates countless cloud services that are necessary to develop, test, implement and manage virtual machines (VMs).

This guide “**VDI with UDS Enterprise and Microsoft Azure**” will help you understand the procedure to deploy and configure the UDS Enterprise components on the platform. This document shows, through real examples, how to create resource groups, storage accounts, containers and any necessary resources so that UDS Enterprise can deploy virtual desktops on this platform.

Also, one of the procedures to create virtual machines (which will be used as base machine or template), the steps to migrate machines from an existing environment (VMware, Hyper-V, etc...) to Microsoft Azure and the simplest way of converting a MV disk to .vhd format (disk format recognized in Azure) are detailed.



UDS Enterprise on Microsoft Azure

Before carrying out the integration, it is worth investing time in knowing the different configurable parts of UDS Enterprise (for more information visit our [website](#). In the [Documentation](#) section you will find the Installation, administration and user manual of UDS Enterprise). Two of them are **Service Providers** and **Authenticators**, elements of utmost importance for the configuration of Azure in UDS Enterprise.

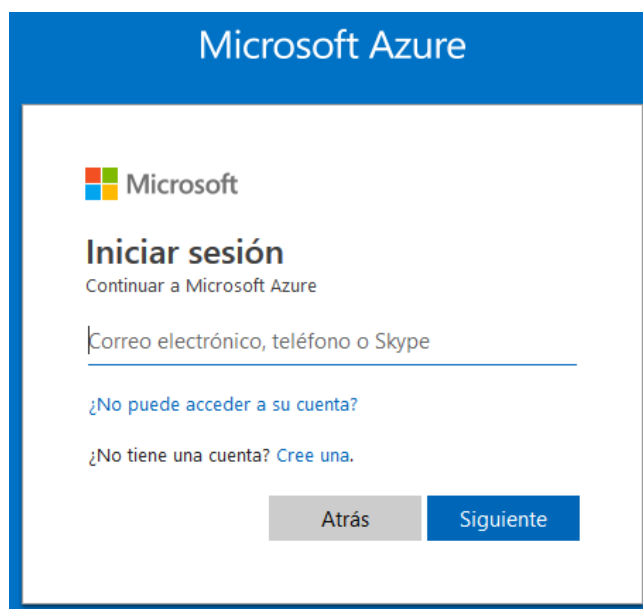
UDS Enterprise will allow to deploy self-generated virtual desktops and virtual application sessions on the Microsoft Azure platform.

To install and configure UDS Enterprise, you must request VirtualCable its components (UDS-Server, UDS-Tunnel and MySQL Database –optional-) and a serial number (Free/ Evaluation/ Enterprise).

You must have a valid Microsoft Azure subscription on which to deploy UDS Enterprise components, virtual desktops, or Windows/Linux application servers.

Where to begin

First, you must have an account with administrator privileges on the Azure platform. If you already have it, Login to the [portal](#).



Once you have logged in and before uploading the UDS Enterprise components, you will need a series of elements available on the Azure platform ("**Resource Groups**", "**Storage Accounts**", "**Container**", "**Network Security Groups**").

Below are examples of how you should create and configure these elements for the proper functioning of UDS Enterprise on an Azure platform.



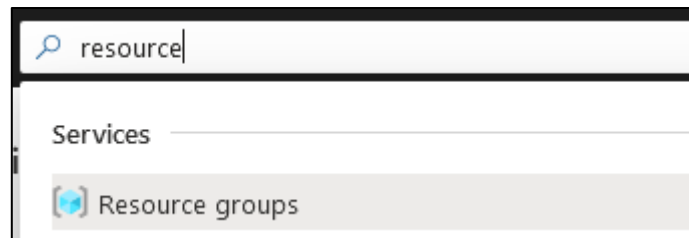
Necessary elements

- Resource Groups

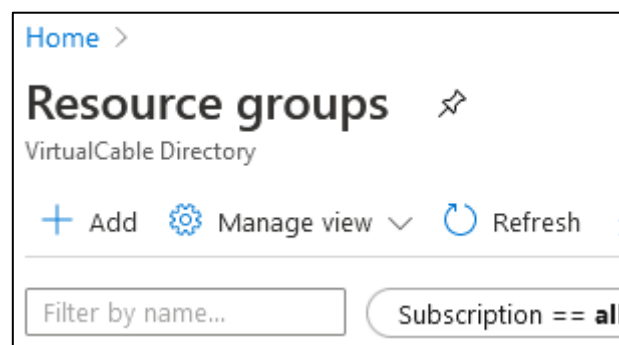
A “**Resource Group**” in Azure groups a collection of assets into logical groups for provisioning, monitoring and access control easily or even automatically, for more effective management.

You will need to have at least one “**Resource Group**” on which to deploy and configure all the requirements and components of UDS Enterprise. If you don't have one, you can create it by following these steps:

1. In the “**Services**” list, search for “**Resources groups**” and click on it:



2. Once inside, click on “**add**” to create a new one.





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3. In the “**Basics**” section, select the subscription on which it will be registered, indicate a descriptive name for the element, and choose a “**Resource group location**”. Click on “**Review + Create**”.

Create a resource group

Basics Tags Review + create

Resource group - A container that holds related resources for an Azure solution. The resource group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. [Learn more](#)

Project details

Subscription * ⓘ VirtualCable Pago por Uso

Resource group * ⓘ UDS_Enterprise_3

Resource details

Region * ⓘ (Europe) France Central

Review + create < Previous Next : Tags >

4. Review all the data and if they are correct, click on “**Create**”:

Create a resource group

Validation passed.

Basics Tags **Review + create**

Basics

Subscription VirtualCable Pago por Uso

Resource group UDS_Enterprise_3

Region France Central

Create < Previous Next >



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5. Confirm that the “**Resource Group**” has been created correctly.

Home >

Resource groups

VirtualCable Directory

+ Add ⚙️ Manage view ▾ ↻ Refresh ⬇️ Export to CSV | 🏷️ Assign tags | ...

Filter by name... Subscription == all Location == all ✕ + Add filter

Showing 1 to 5 of 5 records. No grouping

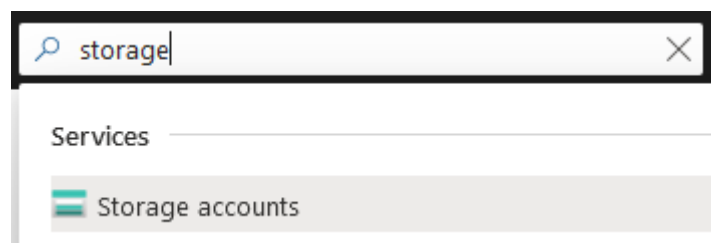
<input type="checkbox"/> Name ↑↓	Subscription ↑↓	Location ↑↓
<input type="checkbox"/> UDS_Enterprise_3	VirtualCable Pago por ...	France Central

■ Storage Accounts

The next item you will need will be a “**Storage account**”. This element will allow you to import the UDS components and generate the virtual disks to later deploy the UDS virtual servers.

If you don't have one, you can create it by following these steps:

1. In the “**Services**” list, search for “**Storage accounts**” and click on it:





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2. Once inside, click on “**add**” to create a new one.

Home >

Storage accounts

VirtualCable Directory

+ Add ⚙️ Manage view ▾ ↻ Refresh ↓

Filter by name... Subscription == all

3. In the “**Basics**” section, select the subscription on which it will be registered, choose the “**Resource group**” previously created and indicate a descriptive name.

Choosing the rest of the available options (“**Account kind**”, “**Location**” “**Replication**” and “**Performance**”) do not affect the operation/deployment of UDS, but they can affect the final cost.

Create storage account

Basics Networking Advanced Tags Review + create

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below.
[Learn more about Azure storage accounts](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * VirtualCable Pago por Uso ▾

Resource group * UDS_Enterprise_3 ▾
[Create new](#)

Instance details

The default deployment model is Resource Manager, which supports the latest Azure features. You may choose to deploy using the classic deployment model instead. [Choose classic deployment model](#)

Storage account name * ⓘ storageeuds3 ✓

Location * (Europe) France Central ▾

Performance ⓘ ☒ Standard ☐ Premium

Account kind ⓘ Storage (general purpose v1) ▾

Replication ⓘ Locally-redundant storage (LRS) ▾

[Review + create](#) < Previous Next : Networking >



4. In the “**Networking**” section, mark the options that interest you.

Create storage account

Basics **Networking** Advanced Tags Review + create

Network connectivity

You can connect to your storage account either publicly, via public IP addresses or service endpoints, or privately, using a private endpoint.

Connectivity method *

☒ Public endpoint (all networks)

☐ Public endpoint (selected networks)

☐ Private endpoint

i All networks will be able to access this storage account.

[Learn more about connectivity methods](#)

i The current storage account type does not support private endpoint.

[Learn more about private endpoint limitations](#)

5. In the “**Advanced**” section, select the options that interest you.

Create storage account

Basics Networking **Advanced** Tags Review + create

Security

Secure transfer required **i** ☒ Disabled ☐ Enabled

Azure Files

Large file shares **i** ☒ Disabled ☐ Enabled

Data protection

Blob soft delete **i** ☒ Disabled ☐ Enabled

File share soft delete **i** ☒ Disabled ☐ Enabled

Versioning **i** ☐ Disabled ☐ Enabled

i The current combination of s performance, replication and



6. In the “**Review + create**” section, confirm that all the data is correct and click on “**create**”:

Create storage account

✓ Validation passed

Basics

Networking

Advanced

Tags

Review + create

Basics

Subscription	VirtualCable Pago por Uso
Resource group	UDS_Enterprise_3
Location	France Central
Storage account name	storageuds3
Deployment model	Resource manager
Account kind	Storage (general purpose v1)
Replication	Locally-redundant storage (LRS)
Performance	Standard

Networking

Connectivity method	Public endpoint (all networks)
---------------------	--------------------------------

Advanced

Secure transfer required	Disabled
Large file shares	Disabled
Blob soft delete	Disabled
File share soft delete	Disabled
Blob change feed	Disabled
Versioning	Disabled
Hierarchical namespace	Disabled
NFS v3	Disabled

Create

< Previous

Next >

[Download a template](#)



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7. Confirm that the “**Storage account**” has been created correctly.

[Home](#) >

Storage accounts

VirtualCable Directory

[+ Add](#) [Manage view](#) [Refresh](#) [Export to CSV](#) [Assign tags](#) [Delete](#) [Feedback](#)

Filter by name...

Subscription == all

Resource group == all

Location == all

[+ Add filter](#)

Showing 1 to 5 of 5 records.

<input type="checkbox"/>	Name ↑↓	Type ↑↓	Kind ↑↓	Resource group ↑↓	Location ↑↓
<input type="checkbox"/>	storageuds3	Storage account	Storage	UDS_Enterprise_3	France Central

Container

Once you have a valid “**Storage account**” you will need to have a “**Container**” to upload the disk images from the UDS servers.

If you don't have one, you can create it by following these steps:

1. Access the “**Storage account**” on which you will upload the UDS images. Within the “**Blob service**” menu, select “**Containers**” and click on “**Container**” to create a new one:

[Home](#) > [Storage accounts](#) >

storageuds3 | Containers [✦](#)
Storage account

[Export template](#)

Blob service

[Containers](#)

[+ Container](#) [Ch](#)

Name

You don't have any cor



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2. Indicate a descriptive name for the new “**Container**” and select the “**Public access level**” appropriate to your needs. Click on “Create” to finish its creation.

New container

Name *

uds3-container ✓

Public access level ⓘ

Private (no anonymous access) ▼

Create

Discard

3. Confirm that the “**Container**” has been created correctly:

Home > Storage accounts >

storageuds3 | Containers

Storage account

Search (Ctrl+ /)

« + Container 🔒 Change access level ↻ Refresh 🗑 Delete

Blob service

Containers

Custom domain

Data protection

Search containers by prefix

Name	Last modified	Public access level	Lease state
<input type="checkbox"/> uds3-container	2/15/2020 1:25:52 PM	Private	Available

▪ Network security groups

Another of the elements necessary for the deployment of UDS will be the “**Network security groups**”, which will perform the firewall function.

For the different UDS elements, specific ports will be required. Below are the ports that must be configured for the correct operation of UDS:

1. In the “**Services**” list, search for “**Network security groups**” and click on it:





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2. Once inside, click on “**add**” to create a new one.

[Home](#) >

Network security groups

VirtualCable Directory

[+](#) Add [≡](#) Edit columns [↺](#) Refresh [↻](#) Try |

Subscriptions: VirtualCable Pago por Uso

3. In the “**Basics**” section, select the subscription and the “**Resource group**” on which it will be registered. Indicate a descriptive name for the element, and choose a “**Region**”. Click on “**Review + Create**”.

Create network security group

[Basics](#) [Tags](#) [Review + create](#)

Project details

Subscription *

Resource group *
[Create new](#)

Instance details

Name *

Region *

[Download a template for automation](#)



4. Review all the data and if they are correct click on “**Create**”:

Create network security group

Validation passed

Basics

Tags

Review + create

Basics

Subscription

Resource group

Region

name

VirtualCable Pago por Uso

UDS_Enterprise_3

France Central

UDS3-Server

Tags

None

Create

< Previous

Next >

5. Confirm that the “**Network security group**” has been created correctly. It will be necessary to create two: one for the UDS server and one for the UDS Tunnel server:

[Home](#) >

Network security groups

VirtualCable Directory

[+ Add](#) [Edit columns](#) [Refresh](#) [Try preview](#) | [Assign tags](#)

Subscriptions: VirtualCable Pago por Uso

6 items

<input type="checkbox"/> Name	Resource group	Location
<input type="checkbox"/> UDS3-Tunnel	UDS_Enterprise_3	France Central
<input type="checkbox"/> UDS3-Server	UDS_Enterprise_3	France Central



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6. Access the newly created “**Network security group**”. In the “**Settings**” menu, select “**Inbound security rules**” and click on “Add” to create the necessary access rules:

Home > Network security groups >

UDS3-Server | Inbound security rules

Network security group

Search (Ctrl+ /) << **+ Add** Default rules Refresh

Settings

- Inbound security rules
- Outbound security rules
- Network interfaces

Priority	Name
65000	AllowVnetInBound
65001	AllowAzureLoadBalar
65500	DenyAllInBound

7. You will need to configure two “**Network security groups**”: one for the UDS server and one for the UDS Tunnel server, each with its corresponding rule in “**Inbound security rules**”. In the following table, you can check the ports necessary to access the UDS components and the service they will offer:


Component	Port	Role
UDS Server	443	Login panel access
UDS Tunnel	443, 10443	Access to servicies and HTML5




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- a) **UDS-Server:** You must create an access rule to the UDS server where you allow traffic through 443 TCP port:

 **Add inbound security rule** ×

UDS3-Server

 Basic

Source * ⓘ

Any ▼

Source port ranges * ⓘ

*

Destination * ⓘ

Any ▼

Destination port ranges * ⓘ

443 ✓

Protocol *

Any **TCP** UDP ICMP

Action *

Allow Deny

Priority * ⓘ

100

Name *

UDS3_Server ✓

Description

UDS login ✓

Add



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Once you have entered the data as shown in the screenshot, click on “**Add**” to create the rule and confirm its correct creation:


[+ Add](#) [🔗 Default rules](#) [🔄 Refresh](#)

Priority	Name	Port	Protocol	Source	Destination	Action
100	UDS3_Server	443	TCP	Any	Any	✔ Allow
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	✔ Allow
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any	✔ Allow
65500	DenyAllInBound	Any	Any	Any	Any	✘ Deny

- b) **UDS Tunnel:** You must create an access rule to the UDS Tunnel server where you allow traffic through 443 TCP and 10443 TCP ports:

 **Add inbound security rule** ✕

UDS3-Tunnel

 Basic

Source * ⓘ

Any

Source port ranges * ⓘ

*

Destination * ⓘ

Any

Destination port ranges * ⓘ

443,10443

Protocol *

Any TCP UDP ICMP

Action *

Allow Deny

Priority * ⓘ

100

Name *

UDS3_Tunnel

Description

Tunneled and HTML5

Add



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Once you indicate the data as shown in the screenshot, click on “**Add**” to create the rule and confirm its correct creation:

[+ Add](#) [🔗 Default rules](#) [🔄 Refresh](#)

Priority	Name	Port	Protocol	Source	Destination	Action
100	UDS3_Tunnel	443,10443	Any	Any	Any	✔ Allow
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	✔ Allow
65001	AllowAzureLoadBalancerI...	Any	Any	AzureLoadBalancer	Any	✔ Allow
65500	DenyAllInBound	Any	Any	Any	Any	✘ Deny



Deploy UDS servers

Below is an example of how to deploy the servers that make up the UDS Enterprise environment on an Azure platform. The steps to upload and create the UDS Server component are detailed in this guide. The same tasks should be performed for the UDS Tunnel server and the MySQL database.

If the version of UDS to install is Enterprise, you should also upload the MySQL database server to the platform (if you use the UDS Enterprise Evaluation Edition version, you can activate a local database included in the UDS server).

The UDS servers will be provided by the VirtualCable team in disk image format (.vhd)

■ Upload disk images

The first task you will perform will be to import the UDS Server disk image. In order to do this, you must have a “**Container**” and the disk image of the UDS Server in .vhd format

1. Access the “**Container**” (“**Storage accounts**”, in the “**Blob service**” section, click on the existing “**Container**”) and click on “**Upload**”:

Home > storageuds3 | Containers >

uds3-container
Container

<< **Upload** Change access level

Overview

Access Control (IAM)

Settings

Authentication method: Access key ([Switch](#))
Location: uds3-container



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2. Indicate the disk image in the “Files” section. In “Blob type” select “Page blob” and click on “Upload”:

Upload blob



uds3-container/

Files ⓘ

"UDS-Server-azure.3.5.0.vhd"



☐ Overwrite if files already exist

^ Advanced

Authentication type ⓘ

Azure AD user account

Account key

Blob type ⓘ

Block blob



☒ Upload .vhd files as page blobs (recommended)

Block size ⓘ

4 MB



Upload to folder

Encryption scope

3. The image will start to be imported and you will have to wait until the upload process finishes. Once finished, you will proceed to the next task, which will consist of generating a disk from the image:

File name	↑↓ Account	↑↓ Status
UDS-Server-azure.3.5.0.vhd	storageuds3	✓ 8 GiB / 8 GiB

NOTE:

Depending on the size of the disk images and the connection speed, this process can take several minutes.



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This process will need to be repeated with the UDS Tunnel component and with the MySQL Database server (in case you want to use this element).

Finally, you will see that within the “**Container**” you will have the UDS images available.

Authentication method: Access key ([Switch to Azure AD User Account](#))
Location: uds3-container

Search blobs by prefix (case-sensitive)

☐ Show deleted blobs

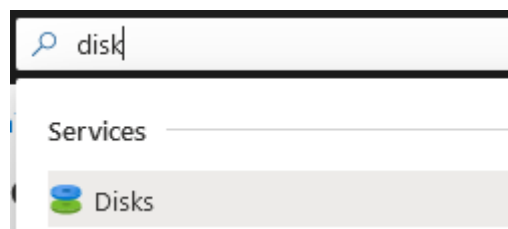
	Name	Modified	A.. A	Blob type	Size	Lease state
<input type="checkbox"/>	UDS-Dbserver-azure.3.5.0.vhd			Page blob	10 GiB	Available
<input type="checkbox"/>	UDS-Server-azure.3.5.0.vhd			Page blob	8 GiB	Available
<input type="checkbox"/>	UDS-Tunnel-azure.3.5.0.vhd			Page blob	13 GiB	Available

■ Disk creation

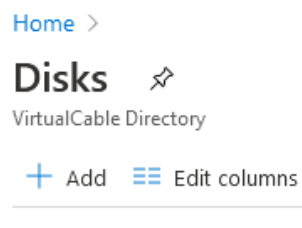
Once you have the images of the different UDS components uploaded to the Azure platform, you will proceed to deploy virtual disks based on these images.

From the virtual disks that we will create next, you will generate the virtual machines that will form the UDS environment:

1. In the list of “**Services**”, look for “**Disk**” and click on it:



2. Click on “**Add**” to add a new disk.





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3. In the “**Basics**” section, select the subscription and the “**Resource group**” on which it will be registered. Indicate a descriptive name for the element, the “**Region**”, and in “**Source type**”, indicate “**Storage blob**”.

NOTE: The machines may only contain one disk

[Home](#) > [Disks](#) >

Create a managed disk

Basics Encryption Tags Review + create

Select the disk type and size needed for your workload. Azure disks are designed for 99.999% availability. Azure managed disks encrypt your data at rest, by default, using Storage Service Encryption. [Learn more about disks.](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

VirtualCable Pago por Uso

Resource group * ⓘ

UDS_Enterprise_3

[Create new](#)

Disk details

Disk name * ⓘ

UDS3-Server-Disk ✓

Region * ⓘ

(Europe) France Central

Availability zone

None

Source type ⓘ

Storage blob

Source subscription

VirtualCable Pago por Uso

Source blob * ⓘ

[Browse](#)

In “**Source blob**” click on “**Browse**” to select the previously imported disk.

You must select the “**Storage accounts**” that contains the disk images:



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Storage accounts

+ Storage account Refresh

☐ Show classic storage accounts

Name	Type	Resource Group
storageuds3	Standard-LRS	UDS_Enterprise_3

Once inside, select the “**Container**” previously created.

Containers

storageuds3

+ Container Refresh

Search containers by prefix

Name	Last modified	Public access level	Lease state
uds3-container		Private	Available

Finally, select the imported image in the previous step (in this case for the UDS-Server) and click on “**Select**”.

Authentication method: Access key ([Switch to Azure AD User Account](#))

Location: uds3-container

Search blobs by prefix (case-sensitive) Show deleted blobs

Name	Modified	A. A.	Blob type	Size	Lease state
<input type="checkbox"/> UDS-Dbserver-azure.3.5.0.vhd			Page blob	10 GiB	Available
<input type="checkbox"/> UDS-Server-azure.3.5.0.vhd			Page blob	8 GiB	Available
<input type="checkbox"/> UDS-Tunnel-azure.3.5.0.vhd			Page blob	13 GiB	Available

In “**OS type**”, indicate that it is “**Linux**” and in “**Size**” click on “**Change size**”.

Source type ⓘ Storage blob

Source subscription ⓘ VirtualCable Pago por Uso

Source blob * ⓘ <https://storageuds35.blob.core.windows.net/uds35-container/UDS-Server-azu...> ✓
[Browse](#)

OS type ⓘ
☐ None (data disk)
☒ Linux
☐ Windows

Security type ⓘ Standard

VM generation ⓘ
☒ Generation 1
☐ Generation 2

Size * ⓘ
1024 GiB
Premium SSD LRS
[Change size](#)



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You select the “**Storage type**” and in “**Custom disk size (GB)**” you indicate 9 as the disk size for the UDS-Server component:

Select a disk size



Browse available disk sizes and their features.

Storage type ⓘ

Standard HDD



Size	Disk tier	Max IOPS	Max throughput
32 GiB	S4	500	60
64 GiB	S6	500	60
128 GiB	S10	500	60
256 GiB	S15	500	60
512 GiB	S20	500	60
1024 GiB	S30	500	60
2048 GiB	S40	500	60
4096 GiB	S50	500	60
8192 GiB	S60	1300	300
16384 GiB	S70	2000	500
32767 GiB	S80	2000	500

Create a custom size

Enter the size of the disk you would like to create. You will be charged the same rate for your provisioned disk, regardless of how much of the disk space is being used. For example, a 200 GiB disk is provisioned on a 256 GiB disk, so you would be billed for the 256 GiB provisioned.

Custom disk size (GiB) *

9



NOTE:

The disk sizes for the different UDS Enterprise 3.5 components will be as follows

Component	Size in GB
UDS-Server	9
UDS-Tunnel	13
MySQL	9



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Click on “**Review + Create**”, check that all the data is correct and click on “**Create**”:

[Home](#) > [Disks](#) >

Create a managed disk

✓ Validation passed

[Basics](#) [Encryption](#) [Tags](#) **[Review + create](#)**

Basics

Subscription	VirtualCable Pago por Uso
Resource group	UDS_Enterprise_3
Region	France Central
Disk name	UDS3-Server-Disk
Availability zone	None
Source type	Storage blob
Source blob	https://storageuds3.blob.core.windows.net/uds3-container/UDS-Server-azure.3.5.0.vhd
OS type	Linux

Size

Size	9 GiB
Storage type	Standard HDD

Encryption

Encryption type	Platform-managed
-----------------	------------------

Tags

(none)

Create

[< Previous](#)

[Next >](#)

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- You will wait for the disk to be created and, once the task is finished, you will see that it is available to later generate the virtual machines.

[Home](#) >

Disks

VirtualCable Directory

[+](#) Add [≡](#) Edit columns [↻](#) Refresh [↔](#) Try preview | [🏷](#) Assign tags

Subscriptions: VirtualCable Pago por Uso

6 items

<input type="checkbox"/>	Name ↑↓	Storage account type	Size	Owner	Resource group ↑↓
<input type="checkbox"/>	UDS3-Server-Disk	Standard HDD	9 GiB	-	UDS_Enterprise_3

- You will repeat the process with the UDS-Tunnel component and, if necessary, also with the MySQL Database server.

Disks

VirtualCable Directory

[+](#) Add [≡](#) Edit columns [↻](#) Refresh [↔](#) Try preview | [🏷](#) Assign tags

Subscriptions: VirtualCable Pago por Uso

8 items

<input type="checkbox"/>	Name ↑↓	Storage account type	Size	Owner	Resource group ↑↓
<input type="checkbox"/>	UDS3-Tunnel-Disk	Standard HDD	13 GiB	-	UDS_Enterprise_3
<input type="checkbox"/>	UDS3-Server-Disk	Standard HDD	9 GiB	-	UDS_Enterprise_3
<input type="checkbox"/>	UDS3-dbserver-Disk	Standard HDD	9 GiB	-	UDS_Enterprise_3







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NOTE:

Once the disks are deployed, you can delete the images from the “**Container**” to avoid causing an unnecessary cost.

 Upload  Change access level  Refresh  Delete

Authentication method: Access key ([Switch to Azure AD User Account](#))
Location: uds3-container

Name	
<input checked="" type="checkbox"/>	 UDS-Dbserver-azure.3.5.0.vhd
<input checked="" type="checkbox"/>	 UDS-Server-azure.3.5.0.vhd
<input checked="" type="checkbox"/>	 UDS-Tunnel-azure.3.5.0.vhd

Delete blob(s)

Are you sure you would like to delete the selected blobs?

1. Blobs in leased state are locked for deletion and will be skipped.
2. Folder deletion is not supported and any selected folders will be skipped. To delete a folder, delete all containing blobs.

☒ Also delete blob snapshots

OK

Cancel



VDI with UDS Enterprise 3.5 and Microsoft Azure

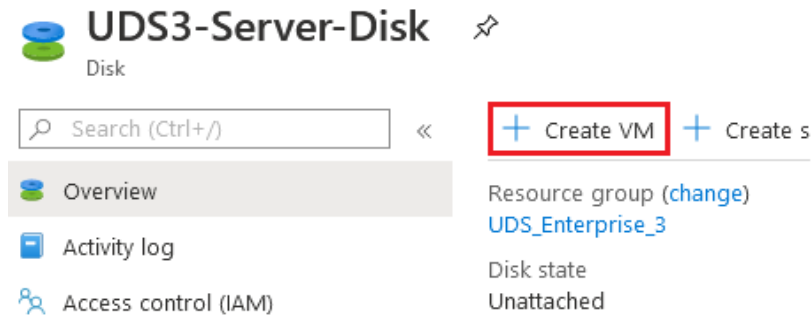
www.udsenderprise.com

■ Create UDS virtual servers

The last task that you will perform in the process of importing/creating the UDS components will be the creation of the virtual machines based on the disks created in the previous step.

The machines will be created from the disks themselves:

1. Select the previously created disk (from the “*Disk* service) and click on “*Create VM*”:






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2. In the “**Basics**” section, select the “**Resource group**” on which it will be registered, indicate a descriptive name for the new virtual machine (in this case for the UDS-Server component), confirm that “**Image**” is selected in the virtual disk previously selected and, finally, indicate the “**Size**” of the virtual machine.

[Home](#) > [Disks](#) > [UDS3-Server-Disk](#) >

Create a virtual machine





 Changing Basic options may reset selections you have made. Review all options prior to creating the virtual machine.

[Basics](#) [Disks](#) [Networking](#) [Management](#) [Advanced](#) [Tags](#) [Review + create](#)











Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. [Learn more](#) 

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription 	VirtualCable Pago por Uso 
Resource group * 	UDS_Enterprise_3 
	Create new

Instance details

Virtual machine name * 	UDS3-Server 
Region 	(Europe) France Central 
Availability options 	No infrastructure redundancy required 
Image * 	UDS3-Server-Disk 
	Browse all public and private images
Azure Spot instance 	<input type="radio"/> Yes <input checked="" type="radio"/> No
Size * 	Standard B2s 2 vcpus, 4 GiB memory (29,06 €/month) Change size



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NOTE:

The recommended resources for the installation of the UDS components are shown in the following table (even if very small deployments are going to be carried out, we can reduce these resources, being able to choose the type B1s, 1vCPU and 1 GB of vRAM, for all items).

Component	vCPU	vRAM (GB)
UDS-Server	2	2
UDS-Tunneler	2	2
MySQL	2	1

3. In the “**Disks**” section, leave all the options by default since it is not necessary to add an extra disk.

Basics Disks Networking Management Advanced Tags Review + create

Azure VMs have one operating system disk and a temporary disk for short-term storage. You can attach additional data disks. The size of the VM determines the type of storage you can use and the number of data disks allowed. [Learn more](#)

Disk options

OS disk type ⓘ

Premium SSD

Encryption type *

(Default) Encryption at-rest with a platform-managed key

Enable Ultra Disk compatibility ⓘ

☐ Yes ☒ No

Ultra Disk compatibility is not available for this VM size and location.

Data disks

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	Name	Size (GiB)	Disk type	Host caching
-----	------	------------	-----------	--------------

[Create and attach a new disk](#) [Attach an existing disk](#)

▼ Advanced



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4. In the “**Networking**” section, you must indicate a “**Virtual network**” to connect the server (if you do not have one created, you will need to create one), a “**subnet**”, and for the UDS-Server and UDS-Tunnel components you will assign a new “**Public IP**”.

In “**NIC network security group**” you will select “**Advanced**” and you will choose the appropriate “**Security group**” created in previous steps for each server.

Network interface

When creating a virtual machine, a network interface will be created for you.

Virtual network *	<div>UDS_Enterprise_3.5-vnet</div> <div>Create new</div>
Subnet *	<div>default (10.1.0.0/24)</div> <div>Manage subnet configuration</div>
Public IP	<div>UDS_Enterprise_3.5-vnet-ip</div> <div>Create new</div>
NIC network security group	<div><input type="radio"/> None</div> <div><input type="radio"/> Basic</div> <div><input checked="" type="radio"/> Advanced</div>
Configure network security group *	<div>UDS3.5-Server</div> <div>Create new</div>
Delete NIC when VM is deleted	<input type="checkbox"/>
Delete public IP when VM is deleted	<input type="checkbox"/>
Enable accelerated networking	<input type="checkbox"/>

The selected image does not support accelerated networking.

Load balancing

You can place this virtual machine in the backend pool of an existing Azure load balancing solution. [Learn more](#)

Place this virtual machine behind an existing load balancing solution? ☐

NOTE:

The public IP addresses assigned by default will be dynamic. Although once the VMs is created, you can generate a DNS name associated with this IP or even force the machine to have a static public IP (the UDS-Tunnel component will also need to be assigned a public IP, but for the MySQL database it will not be necessary. Therefore, in this case, you will select “None”).



5. In the “**Management**” tab, enable the “**Boot diagnostics**” option that will allow you to view a screenshot of the boot and subsequent state of the virtual machine. Also, this option is necessary to access the “**Serial console**” (when enabling “**Boot diagnostics**” it will be necessary to indicate a “**Storage account**”. In this case, select the one created previously to avoid creating a new one).

Create a virtual machine

Basics Disks Networking **Management** Advanced Tags Review + create

Configure monitoring and management options for your VM.

Azure Security Center

Azure Security Center provides unified security management and advanced threat protection across your Azure resources. [Learn more](#)

✓ Your subscription is protected by Azure Security Center basic plan.

Monitoring

Boot diagnostics ⓘ ☒ On ☐ Off

OS guest diagnostics ⓘ ☐ On ☒ Off

Diagnostics storage account * ⓘ

storageeuds3

[Create new](#)

Identity

System assigned managed identity ⓘ ☐ On ☒ Off



6. In the “**Advanced**” tab you will leave all the default options and click on “**Review + create**”.

Create a virtual machine

Basics Disks Networking Management **Advanced** Tags Review + create

Add additional configuration, agents, scripts or applications via virtual machine extensions or cloud-init.

Extensions

Extensions provide post-deployment configuration and automation.

Extensions ⓘ [Select an extension to install](#)

Cloud init

Cloud init is a widely used approach to customize a Linux VM as it boots for the first time. You can use cloud packages and write files or to configure users and security. [Learn more](#)

ⓘ The selected image does not support cloud init.

Host

Azure Dedicated Hosts allow you to provision and manage a physical server within our data centers that are part of your Azure subscription. A dedicated host gives you assurance that only VMs from your subscription are provisioned on the host, and the control of the host maintenance at the level of the host. [Learn more](#)

Host group ⓘ No host group found

Review + create

< Previous

Next : Tags >



7. Check that all the configuration is correct and click on “**Create**” to create the virtual machine.

[Home](#) > [Disks](#) > [UDS3-Server-Disk](#) >

Create a virtual machine

✓ Validation passed

[Basics](#) [Disks](#) [Networking](#) [Management](#) [Advanced](#) [Tags](#) [Review + create](#)

UDS3-Server-Disk Image Standard B2s
2 vcpus, 4 GiB memory

Basics

Subscription VirtualCable Pago por Uso
Resource group UDS_Enterprise_3
Virtual machine name UDS3-Server
Region France Central
Availability options No infrastructure redundancy required
Authentication type SSH public key
Key pair name None
Azure Spot No

Disks

OS disk type Premium SSD
Use managed disks Yes
Use ephemeral OS disk No

Networking

Virtual network UDS_Enterprise-vnet
Subnet default (10.0.0.0/24)
Public IP (new) UDS3-Server-ip
NIC network security group UDS3-Server
Accelerated networking Off

Create

< Previous

Next >

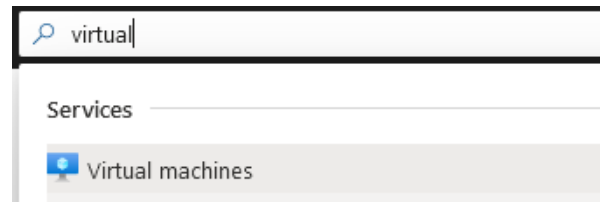
[Download a template for auto](#)



VDI with UDS Enterprise 3.5 and Microsoft Azure

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- Once the process of creating the new VM is finished, you will verify that you already have the new machine within the “*Virtual machines*”. service. To view it, you must search in the list of “*Services*”: “*Virtual machines*” and click on it:



You will see the new virtual machine created and powered on:

[Home](#) >

Virtual machines

VirtualCable Directory

[+](#) Add [🕒](#) Reservations [☰](#) Edit columns [🔄](#) Refresh | [🏷️](#) Assign tags [▶](#) Start

Subscriptions: VirtualCable Pago por Uso

Filter by name... All resource groups All types

6 items

<input type="checkbox"/>	Name ↑↓	Type ↑↓	Status	Resource group ↑↓	Location ↑↓	Source
<input type="checkbox"/>	UDS3-Server	Virtual machine	Running	UDS_Enterprise_3	France Central	Disk

- Repeat the process with the UDS-Tunnel component and also with the MySQL Database server if necessary.

[Home](#) >

Virtual machines

VirtualCable Directory

[+](#) Add [🕒](#) Reservations [☰](#) Edit columns [🔄](#) Refresh | [🏷️](#) Assign tags [▶](#) Start [↺](#) Restart [🔗](#)

Subscriptions: VirtualCable Pago por Uso

Filter by name... All resource groups All types All locations

1 of 8 items selected

<input type="checkbox"/>	Name ↑↓	Type ↑↓	Status	Resource group ↑↓
<input type="checkbox"/>	UDS3-Tunnel	Virtual machine	Running	UDS_Enterprise_3
<input type="checkbox"/>	UDS3-Server	Virtual machine	Running	UDS_Enterprise_3
<input type="checkbox"/>	UDS3-dbserver	Virtual machine	Running	UDS_Enterprise_3

NOTE:

In the database server, it will not be necessary to indicate a “Public IP” or a “Security Group”, since it will not be accessible from the outside and only the UDS server will need access to it.



VDI with UDS Enterprise 3.5 and Microsoft Azure

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■ UDS server configuration

Once you have all the UDS components deployed as virtual machines, you will proceed to configure them.

To do this, access the “*Virtual machines*” service. If you have the MySQL component, you will start configuring it.

○ MySQL database configuration

If you are using the MySQL database provided by the VirtualCable team, it will already be pre-configured and you will only have to verify that you have IP connectivity (by default the network is configured by DHCP).

This MySQL server has created a DB instance ready to use with UDS Enterprise with the following data:

- **Instance name:** uds
- **User:** uds
- **Password:** uds

To confirm that the server has a valid IP assigned via DHCP you will have to connect via “*Serial console*”. You will access the “*Virtual machines*” service, you will select the virtual machine that contains the MySQL DB and in the “*Support + troubleshooting*” menu you will select “*Serial console*”.

[Home](#) > [Virtual machines](#) > [UDS3-dbserver](#) | [Serial console](#) >

Virtual machines

VirtualCable Directory

[+ Add](#) [⌚ Reservations](#) ...

UDS3

☒ Name ↑↓

- | | | |
|-------------------------------------|---------------|-----|
| <input type="checkbox"/> | UDS3-Tunnel | ... |
| <input type="checkbox"/> | UDS3-Server | ... |
| <input checked="" type="checkbox"/> | UDS3-dbserver | ... |



UDS3-dbserver | Serial console

Virtual machine

Search (Ctrl+/)

Support + troubleshooting

- Resource health
- Boot diagnostics
- Performance diagnostics (Pre...
- Reset password
- Redeploy
- Maintenance
- Serial console**
- Connection troubleshoot
- New support request

[? Feedback](#) [⚙️](#)

```
, "Gateway": "10.0.
: "169.254.169.254"

Debian GNU/Linux 10

Web console: https:

dbserver login: 202
LOWER_UP> mtu 65536
:00 brd 00:00:00:00
mode DEFAULT group
2020/05/31 18:39:55
lice
2020/05/31 18:39:55
2020/05/31 18:39:55
2020/05/31 18:39:55
[ 58.079628] hv_b

dbserver login: █
```

NOTE:

The connection will take a few seconds to establish. Once connected, you must place the mouse on it and press the “enter” key.



VDI with UDS Enterprise 3.5 and Microsoft Azure

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You will validate on the MySQL server with the following credentials:

- **User:** root
- **Password:** uds

It will directly indicate the assigned IP address and relevant information about the security and configuration of the server itself.

```
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.

IMPORTANT NOTES:
* This machine is provided as a very basic mysql server, without any security
* Change root password (ssh root login is ENABLED by default)
* Protect access to this machine, because it contains defaults that are public
password and database passwords.
* By default, cockpit is installed and available at https://SERVER_IP:9090.
ed with apt-get remove cockpit
* Consider updating the software (using apt, dselect, etc..) as a first step
onment (production or not)
* Update the keyboard layout if needed: use dpkg-reconfigure keyboard-configu
-setup restart for this. Default keyboard lang is Spanish
* Edit the timezone file on /etc/timezone and set it to your current timezone

* THIS MACHINE IS INTENDED ONLY TO BE USED IN AN INTERNAL AND TRUSTED LAN.

You will need to take security actions (such as changing passwords, enabling
secure this machine.

Default mysql root password: Without password
Default uds database password: uds
Default listen address of mysql server: 0.0.0.0 (all addresses)

Default network mode: DHCP

Web console: https://dbserver.example.local:9090/ or https://10.0.0.10:9090/

-bash: uds: command not found
Detected IP: 10.0.0.10
Cockpit interface is at https://10.0.0.10:9090
root@dbserver:~#
```

If you want to confirm that the network configuration is correct, you can use the command:

ip a

```
root@dbserver:~# ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc m
    link/ether 00:0d:3a:89:56:5f brd ff:ff:ff:ff:ff:ff
    inet 10.0.0.10/24 brd 10.0.0.255 scope global eth0
        valid_lft forever preferred_lft forever
root@dbserver:~#
```



VDI with UDS Enterprise 3.5 and Microsoft Azure

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Once you confirm that you have network connectivity, you will proceed to configure the UDS Server component.

NOTE:

The use of fixed IPs is recommended for all UDS components

o UDS Server Configuration

The UDS-Server component is the main element of the UDS environment. It has a configuration wizard accessible via web browser. Before accessing this configuration wizard you will need to confirm that the server has been assigned an IP address.

To confirm that the server has a valid IP assigned via DHCP, you will have to connect via “**Serial console**”. You will access the “**Virtual machines**” service, you will select the virtual machine that contains the UDS server, and in the “**Support + troubleshooting**” menu you will select “**Serial console**”.

[Home](#) > [Virtual machines](#) > [UDS3-Server](#) | [Serial console](#) >

Virtual machines

VirtualCable Directory

+ Add ⌚ Reservations ...

UDS3

☒ Name ↑↓

- ☐ UDS3-Tunnel ...
- ☒ UDS3-Server ...
- ☐ UDS3-dbserver ...

UDS3-Server | Serial console

Virtual machine

Search (Ctrl+J)

Logs

Connection monitor

Support + troubleshooting

Resource health

Boot diagnostics

Performance diagnostics (Pre...

Reset password

Redeploy

Maintenance

Serial console

Connection troubleshoot

New support request

```
? Feedback [?] [⚙️] [🔌] [🖨️]
fs/cgroup/memory/system.slice/wai
2020/05/31 12:35:27.378655 INFO E
R_UP> mtu 65536 qdisc noqueue sta
00:00:00:00 brd 00:00:00:00:00:00
00 qdisc mq state UP mode DEFAULT
f:ff:ff" ]}
[ OK ] Created slice Slice for
2020/05/31 12:35:27.587047 INFO E
extensions.slice
2020/05/31 12:35:27.595170 ERROR
2020/05/31 12:35:27.601121 INFO E
2020/05/31 12:35:27.909227 INFO E
2020/05/31 12:35:27.916114 INFO E

UDS Enterprise Server v3.0.0 uds

[ 62.246162] hv_balloon: Max. c
2020/05/31 12:40:27.867645 INFO E
group/cpu/system.slice/walinuxage
2020/05/31 12:50:27.055462 INFO I
bin/waagent -run-exthandlers' is
uds login: █
```

NOTE:

The connection will take a few seconds to establish. Once connected, you must place the mouse on it and press the “enter” key.

You will validate on the UDS server with the following credentials:

- **User:** root
- **Password:** uds



It will directly indicate the assigned IP address and information to access the server configuration wizard (through port 9900).

```
UDS Enterprise Server v3.5.0 uds tty1

uds login: root (automatic login)

Linux uds 5.10.0-9-amd64 #1 SMP Debian 5.10.70-1 (2021-09-30) x86_64
UDS Enterprise Server v3.5.0

      (((((/,,,,,,,,,,,,,,
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      ,

UDS Enterprise comes with ABSOLUTELY NO WARRANTY,
to the extent permitted by applicable law.
Last login: Tue Dec 14 12:29:48 CET 2021 on tty1
UDS Enterprise broker CLI tool
Your appliance is currently unconfigured.
In order to configure it, you need to go through the setup process.
Since UDS 3.0, the configuration is done using a web browser.
UDS Enterprise setup launcher
Your appliance IP is 192.168.111.133. We are going to start the web setup process for you right now.
To configure your appliance, please go to this URL: http://192.168.111.133:9900
The setup process will be available until finished or the appliance is rebooted.
root@uds:~#
```

If the server has not been assigned an IP address automatically, you must do so through the command: **uds ip**

NOTE:

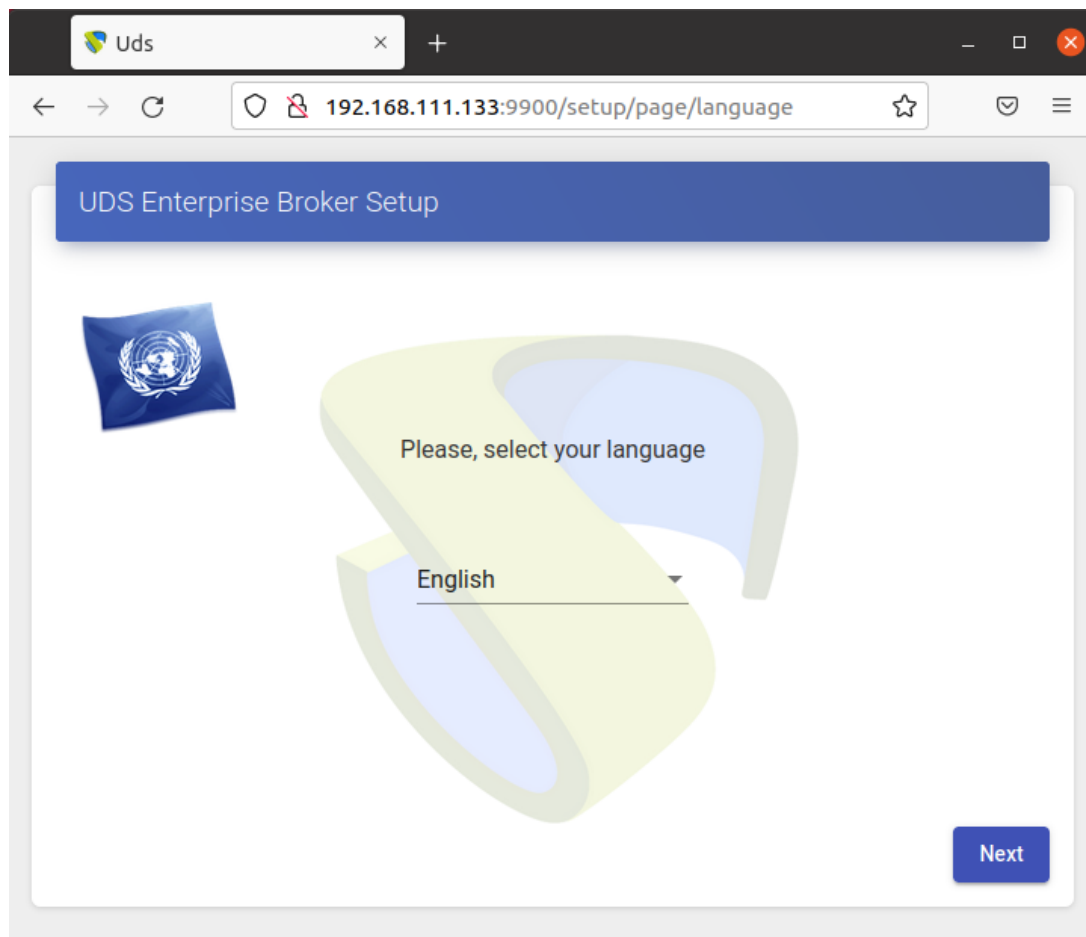
For more information on the `uds ip` command, consult the UDS Enterprise 3.5 Installation, administration and user manual in the [Documentation](#) section of our website.



VDI with UDS Enterprise 3.5 and Microsoft Azure

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You will need a virtual machine within the Azure environment and in the UDS server subnet to access the server configuration wizard via web browser. In the browser, you must enter the IP address of the UDS server and port 9900.





VDI with UDS Enterprise 3.5 and Microsoft Azure

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Here you will indicate all the necessary data (IP data, serial to activate the subscription, credentials, etc ...) to configure the server.

For more information on the UDS server configuration, consult the UDS Enterprise 3.5 installation, administration and user manual.

NOTE:

During the wizard configuration procedure, it will request the configuration data from the database server. In the case of using an external server, you must indicate the data of the previously configured MySQL server (IP address, instance, user and password).

○ UDS Tunnel Configuration

The UDS Tunnel component is the element that will provide you with secure access to virtual desktops through the Internet. It will also be responsible for establishing the HTML5 connection (HTML5 Transport for desktops and vApps). It has a configuration wizard accessible via web browser. Before accessing this configuration wizard you will need to confirm that the server has been assigned an IP address.

To confirm that the server has a valid IP address assigned via DHCP, you will have to connect via **“Serial console”**. You will access the **“Virtual machines”** service, you will select the virtual machine that contains the UDS Tunnel server and in the **“Support + troubleshooting”** menu you will select **“Serial console”**.

[Home](#) > [Virtual machines](#) > [UDS3-Tunnel](#) | [Serial console](#) >

Virtual machines

VirtualCable Directory

[+ Add](#) [⌚ Reservations](#) ...

UDS3

☒ Name ↑↓

- ☒ UDS3-Tunnel ...
- ☐ UDS3-Server ...
- ☐ UDS3-dbserver ...

UDS3-Tunnel | Serial console

Virtual machine

- Search (Ctrl+/)
- Logs
- Connection monitor
- Support + troubleshooting
 - Resource health
 - Boot diagnostics
 - Performance diagnostics (Pre...
 - Reset password
 - Redeploy
 - Maintenance
 - Serial console**
 - Connection troubleshoot
 - New support request

```
? Feedback [?] [⚙️] [🔌] [🖨️]
2020/05/31 18:14:34.295574 ERROR ExtH
2020/05/31 18:14:34.305881 INFO ExtH
2020/05/31 18:14:34.307964 INFO ExtH
2020/05/31 18:14:34.346156 INFO ExtH
R_UP> mtu 65536 qdisc noqueue state
00:00:00 brd 00:00:00:00:00:00 promi
5536 gso_max_segs 65535 " }, { "name
pfifo_fast state UP mode DEFAULT gro
:ff:ff promiscuity 0 addrngenmode eui
" }}
2020/05/31 18:14:34.371355 INFO ExtH
2020/05/31 18:14:35.116354 INFO ExtH
[ 58.222082] hv_balloon: Received
[ 58.226074] hv_balloon: Data Size
2020/05/31 18:19:34.957492 INFO ExtH
[WALinuxAgent]
2020/05/31 18:29:34.146714 INFO Daem
bin/waagent -run-exthandlers' is suc
UDS Enterprise Tunnel v3.0.0 tunnel
tunnel login: █
```

NOTE:

The connection will take a few seconds to establish. Once connected, you must place the mouse on it and press the “enter” key.

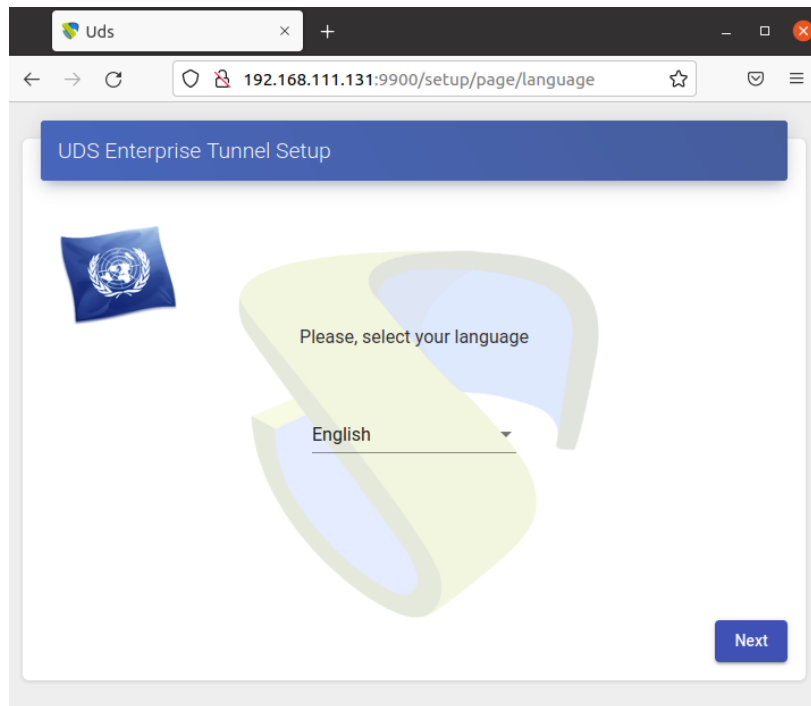




VDI with UDS Enterprise 3.5 and Microsoft Azure

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You will need a virtual machine within the Azure environment and in the subnet of the UDS Tunnel server to access the server configuration wizard via web browser. In the browser, you must indicate the IP address of the UDS Tunnel server and port 9900:





VDI with UDS Enterprise 3.5 and Microsoft Azure

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Here, you will indicate all the necessary data (IP data, credentials, certificates, etc...) to configure the server.

For more information on the UDS Tunnel server configuration, see the UDS Enterprise 3.5 installation, administration and user manual.

NOTE:

During the wizard configuration procedure, it will request the UDS server connection data.

■ Create base machines or templates in Microsoft Azure

For UDS to deploy virtual desktops on the Azure platform, it is necessary to have a base machine or template on which the new UDS self-generated desktops will be based. This base machine can be deployed in different ways. Below you can find a procedure that will allow you to migrate templates already installed and configured on other virtual platforms (vSphere, KVM, etc...) to the Azure platform.

The first thing you should do is have a disk image of the base virtual machine in .vhd format. There are many free tools (such as StarWind converter, qemu-img, etc...) that allow you to convert disks of different formats (vmdk from VMware, qcow2/raw from KVM, etc...) to .vhd format. It is very important to keep in mind that the disk image needs to have the total size (Fixed Size). "Thin" (Dynamically Expanding) format is not supported.

Before migrating the template machine, you must ensure that it will have a valid access mode (type SSH or RDP) to be able to access it once it is hosted on the Azure platform (this platform does not have a console to manage, configure and modify the machines). The base machine used in this example has access enabled/installed via SSH and RDP.

Another important point to keep in mind is the network configuration. It needs to be configured to take IP address via DHCP. In Windows O.S. templates, it is necessary to have the valid network driver installed to detect it on the Azure platform (if the machine is exported from a Hyper-V platform it will already be embedded).

Once you have the disk image converted to the format supported by Azure (.vhd), you will proceed to upload it to the platform and deploy the new base machine. You will perform the following tasks described below (the procedure will be very similar to the one you used to deploy the UDS component Appliances):



VDI with UDS Enterprise 3.5 and Microsoft Azure

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○ Upload .vhd disk image to a “Container”

1. Access the “**Container**” (“**Storage accounts**”, in the “**Blob service**” section, click on the existing “**Container**”) and click on “**Upload**”:

Home > Storage accounts > storageuds3 | Containers >

uds3-container
Container

Search (Ctrl+/) << **Upload** Change access I

Overview

Access Control (IAM)

Settings

Access policy

Authentication method: Access ke
Location: uds3-container

Search blobs by prefix (case-sensi
☐ Show deleted blobs

2. Indicate the disk image in the “**Files**” section. In “**Blob type**” select “**Page blob**” and click on “**Upload**”.

Upload blob

uds3-container/

Files ⓘ

☐ Overwrite if files already exist

^ Advanced

Authentication type ⓘ

☐ Azure AD user account ☒ Account key

Blob type ⓘ

▼

☒ Upload .vhd files as page blobs (recommended)

Block size ⓘ

▼

Upload to folder

Upload



VDI with UDS Enterprise 3.5 and Microsoft Azure

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- The image will start to be imported and you will have to wait until the upload process finishes. Once finished, you will proceed to the next task: generating a disk from the image.

Current uploads

Dismiss: [Completed](#) [All](#)

xUbuntu18.vhd



15 GiB / 15 GiB



NOTE:

Depending on the size of the disk images and the speed of the connection, this process can take several minutes.

Finally, you will see that within the “**Container**” you will have available the disk image of our base machine/template.

[Upload](#) [Change access level](#) [Refresh](#) | [Delete](#) | [Cha](#)

Authentication method: Access key ([Switch to Azure AD User Account](#))

Location: uds3-container

Search blobs by prefix (case-sensitive)



Show deleted blobs

	Name	Modified	Blob type	Size	Lease state
<input type="checkbox"/>	 xUbuntu18.vhd	16/05/2018 12:06	Page blob	15 GiB	Available

Virtual disk creation

- Access the “**Disk**” service and click on “**Add**” to add a new disk.

[Home](#) >

Disks

VirtualCable Directory

[+](#) Add [≡](#) Edit columns [\(\)](#)

Subscriptions: VirtualCable Directory



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- In the “**Basics**” section, select the subscription, the “**Resource group**” on which it will be registered, indicate a descriptive name for the element, the “**Region**”, and in “**Source type**” indicate “**Storage blob**”:

[Home](#) > [Disks](#) >

Create a managed disk

[Basics](#) Encryption Tags Review + create

Select the disk type and size needed for your workload. Azure disks are designed for 99.999% availability. Azure managed disks encrypt your data at rest, by default, using Storage Service Encryption. [Learn more about disks.](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *	<input type="text" value="VirtualCable Pago por Uso"/>
Resource group *	<input type="text" value="UDS_Enterprise_3"/>

[Create new](#)

Disk details

Disk name *	<input type="text" value="xUbuntu18-Disk"/>
Region *	<input type="text" value="(Europe) France Central"/>
Availability zone	<input type="text" value="None"/>
Source type	<input type="text" value="Storage blob"/>
Source subscription	<input type="text" value="VirtualCable Pago por Uso"/>
Source blob *	<input type="text" value=""/>

[Browse](#)

In “**Source blob**” click on “**Browse**” to select the previously imported disc.

You must select the “**Storage accounts**” that contains the disk images:

Storage accounts

+ Storage account Refresh		
<input type="text" value="storageeuds3"/>		
Name	Type	Resource Group
storageeuds3	Standard-LRS	UDS_Enterprise_3



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Once inside, you select the “**Container**” previously created.

Containers

storageuds3

+ Container Refresh

Name	Last modified	Public access level	Lease stat
uds3-container		Private	Available

Finally, select the imported image in the previous step (in this case for the UDS-Server) and click on “**Select**”.

uds3-container

Container

Upload Refresh

Authentication method: Access key ([Switch to Azure AD User Account](#))

Location: uds3-container

+ Add filter

Name	Modified	Acces...	Blob type	Size	Lease state
xUbuntu18.vhd	5/5/2020, 12:0...		Page blob	15 GiB	Available

Select

In “**OS type**” you will indicate the O.S. In “**Size**”, click on “**Change size**” and choose the resources of your template machine (in the size of the disk, indicate always 1 GB more).

Source type ⓘ	Storage blob
Source subscription	VirtualCable Pago por Uso
Source blob * ⓘ	https://storageuds3.blob.core.windows.net/uds3-container/xUbuntu18.vhd ✓ Browse
OS type ⓘ	Windows Linux None (data disk)
VM generation ⓘ	Gen 1 Gen 2
Size * ⓘ	16 GiB Standard HDD Change size



3. Click on “**Review + Create**”, check that all the data is correct and click on “**Create**”:

[Home](#) > [Disks](#) >

Create a managed disk

✓ Validation passed

[Basics](#) [Encryption](#) [Tags](#) [Review + create](#)

Basics

Subscription	VirtualCable Pago por Uso
Resource group	UDS_Enterprise_3
Region	France Central
Disk name	xUbuntu18-Disk
Availability zone	None
Source type	Storage blob
Source blob	https://storageuds3.blob.core.windows.net/uds3-container/xUbuntu18.vhd
OS type	Linux

Size

Size	16 GiB
Storage type	Standard HDD

Encryption

Encryption type	Platform-managed
-----------------	------------------

Advanced

Enable shared disk	No
--------------------	----

Tags

Create

< Previous

Next >



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4. You will wait for the disk to be created and, once this task is finished, you will see that you have it available to later generate the template virtual machine.

[Home](#) >

Disks

VirtualCable Directory

[+](#) Add [≡](#) Edit columns [↺](#) Refresh [↺](#) Try preview [🔒](#) Assign

Subscriptions: VirtualCable Pago por Uso

Filter by name... All resource groups

9 items

<input type="checkbox"/>	Name ↑↓	Storage account type	Size
<input type="checkbox"/>	xUbuntu18-Disk	Standard HDD	16 GiB

NOTE:

Once the disk is unfolded, you can delete the image of the “Container” to avoid it causing an unnecessary cost.

○ Base machine creation

You will create the base machine/template from the disk itself:

Select the previously created disk (from the “**Disk**” service) and click on “**Create VM**”:

[Home](#) > [Disks](#) >

xUbuntu18-Disk

Disk

<< [+ Create VM](#) [+ Create VM](#)

- Overview
- Activity log
- Access control (IAM)

Resource group ([change](#))
[UDS_Enterprise_3](#)

Disk state
Unattached



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In the virtual machine creation wizard, you will choose the options that best suit your needs. Once finished, you will check that all the configuration is correct and click on “**Create**” to create the virtual machine.

Create a virtual machine

✓ Validation passed

Basics Disks Networking Management Advanced Tags Review + create

xUbuntu18-Disk Image Standard B1s
1 vcpu, 1 GiB memory

Basics

Subscription	VirtualCable Pago por Uso
Resource group	UDS_Enterprise_3
Virtual machine name	xUbuntu18
Region	France Central
Availability options	No infrastructure redundancy required
Image	xUbuntu18-Disk
Size	Standard B1s (1 vcpu, 1 GiB memory)
Authentication type	SSH public key
Username	AzureUser
Key pair name	None
Azure Spot	No

Disks

OS disk type	Premium SSD
Use managed disks	Yes
Use ephemeral OS disk	No

Networking

Virtual network	UDS_Enterprise-vnet
Subnet	default (10.0.0.0/24)
Public IP	(new) xUbuntu18-ip
NIC network security group	xUbuntu18
Accelerated networking	Off
Place this virtual machine behind an	No

Create

< Previous

Next >



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Once the process of creating the new VM is finished, verify that you already have the new machine within the “**Virtual machines**” service.

[Home](#) >

Virtual machines

VirtualCable Directory

[+ Add](#) [Reservations](#) [Edit columns](#) [Refresh](#) | [Assign tags](#) [Start](#) [Restart](#)

Subscriptions: VirtualCable Pago por Uso

9 items

<input type="checkbox"/>	Name ↑↓	Type ↑↓	Status	Resource group ↑
<input type="checkbox"/>	xUbuntu18	Virtual machine	Running	UDS_Enterprise_3

NOTE:

The template name cannot start with the letters “UDS”. If you start with these letters, it will not be displayed or available in the UDS administration to be used as “base machine”. It is recommended to create a specific “Network Security Group” for this machine allowing ports to access it. For example, 22 (SSH) or RDP (3389).

- Base machine access and configuration

Once the virtual machine is deployed, you should be able to access it. To know what the public IP address of the machine is, you will click on it in the “**Virtual machines**” service. In the “**Overview**” section you will look at the value “**Public IP address**”.

[Home](#) > [Virtual machines](#) >

xUbuntu18

Virtual machine

[Connect](#) [Start](#) [Restart](#) ☐ Stop

[Overview](#)
[Activity log](#)
[Access control \(IAM\)](#)
[Tags](#)

Resource group [\(change\)](#)
UDS_Enterprise_3

Status
Running

Location
France Central

Azure Spot
N/A

Public IP address
40.89.166.148

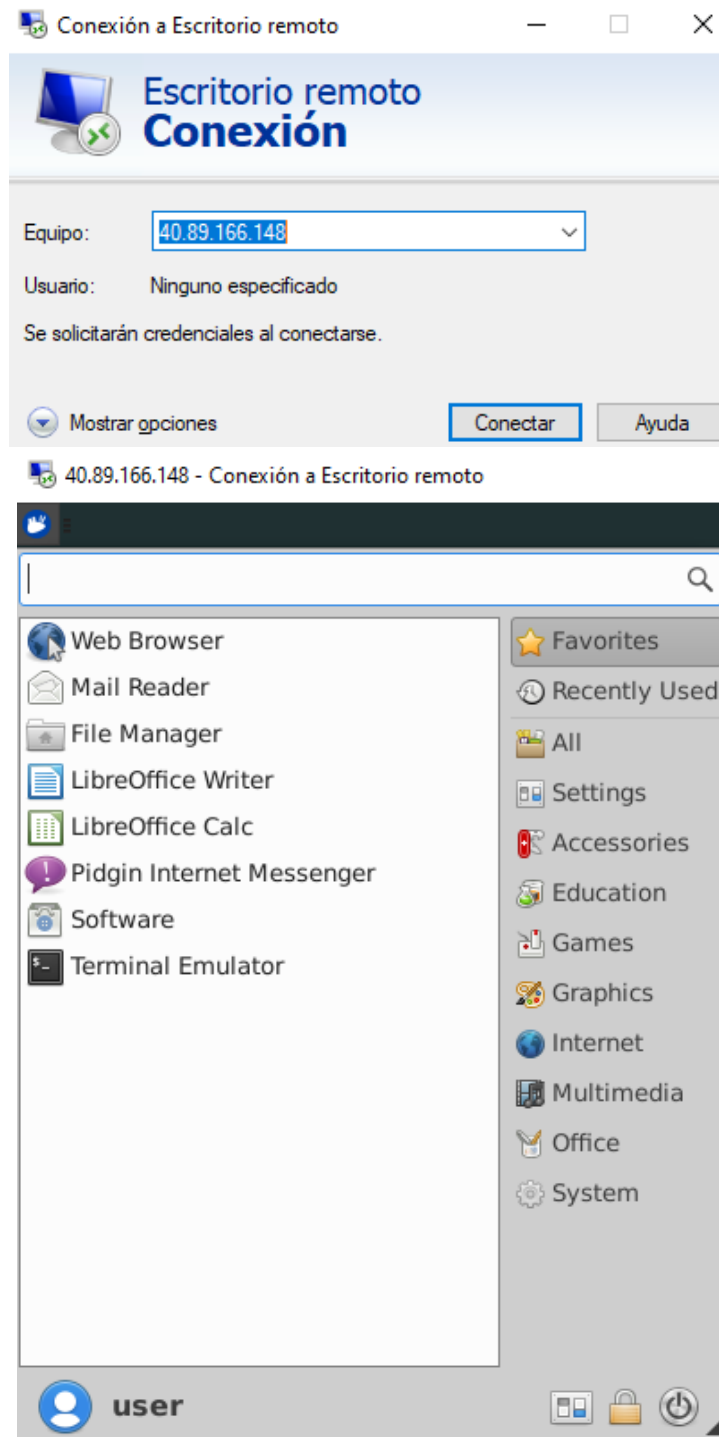
Private IP address
10.0.0.12



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In this example, you will connect via RDP to access the template and install and configure the UDS Actor:



NOTE:

You can consult the UDS Enterprise installation, administration and user manual in the [Documentation](#) section of the UDS Enterprise website for more details on the installation of the UDS Actor.



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During the configuration of the UDS Actor, you can indicate in the connection data against the UDS Server the local DNS address/name or also the public IP or DNS (in the case of using IP addresses instead of names, it is necessary to ensure that these addresses are not dynamic since they can change with the on/off of the virtual machines).

In this example, you will use the local IP address of the UDS Server:

UDS Actor Configuration Tool

UDS Server Advanced

SSL Validation Ignore certificate

UDS Server 10.0.0.9

Authenticator Internal

Username admin

Password ●●●●

Register with UDS Test configuration Close

NOTE:

If you want to view the configuration of the UDS Actor in an Ubuntu OS through RDP, you will have to execute the following command from a console:

```
xhost + && sudo QT_X11_NO_MITSHM=1 /usr/sbin/UDSActorConfig
```

Once all these tasks are completed, you can now turn off the base or template machine to use it with UDS Enterprise (it is not possible to publish a service if the base or template machine is turned on).



UDS Enterprise Administration

Azure service provider integration

To integrate Azure as a UDS Enterprise service provider, you must access the UDS administration. In order to do this, access the public IP address or name of the UDS Server component via web browser using port 443 and validate yourself with an administrator user (in the first access, use the system administrator user indicated in the UDS server configuration wizard).

UDS Enterprise

Username *

uds

Password

.....

Login

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Once validated in the UDS login portal, access the “**Dashboard**” from the user menu.

UDS Enterprise

UDS Client About English uds

Dashboard Downloads Logout

Information

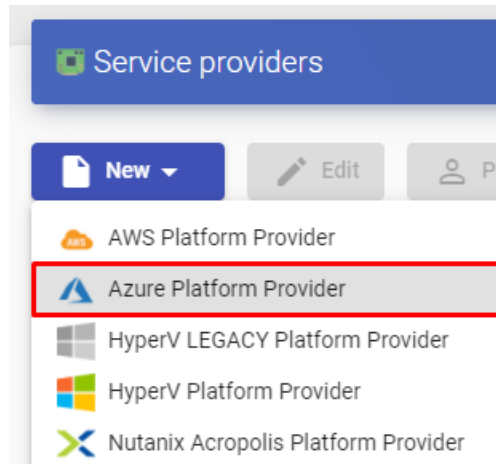
IPs	Client IP	▼
Transports	UDS transports for this client	▼



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Within the UDS administration, access the “**Services**” menu and click on “**New**” to register a new “**Service provider**”. Select “**Azure Platform Provider**”.



To make it possible for UDS to connect to the Azure platform, and to be able to automatically deploy virtual desktops, it will be necessary to indicate a descriptive name and a series of data that you can obtain directly from said platform:

New provider

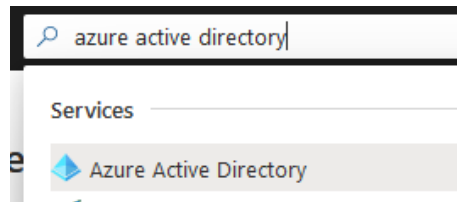
Main	Advanced
Tags	
Tags for this element	
Name *	
Azure	
Comments	
Tenant ID *	
Client ID *	
Client Secret *	
Subscription ID *	
test	Discard & close Save



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- **Tenant ID:** This value can be obtained from the “*Azure Active Directory*”, “*Properties*”, and “*Directory ID*”.



[Home](#) >

VirtualCable Directory | Properties

Azure Active Directory

Search (Ctrl+/) Save Discard

Identity Governance Application proxy Licenses Azure AD Connect Custom domain names Mobility (MDM and MAM) Password reset Company branding User settings **Properties** Security Monitoring Sign-ins

Directory properties

Name * VirtualCable Directory

Country or region Spain

Location EU Model Clause compliant datacenters

Notification language English

Directory ID

Technical contact

Global privacy contact

- **Client ID:** To obtain this value, it will be necessary to create a new “*Application registration*” and give it permissions on our Azure subscription.

To register the application you will go to the service “*App registrations*” and click on “*New application registration*”.

[Home](#) >

App registrations

[+ New registration](#) [Endpoints](#) [Troubleshoot](#)

[i](#) Welcome to the new and improved App registrations (now

[All applications](#) [Owned applications](#)



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In the creation wizard, indicate a name, select a “**Supported account types**” and a “**Redirect URI**”.

This last value will be extracted from the DNS name of the UDS server:

Computer name udsserver3	Virtual network/subnet UDS_Enterprise-vnet/default
Operating system Linux (debian 10.4)	DNS name uds3.francecentral.cloudapp.azure.com
Size	

Once the data is indicated, click on “**Register**”:

[Home](#) > [App registrations](#) >

Register an application

* Name

The user-facing display name for this application (this can be changed later).

Supported account types

Who can use this application or access this API?

- ☒ Accounts in this organizational directory only (VirtualCable Directory only - Single tenant)
- ☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant)
- ☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accou

[Help me choose...](#)

Redirect URI (optional)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is changed later, but a value is required for most authentication scenarios.

By proceeding, you agree to the [Microsoft Platform Policies](#)

[Register](#)



VDI with UDS Enterprise 3.5 and Microsoft Azure

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Once registered, you will check that it has been correctly created:



[Home](#) >

App registrations

[+ New registration](#) [🌐 Endpoints](#) [🔧 Troubleshooting](#) | [💙 Got feedback?](#)


i Welcome to the new and improved App registrations (now Generally Available). See what's new and learn more on how it's changed. →

All applications Owned applications






<input type="text"/>			
Display name	Application (client) ID	Created on	Certificates & secrets
 UDS_Enterprise_3	a391f2d7-0ce1-4b05-aadb-940c3f39abbc		-

The column “**Application (client) ID**” will indicate the “**Client ID**” that you must copy to UDS.

To have a valid “**Client ID**” that can be used by UDS, you must give UDS permissions on your subscription. To do this, select your Azure subscription (“**Subscriptions**” service) and in the “**Access control (IAM)**” option, click on “**Add**”, selecting “**Add custom role**”.

 **VirtualCable Pago por Uso | Access control (IAM)**
Subscription

<< [+ Add](#) [≡ Edit columns](#) [🔄 Refresh](#) [✕](#)

-  Overview
-  Activity log
-  **Access control (IAM)**
-  Tags
-  Diagnose and solve problems

Add role assignment
Add co-administrator
Add custom role
Review the level of access a user, group, service principal or managed identity has to this resource. [Learn more](#)



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Indicate the role, in this case “**Contributor**”, select that the access will be for “**Azure AD user, group, or service principal**” and write the start of the registered application name in the previous step. Once it appears as available, select it and click on “**Save**”:

Add role assignment ×


Role ⓘ
Contributor ⓘ

Assign access to ⓘ
Azure AD user, group, or service prin... ▼

Select ⓘ
uds_enterprise_3

No users, groups, or service principals fo...

Selected members:

 UDS_Enterprise_3 [Remove](#)

[Save](#) [Discard](#)

You can see the App with the assigned role:

[+ Add](#) [≡ Edit columns](#) [↻ Refresh](#) [✕ Remove](#) [♥ Got feedback?](#)

[Check access](#) [Role assignments](#) [Deny assignments](#) [Classic administrators](#) [Roles](#)

Manage access to Azure resources for users, groups, service principals and managed identities at this scope |


Name ⓘ Type ⓘ Role ⓘ

uds_Enterprise_ Apps 4 selected

Group by ⓘ

Role ▼

1 items (1 Service Principals)

<input type="checkbox"/>	Name	Type	Role
Contributor			
<input type="checkbox"/>	 UDS_Enterprise_3	App	Contributor ⓘ



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- **Client Secret:** This value will be obtained from the previously registered application. Click on it (in the “*App registrations*” service) and access “*Certificates & secrets*”.


UDS_Enterprise_3 | Certificates & secrets

 Search (Ctrl+ /)

«

 Overview


 Quickstart


 Integration assistant (preview)


Manage


 Branding

 Authentication

 Certificates & secrets

 Token configuration

 API permissions

 Expose an API

 Owners

 Roles and administrators (Preview)

 Manifest


Support + Troubleshooting

 Troubleshooting

Credentials enable confidential applications to identify themselves to the auth at a web addressable location (using an HTTPS scheme). For a higher level of certificate (instead of a client secret) as a credential.

Certificates

Certificates can be used as secrets to prove the application's identity when requesting tokens as public keys.

 Upload certificate

Thumbprint

Start date

No certificates have been added for this application.

Client secrets

A secret string that the application uses to prove its identity when requesting application password.

 New client secret

Description

Expires

Value

No client secrets have been created for this application.



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Within “**Certificates & secrets**” click on “**New client secret**”. Add a description, select when it expires and click on “**Add**” to be able to copy the “**key**”:

Add a client secret



Description

UDS3.5KEY

Expires

24 months



Recommended: 6 months

3 months

12 months

18 months

24 months

Custom

Once added, it will allow you to copy the value (once this window is closed, you will not be able to copy this value again, although you will be able to generate a new one if necessary). You will use this value as “**Client Secret**” in UDS.

Manage

- Branding & properties
- Authentication
- Certificates & secrets**
- Token configuration
- API permissions
- Expose an API
- App roles
- Owners
- Roles and administrators

scheme). For a higher level of assurance, we recommend using a certificate (instead of a client secret) as a credential.

Application registration certificates, secrets and federated credentials can be found in the tabs below.

Certificates (0) **Client secrets (2)** Federated credentials (0)

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

+ New client secret

Description	Expires	Value	Secret ID
UDS3.5-Key	5/9/2024	7706c4f8-8c8b-4b8a-b0d0-1b0d1b0d1b0d	7706c4f8-8c8b-4b8a-b0d0-1b0d1b0d1b0d





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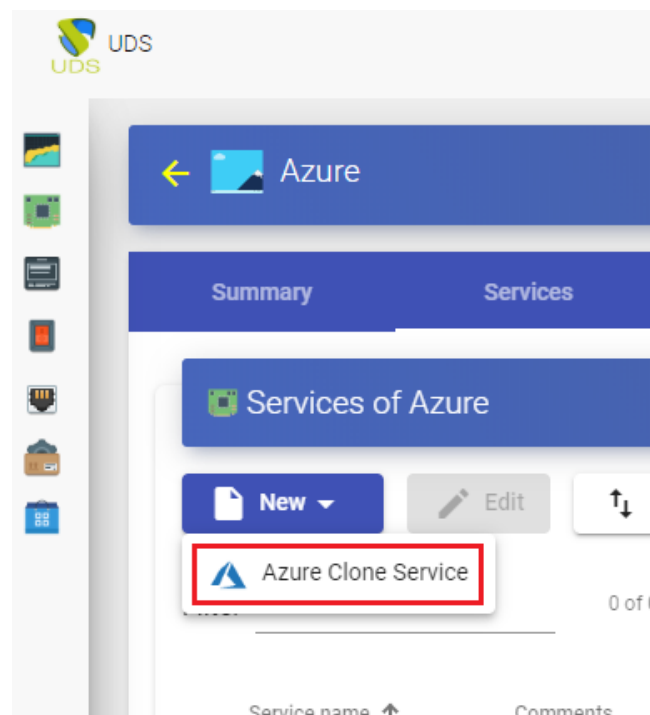
NOTE:

Although the test does not come out correct, you can save the provider and thus not lose the indicated data. Subsequently, you can check which of the values is wrong (the “Client Secret” will only be visible during its creation).

Name ↑	Type	Comments	Status	Services	User Services
<input type="checkbox"/> Azure	Azure Platform Provider		Active	0	0

■ Creation of base services

When you have a valid “**Service provider**” connected to the Azure platform, you can create services based on templates. In order to do this, access the provider (with a double click or right button – “**Detail**”) and in the “**Services**” tab click on “**New**” – “**Azure Clone Service**”.





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To create a base service of type “**Azure Clone Service**” you will need to indicate:

- Main:
 - **Name:** Descriptive name of the base service.
 - **Resource Group:** Select the Azure “**Resource Group**” under which you have your base machine or template.
 - **Virtual Machine:** base machine or template that you will use to deploy virtual desktops (with the UDS Actor installed and configured).
 - **Machine Size:** Amount of resources that the virtual desktops automatically deployed by UDS will have (this list will show all the types of machines available in Azure. Therefore, you must ensure that the chosen type is supported by your Azure subscription).
 - **Machine Names:** Root name of the virtual desktops generated by UDS.
 - **Name Length:** The number of digits of the counter for UDS machines. These digits will be joined to the “**machine names**” to form the DNS name of the virtual desktops (with 1 digit 9 machines can be created, with 2, 99, with 3, 999, etc...).

New service

Main	Network	Advanced
Tags		
Tags for this element		
Name *		
xUbuntu18		
Comments		
Resource Group *		
UDS_Enterprise_3		
Virtual Machine *		
xUbuntu18		
Machine size *		
B1s (Standard, 1 cores, 1.00 GiB, 2 max data disks)		
Machine Names *		
Ubuntu-		
Name Length *		
3		

Discard & close

Save



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○ Network:

- **Network:** Existing virtual network in the Azure environment and associated with the selected “**Resource Group**” to which the virtual desktops will be connected (there must be connectivity with the UDS-Server component).
- **Subnet:** Existing Azure environment subnet to which virtual desktops will connect.
- **Security Group:** You can indicate a “**Security Group**” to assign to virtual desktops. In this example, when both the UDS components and the self-generated desktops are on the same network, you will select “**None**”, since you do not want to apply any.

New service

Main	Network	Advanced
Network *		
UDS_Enterprise-vnet		▼
Subnet *		
default		▼
Security Group *		
None		▼

Discard & closeSave

○ Advanced:

- **Caching policy:** Disk Cache Settings.
- **Pricing tier:** Redundancy level applied.
- **Accelerated network:** Enable the power to use this technology (it cannot be used with most types of machines, only with: D/DSv3, E/ESv3, Fsv2 and Ms/Mms and S.O. Linux).

New service

Main	Network	Advanced
Caching policy *		
ReadWrite		▼
Accelerated network		
<input type="checkbox"/> No		
Pricing tier *		
Standard_LRS		▼

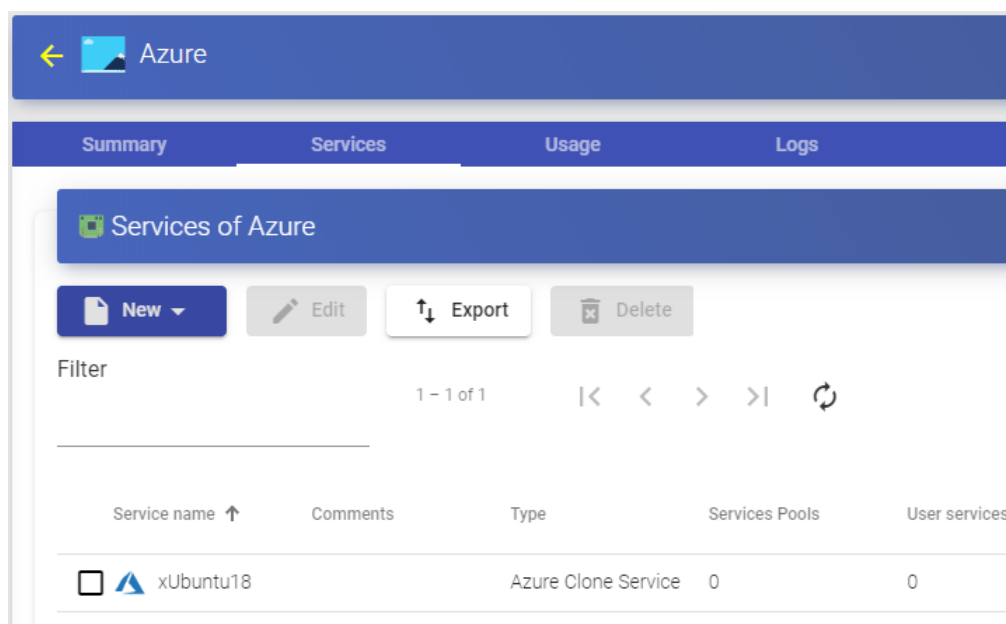
Discard & closeSave



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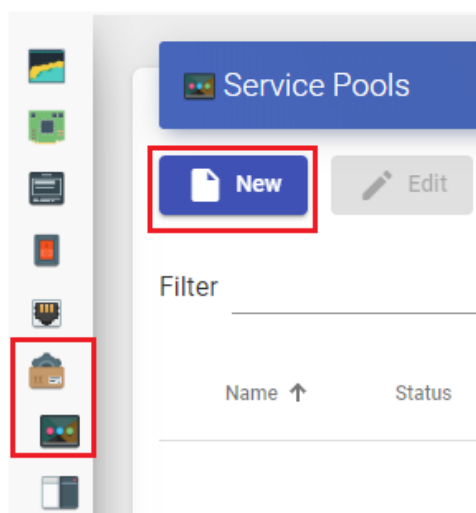
Click on “**Save**” and you will already have a valid base service to automatically deploy virtual desktops:



■ Creation of a Service Pool

Before proceeding to create a service pool (to publish virtual desktops), it will be necessary to have at least one “**Authenticator**” with user groups (to validate and be able to assign the service to users), an “**OS Manager**” (to indicate the OS and the persistence policy of the generated desktops) and a “**Transport**” (to connect to the desktop) previously configured. To see more details on how to configure these elements, you can access the UDS Enterprise Installation, Administration and User Manual in the [documentation](#) section of our website.

When you have the elements mentioned above (“**Authenticator**”, “**OS Manager**” and “**Transport**”) you can create “**Service Pools**”. In order to do this, access the “**Pools**”, section, open the “**Service Pools**” tab and click on “**New**”.





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In the “**Main**” tab you will indicate the name of the service (this name will be visible to users) and select the previously created base service (in this case from the Azure platform and the xUbuntu18 base service) and an existing “**OS Manager**” (in this example we will use one for Linux O.S. and non-persistent type).

New service Pool

< **Main** Display Advanced >

Tags

Tags for this element

Name *

Desktop Ubuntu

Short name

Comments

Base service

Azure\xUbuntu18

OS Manager

Linux Non-Persistent

Publish on creation

☒ Yes

Discard & close

Save

The parameters of the “**Advanced**” and “**Display**” tabs can be left by default. In the “**Availability**” tab, you will indicate the initial desktops that will generate UDS and those to be kept in the cache (in Azure the use of the L2 cache is not available).

In this example, we are going to indicate that UDS automatically creates 4 desktops and we always have at least 2 available in the cache.

New service Pool

< Display Advanced **Availability** >

Initial available services

4

Services to keep in cache

2

Services to keep in L2 cache

0

Maximum number of services to provide

10

Discard & close

Save



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NOTE:

When saving the configuration or publishing a new version, the base machine or template must be turned off.

Selecting the “**Service Pool**” and opening the “**Publications**” tab you will check if the publication has been generated correctly. When in a “**Valid**” state, the system will start to auto-generate the virtual desktops indicated in the cache parameters.

	Revision	Publish date	State	Reason
<input type="checkbox"/>	1	26/07/2020 23:54	Valid	

In the “**Cache**” tab you can see how the desktops start to be generated.

	Creation date	Revision	Unique ID	IP	Friendly name	State	Cache level	Actor version
<input type="checkbox"/>	26/07/2020 23:54	1	00:0D:3A:89:D1:93	unknown	Ubuntu-000	Waiting OS	1	unknown
<input type="checkbox"/>	26/07/2020 23:54	1		unknown	Ubuntu-001	In preparation	1	unknown
<input type="checkbox"/>	26/07/2020 23:54	1		unknown	Ubuntu-002	In preparation	1	unknown



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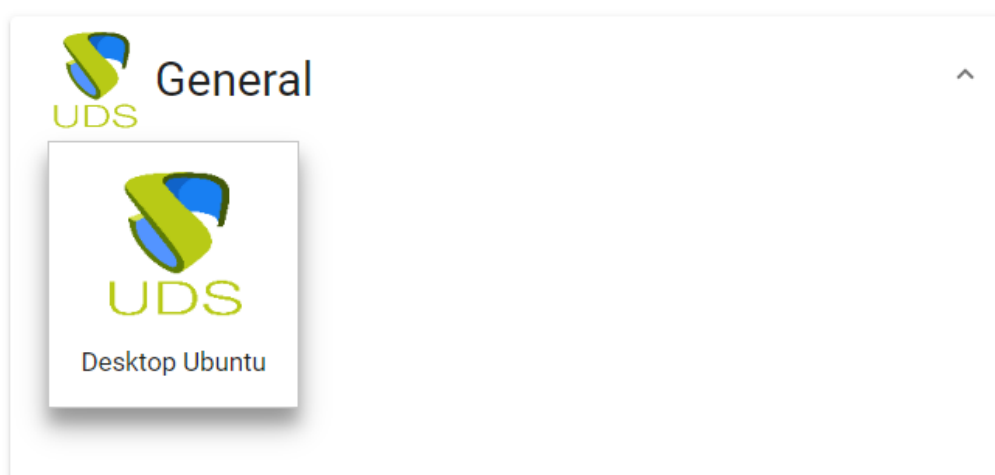
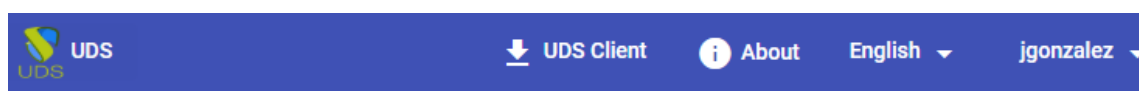
In the Azure environment you will also see how virtual desktops are generated:

<input type="checkbox"/>		UDS_Ubuntu_000_v1_388b37...	Virtual machine	Running	UDS_Enterprise_3
<input type="checkbox"/>		UDS_Ubuntu_001_v1_388b37...	Virtual machine	Running	UDS_Enterprise_3
<input type="checkbox"/>		UDS_Ubuntu_002_v1_388b37...	Virtual machine	Running	UDS_Enterprise_3
<input type="checkbox"/>		xUbuntu18	Virtual machine	Stopped	UDS_Enterprise_3

Once the desktops are in the “**Valid**” state (that is, the UDS Actor installed in the template has finished applying the necessary settings), they will be available for users to access.

Cached services							
Logs	Export	Delete	Filter		1 - 12 of 12		
Creation date	Revision	Unique ID	IP ↑	Friendly name	State ↓	Cache level	Actor version
<input type="checkbox"/>	12	00:50:56:10:00:10	192.168.15.85	Ubuntu-000	Valid	1	3.5.0
<input type="checkbox"/>	12	00:50:56:10:00:11	192.168.14.70	Ubuntu-001	Valid	1	3.5.0
<input type="checkbox"/>	12	00:50:56:10:00:12	192.168.14.224	Ubuntu-002	Valid	1	3.5.0
<input type="checkbox"/>	12	00:50:56:10:00:13	192.168.15.51	Ubuntu-003	Valid	1	3.5.0

You will access the services window with a user (it is not possible to use the system administrator super-user) and you will see the available service.





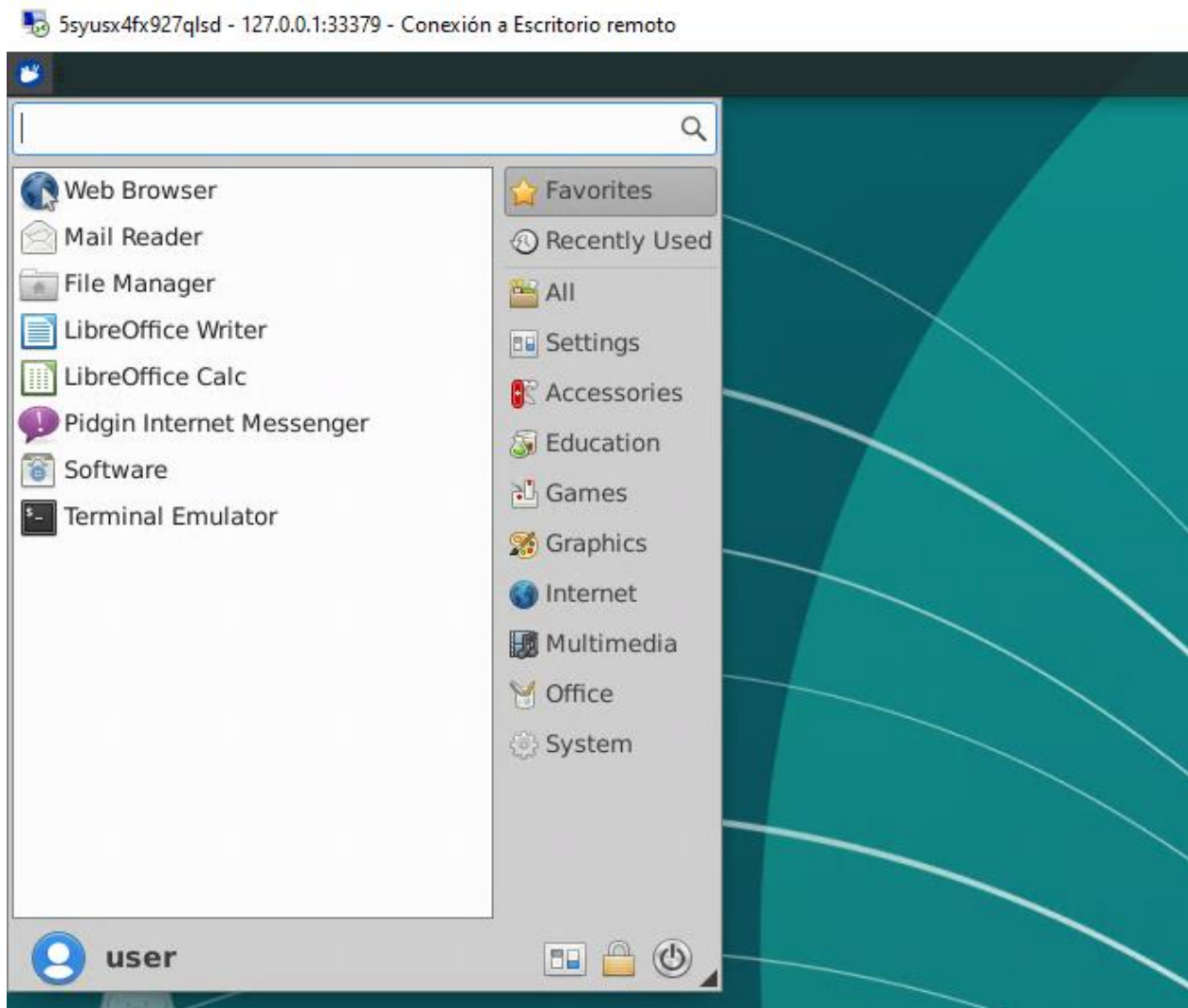
VDI with UDS Enterprise 3.5 and Microsoft Azure

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NOTE:

In order for the service to be viewed by users, the "Service Pool" created must have a user group ("Groups" tab) and a transport ("Transports" tab) assigned to it.

You access it by clicking on the image (in this example an RDP type transport has been configured).



NOTE:

If you are outside the network configured in Azure, it will be necessary to use tunnelled transport (as you can see in the screenshot of the connection example, it is connecting to 127.0.0.1 since the connection is made via Tunnel).



Azure AD integration as UDS Enterprise “Authenticator”

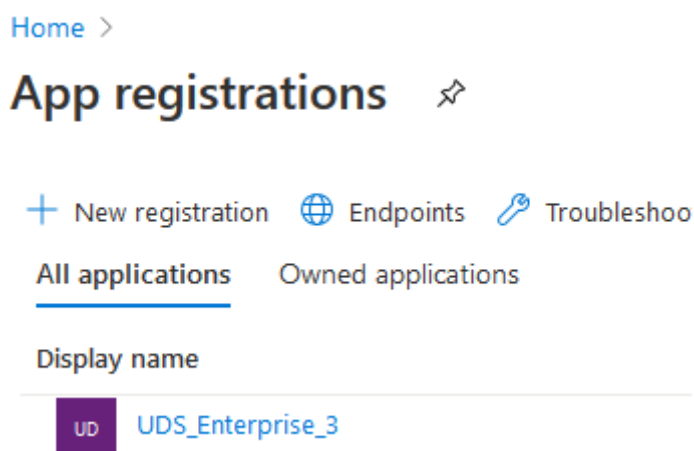
UDS allows integration with the Azure authentication system, called “**Azure Active Directory**”. Through this integration, it will be possible to validate users registered in this authenticator in the UDS login portal and allow them to access desktop services and virtual applications.

To allow the correct integration between UDS and “**Azure Active Directory**” it will be necessary to carry out some preliminary tasks on the Azure platform.

Tasks to perform in Azure

The first task you will perform in the Azure environment will be to create a valid “**App registrations**” to allow UDS to access the “**Azure Active Directory**”.

To register the application you will go to the “**App registrations**” service and click on “**New registration**”.



NOTE:

In some cases it will be necessary to click on “View all applications” in order to view all the existing ones.



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In the creation wizard, you will indicate the name of the application, who will be able to access it and in the “**Redirect URI**” section you will indicate “**Web**” with any URL (it does not need to exist, it will not be used).

[Home](#) > [App registrations](#) >

Register an application

* Name

The user-facing display name for this application (this can be changed later).

UDS3_AzureAD ✓

Supported account types

Who can use this application or access this API?

- ☒ Accounts in this organizational directory only (VirtualCable Directory only - Single tenant)
- ☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant)
- ☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)

[Help me choose...](#)

Redirect URI (optional)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Web

https://sample ✓

By proceeding, you agree to the [Microsoft Platform Policies](#)

Register

Once all the data of the application is indicated, you will click on “**Register**” and you will check that it has been created correctly (if you do not see it, you will click on “**View all applications**”):





[Home](#) >

App registrations

[+ New registration](#) [🌐 Endpoints](#) [🔑 Troubleshooting](#) | [💙 Got feedback?](#)

[All applications](#) [Owned applications](#)

🔍 Start typing a name or Application ID to filter these results

Display name	Application (client) ID	Created on	Certificates &
 UDS3_AzureAD	dc33cfad-cebf-4c87-9853-b22bfb7dcf22	 3/20/2021	-
 UDS_Enterprise_3	a391f2d7-0ce1-4b05-aadb-940c3f39abbc	 3/23/2021	✓ Current



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After checking that it has been created correctly, you will access the App. In the “**Manage**” menu, click on “**API permissions**” and select “**Add a permission**”.

Home > App registrations >

UDS3_AzureAD | API permissions

Search (Ctrl+/) Refresh

Integration assistant (preview)

Manage

- Branding
- Authentication
- Certificates & secrets
- Token configuration
- API permissions**
- Expose an API
- Owners

Configured permissions

Applications are authorized to call APIs when they are granted all the permissions the application needs. [Learn more](#)

+ Add a permission Grant admin consent

API / Permissions name	Type
Microsoft Graph (1)	
User.Read	Delegated

Now select the “**Microsoft APIs**” tab and click on “**Microsoft Graph**”:

Request API permissions

Select an API

Microsoft APIs

APIs my organization uses

My APIs

Commonly used Microsoft APIs



Microsoft Graph

Take advantage of the tremendous amount of data in Office 365. Access Azure AD, Excel, Intune, Outlook/Exchange, OneDrive, single endpoint.



Azure DevOps



Azure Key Vault



VDI with UDS Enterprise 3.5 and Microsoft Azure

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Within “*Microsoft Graph*”, select “*Application permissions*” to apply for the necessary permissions:

Request API permissions

[< All APIs](#)



Microsoft Graph

<https://graph.microsoft.com/> [Docs](#) [↗](#)

What type of permissions does your application require?

Delegated permissions

Your application needs to access the API as the signed-in user.

Application permissions

Your application runs as a background service or daemon without a signed-in user.

Select permissions

[expand](#)

Type to search

Permission

Admin consent required

You will apply the permissions:

- “*Directory.Read.All*”

Select permissions

directory.read.all

Permission

☒ **Directory (1)**

☒ Directory.Read.All
Read directory data ⓘ

- “*Group.Read.All*”

Select permissions

group.read.all

Permission

☒ **Group (1)**

☒ Group.Read.All
Read all groups ⓘ



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- “User.Read.All”

Select permissions

Permission

> IdentityRiskyUser

☒ User (1)

☒ User.Read.All
Read all users' full profiles ⓘ

The “User.Read” permission, which is added by default, can be removed:

API / Permissions n...	Type	Description	Admin consent req...	Status
▼ Microsoft Graph (4)				
Directory.Read.All	Application	Read directory data	Yes	⚠ Not granted for VirtualC... ⋮
Group.Read.All	Application	Read all groups	Yes	⚠ Not granted for VirtualC... ⋮
User.Read	Delegated	Sign in and read user profile	-	⋮
User.Read.All	Application	Read all users' full profiles	Yes	⋮

Remove permission

Once you have the necessary permissions, click on “**Grant admin consent for...**” and accept:

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. Configured permissions should include all the permissions the application needs. [Learn more about permissions and o](#)

+ Add a permission

Grant admin consent for VirtualCable Directory

API / Permissions n...	Type	Description	Admin co...	Status
▼ Microsoft Graph (3)				
Directory.Read.All	Application	Read directory data	Yes	⚠ Not granted for VirtualC...
Group.Read.All	Application	Read all groups	Yes	⚠ Not granted for VirtualC...
User.Read.All	Application	Read all users' full profiles	Yes	⚠ Not granted for VirtualC...



VDI with UDS Enterprise 3.5 and Microsoft Azure

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Confirm that the permissions have been applied:

API / Permissions n...	Type	Description	Admin c...	Status
Microsoft Graph (3)				
Directory.Read.All	Application	Read directory data	Yes	✔ Granted for VirtualCable...
Group.Read.All	Application	Read all groups	Yes	✔ Granted for VirtualCable...
User.Read.All	Application	Read all users' full profil...	Yes	✔ Granted for VirtualCable...

To finish with the configuration of the App, you will need to access the “**Manage**” menu and select “**Authentication**”:

Home > App registrations >

UDS3_AzureAD | Authentication

Search (Ctrl+/) Save Discard

Integration assistant (preview)

Manage

- Branding
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- Certificates & secrets
- Token configuration

Platform configuration

Depending on the platform c redirect URIs, specific authenti

+ Add a platform

Web

In the “**Implicit grant**” section, you will select “**ID tokens**” and click on “**Save**” to apply the change.

Save Discard Got feedback?

Implicit grant

Allows an application to request a token directly from th is recommended only if the application has a single-p use the latest version of MSAL.js with auth code flow, ASP.NET Core Web Apps. [Learn more about the implicit](#)

To enable the implicit grant flow, select the tokens you w

☐ Access tokens

☒ ID tokens

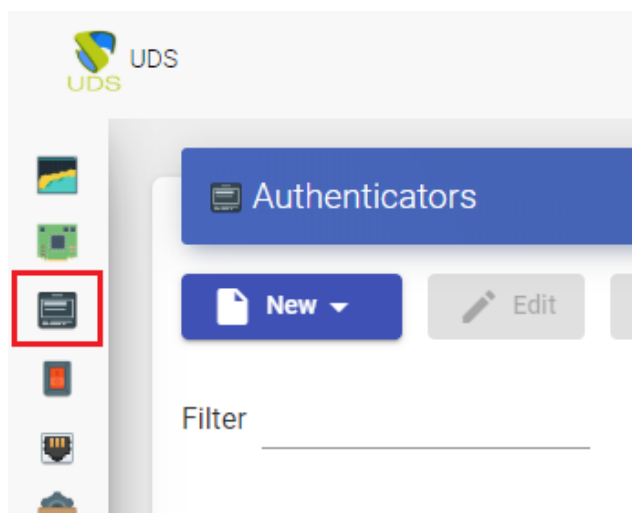
Supported account types

The next task in the process of integrating “**Azure Active Directory**” with UDS will be carried out by the UDS administration itself.



Tasks to perform in UDS Enterprise

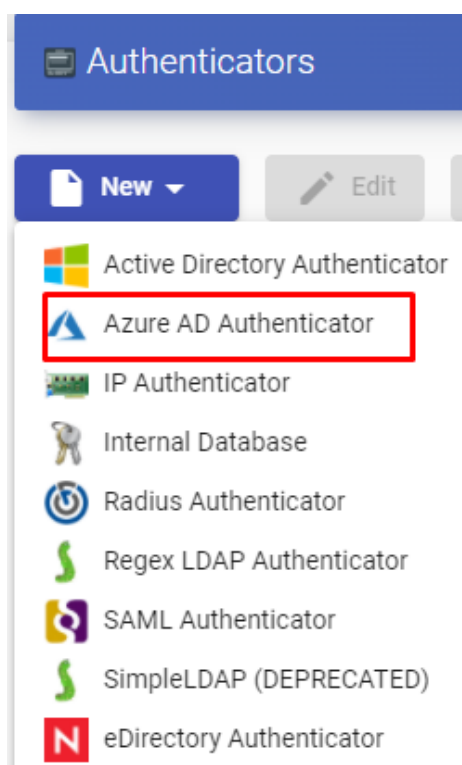
From the UDS administration, you will proceed to register the new authenticator of type “**Azure Active Directory**”. In order to do this, validate yourself on the UDS login portal with a user with administrative permissions and access the “**Authenticators**” section.



NOTE:

In UDS you can have different types of authenticators registered in the system. The priority field will define which authenticator will be shown to users by default.

Click on “**New**” and select “**Azure AD Authenticator**”.





VDI with UDS Enterprise 3.5 and Microsoft Azure

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Within the wizard, you must indicate a series of necessary data:

- **Main:**
 - **Name:** Authenticator name.
 - **Priority:** Priority, of this authenticator in the list of authenticators available. The lower the priority, the higher it is in the list of available authenticators (of all authenticators, the one with the lowest priority, including negative values, will be the default authenticator).
 - **Label:** Label assigned to this authenticator. You have to put it in the login URL to perform a direct validation without having to use the list of authenticators.
 - **Tenant ID:** This value can be obtained from the service “*Azure Active Directory*”, “*Properties*”, “*Directory ID*”.

[Home](#) >

VirtualCable Directory | Properties

Azure Active Directory

Company branding

User settings

Properties

Security

Monitoring

Sign-ins

Audit logs

Provisioning logs (Preview)

Logs

Diagnostic settings

Workbooks

Usage & insights

Save

Discard

Directory properties

Name *
VirtualCable Directory

Country or region
Spain

Location
EU Model Clause compliant datacenters

Notification language
English

Directory ID
[Directory ID]

Technical contact
[Technical contact]

Global privacy contact



VDI with UDS Enterprise 3.5 and Microsoft Azure

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- **Client ID:** To obtain this value it will be necessary to access the “*Application registration*” previously created and copy the value of “*Application ID*”.

[Home](#) >

App registrations

[+ New registration](#) [Endpoints](#) [Troubleshooting](#) | [Got feedback?](#)

All applications

Owned applications

Start typing a name or Application ID to filter these results

Display name	Application (client) ID	Created on	Certificates &
UD UDS_Enterprise_3	a391f2d7-0ce1-4b05-aadb-940c3f39abbc		Current
UD UDS3_AzureAD	dc33cfad-cebf-4c87-9853-b22bfb7dcf22		-

- **Client Secret:** This value will be obtained from the previously registered application. Click on it (in the “*App registrations*”) and access “*Certificates & secrets*”.

[Home](#) > [App registrations](#) >

UDS3_AzureAD | Certificates & secrets

Search (Ctrl+/)

Integration assistant (preview)

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Manifest

Support + Troubleshooting

Certificates

Certificates can be used as secrets to prove the applicat requesting a token. Also can be referred to as public key

Upload certificate

Thumbprint

Start date

No certificates have been added for this application.

Client secrets

A secret string that the application uses to prove its ider a token. Also can be referred to as application password

New client secret

Description

Expires

Value

No client secrets have been created for this application.



VDI with UDS Enterprise 3.5 and Microsoft Azure

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Within “**Certificates & secrets**” click on “**New client secret**”. Add a description, select when it expires and click on “**Add**” to be able to copy the “**key**”:

Add a client secret ✕

Description

Expires

Once added, it will allow you to copy the value (once this window is closed, you will not be able to copy this value again, although you will be able to generate a new one if necessary). You will use this value as “**Client Secret**” in UDS.

Certificates & secrets

Token configuration

API permissions

Expose an API

App roles

Owners

Roles and administrators

Certificates (0) Client secrets (2) Federated credentials (0)

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

+ New client secret

Description	Expires	Value ⓘ	Secret ID
UDS3.5AzureAD_Key	5/9/2024	<div></div>	<div></div>



VDI with UDS Enterprise 3.5 and Microsoft Azure

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Once you have all the fields filled in, you will click on “**Test**” to verify the correct integration.

New Authenticator

Main	Advanced	Display
Tags		
Tags for this element		
Name *		
AzureAD		
Comments		
Priority *		
1		
Label *		
azure		
Tenant ID *		
3514-3267-9814e-5-3-0d2-78f2dbd3295ed		
Client ID *		
dc33cfad-cebf-4c87-9853-b22bfb7dcf22		
Client Secret *		
z~k1SgX38~MH5wc3o~48A3eSn4~H38gD		
<div><div>test</div><div>Discard & close</div><div>Save</div></div>		

Once the correct connection has been verified, you will click on “**Save**” to save it.

NOTE:

If the test indicates that there is an error, you can save the connector by clicking on “Save” to avoid losing data such as the “Client Secret” and, later, review the causes of the connection error.

The last task to complete the integration of UDS with the “**Azure Active Directory**” authenticator will be to indicate the access URL allowed in the Azure environment.



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In the “**Authenticators**” section of UDS administration, select the authenticator previously created. Edit it by accessing the “**Advanced**” tab. You will need to copy the value of the “**Callback**” field.

Name	Type	Comments	Priority	Visible	Lab
AzureAD	Azure AD Authenticator		1	yes	azu

Once you have the value copied, you will access the Azure platform. In “**App Registrations**”, select the previously created application for the integration of Azure AD with UDS and in the “**Manage**” menu click on “**Authentication**”.

Home > App registrations >

UDS3_AzureAD | Authentication

Search (Ctrl+/) Save Discard Got feedback?

Depending on the platform or device this application required such as redirect URIs, specific authentication s

+ Add a platform

Web

Redirect URIs

The URIs we will accept as destinations when retu after successfully authenticating users. Also referr [Redirect URIs and their restrictions](#)

https://sample

Add URI

Overview

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Expose an API

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Roles and administrators (Previe...



VDI with UDS Enterprise 3.5 and Microsoft Azure

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Within “**Authentication**”, click on “**Add URI**” and paste the value copied from the UDS administration from the “**Callback**” field of the authenticator.

Save Discard | Got feedback?

Add a platform

Web

Quickstart Docs

Redirect URIs

The URIs we will accept as destinations when returning authentication responses (tokens) after successfully authenticating users. Also referred to as reply URLs. [Learn more about Redirect URIs and their restrictions](#)

https://sample

https://uds3.francecentral.cloudapp.azure.com/uds/page/auth/AzureAD

Add URI

Click on “**Save**” to save the new “**URL**”.

NOTE:

The URL indicated in the creation of the App can be removed (in this case <https://sample>). Click on the delete icon and then “**Save**”.

https://sample

https://uds3.francecentral.cloudapp.azure.com/uds/page...

Add URI

After completing these steps, users can authenticate themselves with the user credentials configured in an “**Azure Active directory**” authenticator.

NOTE:

In order for a user to be able to validate in the UDS login portal with the Azure authenticator, he must belong to a group of users previously registered in the UDS administration.



About VirtualCable

VirtualCable develops, supports and markets UDS Enterprise through a subscription model, including support and updates, depending on the number of users.

In addition, VirtualCable offers professional services to install and configure UDS Enterprise.

For more information, visit www.udsenderprise.com or send us an email to info@udsenderprise.com.