IBM COS FA Gateway

SETUP GUIDE FOR KVM/OPENSTACK



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CHAPTER 1. THE IBM COS FA GATEWAY

IBM Cloud Object Storage File Access (COS FA) is a software defined offering that provides SMB and NFS protocol interfaces to applications to store, archive and retrieve infrequently accessed files on IBM Cloud Object Storage.

The IBM COS FA Solution includes the following components:

- IBM COS FA Portal
- IBM COS FA Gateway

The IBM COS FA Portal is the management component of the offering, which enables the creation, delivery and management of the services mentioned below. The IBM COS FA Portal interacts with the IBM COS FA Gateways and efficiently handles file data exchange between these applications and users and the private/public IBM Cloud Object Storage side. A centralized management console makes it possible to effectively manage a very large number of connected IBM COS FA Gateways.

The IBM COS FA Gateway is the component that the application and other data sources are connected to, and allows LAN speed writes via SMB and NFS protocols, and is in charge of onboarding the data to IBM Cloud Object Storage instantly and seamlessly.

The IBM COS FA Gateway works in caching mode, which means that it has a dedicated local disk space to allow local LAN speed ingestion. The main storage is on the IBM COS FA Portal in the cloud with stubs saved on the IBM COS FA Gateway. A stub is a file with a tiny footprint that contains the metadata about the file, such as the file name, size, and modification date. Only the folder and file metadata and not the actual file content is saved locally. This results in the cost of storage being significantly lower. Also, systems with many file changes, where only some of the files are required locally, don't over use bandwidth between the cloud and IBM COS FA Gateway. Only the required files are passed across the wire.

When a user accesses a file stub, the file is opened without delay, where possible by streaming the file content from the cloud. After the download has completed, the file is *unstubbed*. Any changes to the file are synced back to the IBM COS FA Portal. Folders that are always required can be pinned, in which case the files in the folders, and not the stubs, are stored on the IBM COS FA Gateway.

IBM COS FA Gateways are virtual appliances, which can be installed on any customer provided ESXi, Hyper-V, or KVM/OpenStack environment.

The IBM COS FA Portal was designed to scale from tens to hundreds and thousands of connected IBM COS FA Gateways and to support an easy to scale file system with PBs of data and more. The IBM COS FA Portal it is capable of supporting both *scale-up* and *scale-out* deployment schemes: administrators may deploy the IBM COS FA Portal software on increasingly more powerful compute platforms, thus scaling the deployment up. Alternatively, they can distribute the IBM COS FA Portal processes on multiple concurrent compute platforms, thus scaling the deployment out. In addition, the file system is fully scalable by enlarging the database to accommodate data capacity growth.

TECHNICAL SPECIFICATIONS

Port Requirements

• Firewall ports opened to clients.

Port	Protocol	Direction	Notes
443	ТСР	Inbound and Outbound	HTTPS

• Firewall ports opened to the IBM COS FA Portal.

Port	Protocol	Direction	Notes
443	ТСР	Inbound and Outbound	HTTPS
995	ТСР	outbound	CTTP. Communications with IBM COS FA Gateways.

• Firewall ports opened for Active Directory:

Port	Protocol	Direction	Notes
389	TCP/UDP	Outbound	LDAP protocol
445	ТСР	Outbound	SMB when joining to a domain as a Computer account
3268	ТСР	Outbound	LDAP GC (Global Catalog) protocol

• Firewall ports opened for antivirus updates:

Port	Protocol	Direction	Notes
80	ТСР	Outbound	HTTP

Warning: IBM COS FA Gateways operate behind a firewall, and it is important to leave all other ports closed.

Browser Requirements

The latest two releases of Google Chrome, Apple Safari, Mozilla Firefox, and Microsoft Edge.

Software Features

Feature	Description
Supported File Sharing Protocols	SMB $2.x/3.x$ (Windows File Sharing), NFS, WebDAV
Monitoring	SNMP

Cloud Service Features

Feature	Description
Protocol Security	TLS (Transport Level Security).
Efficiency	Incremental updates, data compression, block level deduplication, simultaneous synchronization.

Feature	Description
Versioning	Retention of previous file versions on the IBM COS FA Portal.
Additional Services	Centralized management, centralized monitoring, Cloud Drive caching and synchronization, reporting, logging, remote access.

CHAPTER 2. IBM COS FA GATEWAY PLANNING

During the planning stage for your IBM COS FA Gateway contact IBM COS FA Gateway support regardless of whether the installation is a new installation or an upgrade from an existing installation.

End users who are familiar with a given folder structure and shares, as well as a given permission scheme, while using the Windows file server, continue to see the same folder structure, shares, and permission scheme after migration to the IBM COS FA Gateway. This enables the migration from a current Windows Server-based file system to a IBM COS FA Gateway, without the need to apply any structural changes such as flattening the folder structure or simplifying the permissions scheme.

File and folder access continue to be available following the migration in the same way they were in the Windows Server-based file system. Access after the migration is through the SMB provided by the IBM COS FA Gateway. Users continue to access the files and folders through standard Windows client computers; for example, using Windows Explorer.

The following file server features are fully supported by IBM COS FA Gateway and are copied to IBM COS FA Gateway as part of the migration:

- ACL files/folder share permissions.
- Nested sharing.
- ACL emulation to allow files and folders management via standard SMB protocol using Windows Explorer.
- Shares can be mounted to users via standard administrator tools:
 - DFS Management
 - Group Policy (GPO)
 - Other tools based on Net use

In this chapter

- Planning a Migration From an Existing File Server
- Share Architecture

PLANNING A MIGRATION FROM AN EXISTING FILE SERVER

When Planning the migration from a Windows or NetApp file server, IBM COS FA Gateway recommends creating a spreadsheet with the following data:

- Shares Names The names of each share to migrate along with the following information:
 - Folders/Paths
 - Size
 - Number of Files
 - Average file size
- Shares security ACL Enabled in the IBM COS FA Portal when defining each folder.

In addition, configure the file server to limit deduplication levels to 128TB or 128,000,000 files. IBM COS FA Gateway recommends setting the deduplication levels for the cloud drive in the IBM COS FA Portal settings, under **Default Settings for New User** to **Folder** and a folder group for each of the user account's devices, containing all of the device's cloud drive folders. Deduplication is performed separately for each of the user account's folder groups.

SHARE ARCHITECTURE

The proposed architecture assumes you want to keep the same shares configuration as in the original file server. For this share configuration, you map all the users to the top root of the Windows servers and all the shares are configured with team-based permissions.

For example, the following team folders exist on a Windows server named SRV2:



You create the corresponding folders in the IBM COS FA Portal and enable Windows ACLs and set the collaboration required for each folder and then sync them down to the IBM COS FA Gateway. Once the folders are synced to the IBM COS FA Gateway you need to create the shares pointing to these folders via the IBM COS FA Gateway user interface. The folder structure is critical to a smooth migration.

For example, where appropriate, IBM COS FA Gateway recommends creating site or company cloud folders. For example, if the migrated data will be used at multiple company sites, with similar share structures at each site, you should create a corporate cloud folder with all the folders that will be shared by all the sites underneath it and in addition have a site folder per site containing all the share folders for the site.



With this structure, you can edit the ACLs for each folder at the top level of the share and if you use a central IBM COS FA Gateway for failover or performing restores, it is clear which dataset you are working with. The view from Windows Explorer on the IBM COS FA Gateway will match the view from the original server.

IBM COS FA Gateway Planning



CHAPTER 3. INSTALLING THE IBM COS FA GATEWAY IN A KVM ENVIRONMENT

You can install a IBM COS FA Gateway on KVM via the OpenStack console or another console. The following instructions describe how to install the IBM COS FA Gateway using the OpenStack console and involves creating and configuring a virtual machine and then performing an initial setup.

In this chapter

- Installing the IBM COS FA Gateway
- Configuring the IBM COS FA Portal as a Precondition to Setting Up the IBM COS FA Gateway
- Initial IBM COS FA Gateway Setup
- Loading a Self-Signed Certificate to IBM COS FA Gateway

INSTALLING THE IBM COS FA GATEWAY

The IBM COS FA Gateway can be installed in a KVM environment.

- Linux machine with KVM virtualization
- Virtual Machine Manager (virt-manager) installed and running
- *.qcow2 image file located on the machine

Contact IBM Networks, and request the latest qcow2 IBM COS FA Gateway disk image.

To install the IBM COS FA Gateway in OpenStack:

1 Log in to the OpenStack console and access **Admin > Images**.

🔲 openstack	🔳 a	dmin 👻								🚢 qa	
Project ~	Ima	ages	5								
Admin ^			Image Name = 🔻	Image Name = V Filter			Filter	+ Crea	ate Image	× Delete images	
System ^		Project	Image Name	Type	Status	Public	Protected	Format	Size	Actions	
Overview		admin	CTERA Portal - Example	Image	Active	Yes	No	QCOW2	7.5 GB	Edit Image	
Hypervisors Host Aggregates		admin	CTERA Portal	Image	Active	No	Yes	QCOW2	7.5 GB	Edit Image	
Instances		admin	QA - Vgateway 5.5.193	Image	Active	No	No	QCOW2	71.1 MB	Edit Image	
Volumes		admin	vGateway - 5.5.193	Image	Active	No	No	QCOW2	71.1 MB	Edit Image	
Flavors		admin	QA - 5.5.191	Image	Active	No	No	QCOW2	71.2 MB	Edit Image	
Images		admin	vGateway - 5.5.191	Image	Active	No	No	QCOW2	71.2 MB	Edit Image	
Routers		admin	vGateway - 6.0.36	Image	Active	No	No	QCOW2	71.5 MB	Edit Image	
Defaults		admin	55189kvm	Image	Active	No	No	QCOW2	71.1 MB	Edit Image	
Metadata Definitions		admin	vGateway - 5.5.186	Image	Active	No	No	QCOW2	71.2 MB	Edit Image	
System Information		admin	vGateway - 5.5.184	Image	Active	No	No	QCOW2	71.3 MB	Edit Image	
		admin	CentOS - CTERA Portal Image 5.5.207	Image	Active	Yes	No	QCOW2	7.6 GB	Edit Image	
		admin	CentOS - CTERA Portal Image 6.0.23.2	Image	Active	Yes	No	QCOW2	7.3 GB	Edit Image	
		admin	CentOS - CTERA Portal Image 6.0.23.1	Image	Active	Yes	No	QCOW2	7.3 GB	Edit Image	
		admin	CentOS - CTERA Portal Image 5 5 206	Image	Active	Yes	No	QCOW2	7.5 GB	Edit Image	

2 Click Create Image.

Create An Image	×
Name *	
	Description:
Description	Specify an image to upload to the Image Service.
	Currently only images available via an HTTP URL are supported. The image location must be accessible to the Image Service. Compressed image binaries are
Image Source	supported (.zip and .tar.gz.)
Image Location	 Please note: The Image Location field MUST be a valid and direct URL to the image binary. URLs that redirect or
Image Location 🛛	serve error pages will result in unusable images.
Format *	
Select format	v
Architecture	
Minimum Disk (GB) O	
Minimum RAM (MB) Ø	
🖉 Copy Data 🖗	
Public	
Protected	
	Cancel Create Image

The **Create An Image** screen is displayed.

3 Specify the details for the image.Name - A unique name to identify the image.

Description – An optional description of the image.

Image Source - Select Image File.

Image File – Browse to the OpenStack image received from IBM.

Format - Select QCOW2 - QEMU Emulator.

Architecture – Leave blank.

Minimum Disk - The recommended disk size is 16GB.

Minimum RAM – The minimum RAM requirement is 2GB (2048MB). The maximum RAM usage is 8GB.

You can leave both **Public** and **Protected** checkboxes with their default values.

4 Click **Create Image**.

The image is created. This can take a few minutes.

5 Access **Project > Compute > Instances**.

🔲 openstack		🛙 admin 🔻									🛔 qa 🔻	
Project ^	roject ^ Instances											
Compute ^			In	stance Name 🔻	Filter		F	Filter 🔷 Lau	nch Insta	ince x1	ferminate Ins	tanco
Overview		Instance	Image					Availability		Power	Time	
Instances		Name	Name	IP Address	Size	Key Pair	Status	Zone	Task	State	since created	Α
Volumes Images		vGateway - 5.5.193	vGateway - 5.5.193	10.30.40.206 Floating IPs: 192.168.99.82	m1.tiny	openstack_qa	Active	nova	None	Running	1 day, 3 hours	[
Access & Security		vGateway - 5.5.191	vGateway - 5.5.191	10.30.40.199 Floating IPs: 192.168.99.170	m1.tiny	openstack_qa	Active	nova	None	Running	1 week, 2 days	[
Object Store Admin Identity		vGateway - 6.0.36	vGateway - 6.0.36	10.30.40.188 Floating IPs: 192.168.99.194	m1.tiny	openstack_qa	Active	nova	None	Running	3 weeks	
		vGateway- 5.5.189	55189kvm	10.30.40.187 Floating IPs: 192.168.99.160	m1.small	openstack_qa	Active	nova	None	Running	3 weeks	
		vGateway - 5.5.186	vGateway - 5.5.186	10.30.40.182 Floating IPs: 192.168.99.104	m1.tiny	openstack_qa	Active	nova	None	Running	1 month, 1 week	
192.168.99.250/dashboard/proiect/insta	nces/			10.30.40.98								•

6 Click Launch Instance.

The Launch Instance screen is displayed.

Launch Instance			2
Details * Access & Security	Networking *	Post-Creation Adva	anced Options
Availability Zone nova Instance Name *	v	Specify the details for The chart below show in relation to the project Flavor Details	launching an instance. s the resources used by this project ct's quotas.
		Name	m1.tiny
Flavor * 😧		VCPUs	1
m1.tiny	٣	Root Disk	1 GB
Instance Count * 🕢		Ephemeral Disk	0 GB
1		Total Disk	1 GB
Instance Boot Source * 🛛		RAM	512 MB
Select source	v	Project Limits Number of Instances	7 of 1,000 Use
		Number of VCPUs	7 of 40 Use
		Total RAM	6,656 of 251,200 MB Use
			Cancel

7 Specify the details for the image.

Availability Zone – Select the availability zone for the instance.

Instance Name – A unique name for the instance.

Flavor – Select a flavor for the IBM COS FA Gateway. The maximum CPUs is 4 with 8GB RAM, such as m2.medium.

Instance Count – Leave the default value, 1.

Instance Boot Source - Select Boot from image.

Image Name – Select the image you created for the IBM COS FA Gateway.

8 Click the Networking tab and drag the internal_network option to Selected networks.

Details *	Access & Security	Networking *	Post-Creation	Advanced Options
Selected n	etworks		Choose netwo	rk from Available networks to Selected
Available i	networks			

9 Click Launch.

🧰 openstack		🔳 admin 🔻										🛔 qa 🔻
Project ^	Ir	nstanc	es									
Compute ^			Ir	nstance Name 🔻	Filter		F	Filter 🔷 Lau	nch Insta	nce x1	Terminate Inst	ances More Actions -
Overview		Instance	Image	IP Address	Size	Key Pair	Status	Availability	Task	Power	Time	Actions
Instances		Name	Name			,		Zone		State	created	
Volumes		KVM-	KVM-	10.30.40.110			A		News	Dunning	d autouda	Querte Querre het
Access & Security		VM	Gateway		m i.xiarge	openstack_qa	Active	nova	None	Running	i minute	Create Shapshot
Network ~		vGateway - 5.5.193	vGateway - 5.5.193	10.30.40.206 Floating IPs:	m1.tiny	openstack_qa	Active	nova	None	Running	2 weeks, 2 days	Create Snapshot
Object Store ~				192.168.99.82								
Admin ~		vGateway	vGateway	10.30.40.199	m1 tiny	oponstack ga	Activo	DOVA	None	Pupping	3 weeks,	Create Spanchot
Identity ~		- 5.5.191	- 5.5.191	192.168.99.170	in r.uny	openstack_qa	Active	nova	None	running	2 days	Greate Shapshot
				10.30.40.188								

10 Select the IBM COS FA Gateway instance and under Actions select Associate Floating IP.

🔲 openstack	(admin 🔻										🚢 qa 🔻	
Project	^	In	stanc	es										
Compute	^			Ir	nstance Name 🔻	Filter			Filter 🔷 Lau	nch Insta	nce x1	Terminate In	Istances More Actions -	
	Overview		Instance	Image	10.4.11		K D .	- Availability		T 1	Power	Time		
	Instances		Name	Name	IP Address	Size	Key Pair	Status	Zone	Task	State	created	Actions	
	Volumes		KVM-											
	Images		Gateway- VM	KVM- Gateway	10.30.40.110	m1.xlarge	openstack_qa	Active	nova	None	Running	1 minute	Create Snapshot 👻	
Acce	ess & Security												Associate Floating IP	
Network	~		vGateway	vGateway	10.30.40.206	4.0		:				. ·	2 weeks,	Attach Interface
Object Store	~		- 5.5.193	- 5.5.193	Floating IPs: 192.168.99.82	m1.tiny	openstack_qa	Active	nova	None	Running	2 days	Edit Instance	
Admin	~		uCotowou	Cataway	10.30.40.199							2 weeks	Edit Security Groups	
Identity	~	• • • • • • • • • • • • • • • • • • •		- 5.5.191	Floating IPs: 192 168 99 170	m1.tiny	openstack_qa	Active	nova	None	Running	2 days	View Log	
					10 20 40 499								Pause Instance	
					10.30.40.188								Suspend Instance	

The Manage Floating IP Associations dialog is displayed.

Manage Floating IP Associa	tions		×
IP Address * IP Address * Select an IP address Port to be associated *	+	Select the IP address you wish to associate with the selected instance or port.	
KVM-Gateway-VM: 10.30.40.110	Ŧ		
		Cancel Associate	

- **11** Select an IP address and click **Associate**.
- Refreshing the Instances screen displays the IBM COS FA Gateway with the selected IP.
- **12** Access **Project > Compute > Volumes**.
- **13** Click **Create Volume**.

Volume Name			
		Description:	
Description		Volumes are block devices that c instances.	an be attached to
		Volume Type Desc	ription:
	le	If "No volume type" is selected, th created without a volume type.	he volume will be
Volume Source		Volume Limits	
No source, empty volume	•	Total Gigabytes (1,610 GB)	5,000 GB Available
Туре			
No volume type	•	Number of Volumes (43)	
Size (GB) *			
1			
Availability Zone			
nova	*		

The **Create Volume** screen is displayed.

14 Specify the details for the image.

Volume Name - A unique name to identify the volume. Description - An optional description of the volume. Volume Source - Select No source, empty volume. Type - Select iscsi.

Size – Specify the disk size. IBM COS FA Gateway recommends storage at least 20% of the IBM COS FA Portal storage. The maximum storage is 8TB.

Availability Zone – Select the same availability zone used for the image.

15 Click Create Volume.

The volume is created. This can take a few minutes.

16 Select the new volume and under Actions select Manage Attachments.

olu	mes Volume Snapshots									
						٩	+ Create Volun	ne 🔁 Acc	ept Transfer	× Delete Volumes
	Name	Description	Size	Status	Туре	Attached To	Availability Zone	Bootable	Encrypted	Actions
)	ExampleVolume	-	110GB	Available	iscsi		nova	No	No	Edit Volume
	vGateway-Sanity	-	80GB	Available	iscsi		nova	No	No Exter	nd Volume age Attachments
0	vGateway-Sanity	-	80GB	Available	iscsi		nova	No	No Crea	te Snapshot
٥	vGateway - 5.5.193		80GB	In-use	iscsi	Attached to vGateway - 5.5.193 on /dev/vdb	nova	No	No No Crea Dele	ige volume lype ad to Image te Transfer te Volume

Instance	Device	Action
	No items to display.	
Displaying 0 items		
Attach To Instance		
Attach To Instance ttach to Instance * • Select an instance		
Attach To Instance attach to Instance * I Select an instance		

The Manage Volume Attachments dialog is displayed.

17 Under Attach To Instance, select the IBM COS FA Gateway instance and click Attach Volume.

Vc	lumes Volume Snapshots									
			F	ilter		Q	+ Create Volum	ne 🛛 🛱 Acc	cept Transfer	× Delete Volumes
	Name	Description	Size	Status	Туре	Attached To	Availability Zone	Bootable	Encrypted	Actions
	ExampleVolume	-	110GB	In-use	iscsi	Attached to KVM- Gateway- VM on /dev/vdb	nova	No	No	Edit Volume 🔻

CONFIGURING THE IBM COS FA PORTAL AS A PRECONDITION TO SETTING UP THE IBM COS FA GATEWAY

Before setting up the IBM COS FA Gateway, you have to configure the IBM COS FA Portal to which the IBM COS FA Gateway will connect.

To configure the IBM COS FA Portal:

- 1 The user account on the IBM COS FA Portal used to connect the IBM COS FA Gateway to the IBM COS FA Portal must have read and write administrator permissions to enable syncing folders between the IBM COS FA Gateway and the IBM COS FA Portal.
 - a Sign in to the IBM COS FA Portal as an administrator and access the administration user interface.
 - **b** Select **Settings > User Roles** in the navigation pane. The **Roles** window is displayed.
 - c Click **Read/Write Administrator** and in the **Edit Roles** window make sure that **Access End User Folders** is granted.

Edit Role			
Role:	Read/Write Administrator		
Permission		Granted	
Super User			Í
Access End U	ser Folders		
Manage Cloue	d Folders	V	
Manage User	5	V	
Modify User	Email	V	
Modify User	Password	V	
Manage Plans	5	V	
Modify Virtua	Portal Settings		
		SAVE	CANCEL

- 2 Create a designated user as an owner of the cloud folders and data. IBM COS FA Gateway recommends creating the owner as a local service account with administrator privileges and not a real user. Once the data is uploaded to the IBM COS FA Portal there is an owner for the data who can get elevated rights.
 - a Select **Users > Users** in the navigation pane. The **USERS** page is displayed.
 - b Click New User. The New User window is displayed.

VEW USEI				
n a Í	Username:		<u>ا</u>	
Profile	Email:			
	First Name:			
<u>\$</u>	Last Name:			
Groups	Company (Optional):			
	Role:	Read/Write Administrator	•	
Provisioning	Status:	Enabled	•	
~	Language:	English	•	
Advanced	Expiration date:			
	Password:		٩	
	Retype Password:		٩	
*				

- c Complete the following fields in the Profile option.
 Username A name for the user's IBM COS FA Portal account.
 Email An email address.
 First Name A first name for the service account.
 Last Name A last name for the service account.
 Role Select Read/Write Administrator.
 Password/Retype Password A password for the account.
- d Click SAVE.
- 3 When not using the migration tool, described in Migrating a File Server, set the folders to share with the same shares configuration as in the original file server, otherwise continue with Initial IBM COS FA Gateway Setup.

For example, the following team folders exist on a Windows server named SRV2:



Create the corresponding folders in the IBM COS FA Portal and then sync them down to the IBM COS FA Gateway. Once the folders are synced to the IBM COS FA Gateway you need to create the shares pointing to these folders via the IBM COS FA Gateway user interface.

Where appropriate, IBM COS FA Gateway recommends creating site or company cloud folders. For example, if the migrated data will be used at multiple company sites, with similar share structures

at each site, you should create a corporate cloud folder with all the folders that will be shared by all the sites underneath it and in addition have a site folder per site containing all the share folders for the site.



With this structure, you can edit the ACLs for each folder at the top level of the share.

- a Select Folders > Cloud Drive Folders in the navigation pane. The Cloud Drive Folders page is displayed.
- **b** Click **New**.

Note: You cannot set up an existing folder that already contains files.

New Cloud	D	rive Folder				
n	*	Name:				A
Settings		Description (Optional):				
		Owner:	Local Users	•	Quick Search	
		Folder Group:				-
		● Use Owner Quota				
		🔿 Use Folder Quota	GB			
		Enable Windows ACLs:				
	+					
DELETE					SAVE	CANCEL

- c Complete the fields: Name – The name for the folder.
 Description – An optional description for the folder.
 Owner – The user who is the owner of the folder, defined in step 2.
 Folder Group – A folder group for the folder.
- d Check the **Enable Windows ACLs** check box. ACL emulation enables files and folders management via standard SMB protocol using Windows Explorer.
- e Click SAVE.
- **f** Repeat steps **a** to **e** for all the share folders.
- The new folders are added to the Cloud Drive folders.
- 4 Log on to the end user IBM COS FA Portal with the service account that owns the share folders.

- 5 Select each folder and click the **Share this folder** icon \mathfrak{A} .
- 6 Add the domain users group and click $\boxed{\swarrow}$ and choose the *Read/write* permission.
 - **Note:** You can add individual users if you don't want the folder shared with every user from the domain users group.

INITIAL IBM COS FA GATEWAY SETUP

Before setting up the IBM COS FA Gateway, you have to configure the IBM COS FA Portal to which the IBM COS FA Gateway will connect, as described in Configuring the IBM COS FA Portal as a Precondition to Setting Up the IBM COS FA Gateway. After configuring the IBM COS FA Portal and installing the IBM COS FA Gateway, you need to perform an initial IBM COS FA Gateway setup. On first access to the IBM COS FA Gateway, you set up a IBM COS FA Gateway administrator and then a wizard guides you through connecting to a IBM COS FA Portal and storage and user setup. You can skip any of the wizard steps and perform them later, as described in the *IBM COS FA Gateway Administrator Guide*.

After this initial IBM COS FA Gateway setup, the file server structure is synced from the IBM COS FA Portal to the IBM COS FA Gateway.

To access the IBM COS FA Gateway and initial setup:

- 1 Open any web browser.
- 2 Enter the IBM COS FA Gateway's IP address from Select an IP address and click Associate. to navigate to the device.

When you connect to the web interface for the first time, your browser displays the **Welcome to** IBM page.

IBM Cloud Object Storage File Access								
Welcome to IBM								
Thank you for choosing IBM! Before using your IBM product for the first time, you should set the device administrator's username and password. Later, you can use these credentials to access and manage the device.								
Username:	admin	±						
Password:		@ <mark>A</mark>						
Retype Password:		٩						
Email (Optional):								
	Save							

- 3 Choose a user name and password for the administrator. The password must be at least eight characters and must include at least a letter, digit and special character, such as ~, @, #, \$, %, ^, &, (. Other administrators are defined in the IBM COS FA Gateway user interface from Active Directory. Note: You can keep the default user name, admin.
- 4 Optionally, enter an email for receiving notifications regarding the IBM COS FA Gateway.
- 5 Click Save.

If the IBM COS FA Gateway does not have a disk, a message window is displayed. Shutdown the IBM COS FA Gateway and add a disk to the IBM COS FA Gateway virtual machine.



Otherwise, the Name this IBM COS FA Gateway window is displayed.

6 Either keep the IBM COS FA Gateway default name or enter a new name to identify the IBM COS FA Gateway and click **Next**.

The administration user interface is displayed to set up the IBM COS FA Gateway, starting with the **Account Details** window.

Main THIS DEVICE IS UNLICENSED To license this device connect it to <u>Cloud Se</u>	mices
This Device Cloud Se Services and Firmware U Activity	× Details ais device to your IBM Cloud Object Storage File Access Portal account, enter details.
Cloud Drive Storage C Users	
Share Por Storage S	tal Address:
Alerts Antivirus	
Cloud Services System	Next > Cancel

Note: You can also change the IBM COS FA Gateway name after the initial setup, as described in the *IBM COS FA Gateway Administrator Guide*.

7 Enter the DNS name of the IBM COS FA Portal to which you have an account and want to connect the IBM COS FA Gateway to, in the **Portal Address** field and click **Next**.

The Sign in window is displayed.

Sign in			
Please enter your credentials	for 192.168.19.189		
Username:			
Password:			
(approval			
		March	Canaal

Note: If single sign-on has been implemented, you click the Sign-in button to continue.

8 Enter the IBM COS FA Portal designated user username and password, set in step 2 in Configuring the IBM COS FA Portal as a Precondition to Setting Up the IBM COS FA Gateway to access the IBM COS FA Portal and click **Next**.

The **Select License** window is displayed.

- 9 If required, select the license.
- **10** Click **Next**.

The Select Gateway Mode window is displayed.



CACHING provides users with LAN speed access to all the shared cloud folders on the IBM COS FA Portal. Shared storage is on the IBM COS FA Portal in the cloud with stubs saved on the IBM COS FA Gateway. A stub is a file with a tiny footprint that contains the metadata about the file, such as the file name, size, and modification date. Only the folder and file metadata and not the actual file content is saved locally. Thus, the IBM COS FA Gateway can have much less physical storage than is made available to users, who have access to both the local IBM COS FA Gateway storage and the IBM COS FA Portal storage. Systems with many file changes, where only some of the files are required locally, don't over use bandwidth between the cloud and IBM COS FA Gateway. Only the required files are passed across the wire. When a user accesses a file stub, the file is opened without delay, by streaming the file content from the cloud. After the download has completed, the

file is *unstubbed*. Any changes to the file are synced back to the IBM COS FA Portal. Folders that are always required can be pinned, in which case the files in the folders, and not the stubs, are stored on the IBM COS FA Gateway.

11 Click Next.

The Easy Storage Setup window is displayed.



The maximum storage allowed for the IBM COS FA Gateway license is also displayed.

12 Format the virtual disks.

Note: Whenever a new disk is added to the IBM COS FA Gateway, it should always be formatted.

13 Click Next.

If the setup wizard determines that certain storage configuration changes would be beneficial, the **Proposed Actions** window is displayed describing the recommended changes.

			×
Proposed Actions			
Easy Storage Setup recommends the following actions:			
 Add volume vol1 on drive of size 99.98 GB 			
The volume will be formatted as xfs			
< Previous	Skip	Next	Cancel

Note: An array is proposed only if the virtual machine has multiple disks.

14 Click Next.

The Join an Active Directory Domain window is displayed.

re jour the domain, enter the day	ername and publ		
Domain:			
Username:			
Password:			
Organizational Unit (Optional):			

15 Specify the domain details so that the IBM COS FA Gateway is populated with the users from your Active Directory domain and click Next, or, if you want to set up Active Directory later, click Skip. The Wizard Completed window is displayed.

16 Click Finish.

The **CONFIGURATION** tab's **Main > Home** page is displayed.

IBM Cloud Object Storage File Access	FILES	CONFIGURATION
Main – Home This Device	CLOUD DRIVE Cloud Drive Sync Log Settings CLOUD DRIVE Cloud Services and Subscription Remote Access Firmware Updates	
Dashboard Activity	Users & Sharing Users Ilie Sharing Join Domain/Workgroup	on
Cloud Drive Users Share	Monitoring & Alerts Status Dashbaard Event Log Email Alerts	
Storage Event Log	Setup Wizard File Server Migration	
Alerts Antivirus		
Cloud Services System VGateway:vGateway-afb9 <i>i</i>		Ĭ admin • ♀ • 7.0.1111.3

If you selected CLOUD BACKUP, you can enable caching at a later date.

17 Select **Main > Dashboard** and verify that all the hard disk drives installed in the IBM COS FA Gateway are available.

Object Storage File Access		FILES	CONFIGURATION
Main	Hard Disk Drives		
Home	SATA1-0-1 100.00 GB		
This Device	In Use		
Dashboard	Volumes		
Activity	vol1 Storage Device: SATA1-0-1		
Cloud Drive	Online [Ready]		
Users			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Note: You can rerun the wizard by selecting **Main > Home** and click **Setup Wizard**.

You can migrate a file server to IBM COS FA Gateway so that end users who are familiar with a given folder structure and share, while using the file server, continue to see the same folder structure and shares after migration to the IBM COS FA Gateway. If you are replacing an exiting file server with the IBM COS FA Gateway, continue with Migrating a File Server.

For full details about managing the IBM COS FA Gateway, see the *IBM COS FA Gateway Administrator Guide*.

LOADING A SELF-SIGNED CERTIFICATE TO IBM COS FA GATEWAY

When the object storage used by theIBM COS FA Portal uses a X.509 Certificate signed by a private Certification Authority (a self-signed certificate) and not a public trusted certificate, this certificate must be uploaded to the IBM COS FA Gateway. You upload the certificate using the following procedure that requires a REST client tool such as Postman or HTTPie.

To upload a self-signed certificate to the IBM COS FA Gateway:

- 1 Get the certificate used by the object storage.
- 2 Launch the REST client.
- 3 Log in to the IBM COS FA Gateway with the following REST API, using HTTPS: https://gateway IP/admingui/api/login with the following:

HTTP Method	POST	
Request Content-Type	application/x-www-form-urlencoded	
Request Body	Кеу	Value
	username password	username password
Expected Response Status	200 OK and an HTTP session cookie which is then used for the duration of the session. The session times out after 30 minutes of inactivity. If a response such as 403 Forbidden is returned, check the user name and password provided.	

Where:

gateway_IP – The IP address of the gateway.

username – Mandatory: The name of a user with administrative rights to the gateway. This is the username set in step **3**.

password - Mandatory: The password for the user. The login is over HTTPS to ensure that the

password is encrypted. This is the password set in step 3.

Upon receiving a successful login reply, the server sets HTTP session cookies. The client must return these cookies to the server in the next request.

- **Note:** To ensure that the session cookie returned by the API login is automatically returned in subsequent requests to the server, the same HttpClient object must be used for all future requests.
- 4 Copy to your clipboard the contents of the certificate.
- 5 Upload the certificate using the following REST API:

http://gateway_IP/admingui/api/config/extStorageTrustedCA?put with the
following:

HTTP Method	POST
Request Content-Type	application/xml
Request Body	<pre><obj class="ExtStorageTrustedCA"> <att id="certificate"> <val>BEGIN CERTIFICATE ###### Certificate Content ######END CERTIFICATE </val> </att> </obj></pre>
Expected Response status	200 OK

Where:

gateway_IP – The IP address of the gateway.

Certificate Content – The content copied to the clipboard in step 4.

CHAPTER 4. MIGRATING A FILE SERVER

This chapter describes how to migrate a single file server to the IBM COS FA Gateway. After the migration has completed, end users who are familiar with a given folder structure and shares, as well as a given permission scheme continue to see the same folder structure, shares, and permission scheme. This enables the migration from a current file system to the IBM COS FA Gateway without the need to apply any structural changes such as flattening the folder structure or simplifying the permissions scheme.

You can migrate file servers including Windows File Server, NetApp ONTAP, Panzura Freedom Filer.

Access to files and folders after the migration is through SMB provided by the IBM COS FA Gateway so that users continue to access the files and folders in the same way as with the old system. You can migrate more storage than is physically available on the IBM COS FA Gateway and the user has access to this storage, even when this is much larger than the storage available on the IBM COS FA Gateway.

Note: You can migrate a single file server to the IBM COS FA Gateway as a single cloud folder. After the migration, the cloud folder will start with the C: path as it represents a single server with all the shares/nested shares.

Migrating a file server to a IBM COS FA Gateway can be performed while the current file server remains in production.



The flow when performing a migration is as follows:

MIGRATING A FILE SERVER TO THE IBM COS FA GATEWAY

Before migrating the file server to the IBM COS FA Gateway, that IBM COS FA Gateway must be connected to the IBM COS FA Portal. After finishing the initial setup, make sure that syncing between the IBM COS FA Gateway and IBM COS FA Portal is not suspended.

To migrate a single file server to the IBM COS FA Gateway as a single cloud folder involves the following procedures:

Discovering Shares – Optionally survey the current file server to discover which shares to migrate. Migrating Shares – Migration shares to the IBM COS FA Gateway.

After the migration, the cloud folder will start with the C: path as it represents a single server with all the shares/nested shares.

Discovering Shares

To discover the shares to migrate:

1 In the **CONFIGURATION** tab's **Main > Home** page, click **File Server Migration**. The **File Server Migration** page is displayed.

BBM Cloud Object Storage File Access File Server Migration	Hello admin 👻 👪 Back to Administration
Dashboard	
+	Filters: Discovery Migration Completed Deleted
	You have no jobs defined. Click "+" to create a new job

Click + to create a new job.The Create Job wizard is displayed showing the Task Type step.

Create Job	
Task Type 🛶 Co	nnect Select Shares
Discovery Analyzing shares, you will get a report with information regarding each Share.	Migration Copying shares to Object Storage File Access

The default job is a **Discovery** job. This job analyses the file server that is being replaced to identify what data should be migrated.

3 Click Next.

The **Connect** step is displayed.

Create Job	
	Task Type Connect Select Shares
Server Type	Other •
Source	Enter Source Server
Username	Enter Username
Password	Enter Password
	Cancel Previous Next

- 4 Select the server type to connect to from the drop-down box. You can connect to a **Windows Server**, **NetApp ONTAP**, **Panzura Freedom Filer** or another file server by selecting the **Other** option.
- 5 Enter the IP address or DNS name for the source file server and an administrator user name and password to access the filer server.

Note: The administrator used must have access to the files to migrate.

6 Click Next.

The **Select Shares** step is displayed.

Create Discovery Job	
	Task Type
Log Every File (Verbose Logging) Select All	
D backups	C:\var\vol\2\backups
🗆 🖿 HR	C:\var\vol\2\HR
Marketing	C:\var\vol\2\Marketing
PreviousVersions	C:\var\vol\ctera
Projects	C:\var\vol\2\Projects
🗆 🖿 public	C\var\vol\2\public
🗆 🖿 Sales	C:\var\vol\2\Sales
	Cancel Previous Create

The shares on the file server are displayed and you can select the shares that you want to migrate to the IBM COS FA Gateway.

7 Select the shares to migrate.

Create Discovery Job	
Task Type 🛶 Conr	ect Select Shares
Log Every File (Verbose Logging)	
Select All	
D backups	C:\var\vol\2\backups
R HR	C:\var\vol\2\HR
Marketing	C:\var\vol\2\Marketing
PreviousVersions	C:\var\vol\ctera
Projects	C:\var\vol\2\Projects
🗆 🖿 public	C:\var\vol\2\public
Sales	C:\var\vol\2\Sales
	Cancel Previous Create

8 Click **Create**.

After analyzing the file server the job completes and you get a report as well as a full analysis of each share in the filer server that you selected.

	IBM Clou Object Stora File Access	File Server Migr	ation		θ	Hello admin 🔻 📲 Back to Admin	nistration
D	ashk	ooard					
	+	T			Filters: Discovery	Migration Completed Deleted C	
		Source	Туре	Shares	Status		•
		192.168.28.187	Q	HR, Marketing and 2 more	Completed at: 3 Minutes Ago		-
	•					۶.	

If needed, scroll to the end of the job for buttons to access the discovery report and shares details.

IBM Cloud Object Storage File Access File Server Migration	h	🕒 Hello admin 👻 🚦 Back to Adminis
Dashboard		
+		Filters: Discovery Migration Completed Deleted C
pe Shares	Status	Actions
λ HR, Marketing and 2 more	Completed at: 4 Minutes Ago	
4		Þ

9 Click to display the discovery report.

iso	overy					
urce	Fold 92.168.28.187 5	ers Files To 639 48	tal size Progre 19.2 MB Comp	ss Server Type leted Auto Detect	csv	By Count By S
•	Share	Folders	Files	Size	Progress	Files Last Access Last Modified File Types
~	HR HR	0	25	67.8 MB	0	Below 100 KB 100 KB - 1 MB 1 MB - 1 GB Larget
2	Marketing	0	303	239.4 MB	0	
	Projects	з	9	153.3 MB	0	
2	Sales Sales	2	302	28.6 MB	0	
id:	1					Detaits

The first pane in the discovery report shows the list of shares with details of each share:

- The number of folders in the selected shares.
- The number of files in the selected shares.
- The size of the selected shares.
- The status of the report for the selected shares.

At the top of the window the sum of the information for the selected shares is displayed. The second pane in the discovery report has tabs showing the following:

Files - A pie chart with the sizes of the files in the selected shares.

Last Access – A bar chart showing when the files in the selected shares were last accessed. **Last Modified** – A bar chart showing when the files in the selected shares were last modified. **File Types** – The list of the file types in the selected shares.

- Optionally, click to export the report to a .csv file. The discovery-IBM_COS_FA_Gateway_Ip-startTimestamp-endTimestamp.csv report is downloaded, where: IBM_COS_FA_Gateway_Ip - The IP address of the IBM COS FA Gateway. startTimestamp - The starting date and time when the discovery was run. endTimestamp - The end date and time when the discovery was run.
- **10** Click **1** to display the list of every time this job was run with the results of each run.

Task Details						
Source	Type Discovery	Username admin	Shares: 4 HR, Marketing, Proj	ects, Sales		
History						G
Start Time		End Time		Status	Discovery	CSV
8 Minutes Ago		8 Minutes Ag	0	Completed		*
Task id: 1						Close

11 Optionally, in the dashboard you can select a job and click to delete it. After deleting a job, you can display all the jobs including the deleted jobs by clicking the **Deleted** filter in the dashboard.

Restore Jobs + Filters: Discovery Migration Completed Deleted C • Source Type Shares Status •	BM Object File Act	Clou Stora	File Server Migra	ation		😝 Hello admin 👻 🚦 Back to Administra
Image: constraint of the second se	Das	hb	Restore Jobs			
Source Type Shares Status	-	+				Filters: Discovery Migration Completed Deleted C
Image: state of the state	C		Source	Туре	Shares	Status
□ □ 192.168.28.187 Q HR, Marketing and 2 more Completed at 4 Minutes Ago □ □ 192.168.28.187 Q HR, Marketing and 2 more Completed at 4 Minutes Ago □ □ 192.168.28.187 Q HR, Marketing and 2 more Completed at 4 Minutes Ago	C		192.168.28.187	Q	backups, HR and 5 more	Completed at 3 Minutes Ago
L 192.168.20.107 Q HR, Marketing and 2 more Completed at 15 Minutes Age	C		192.168.28.187	Q	HR, Marketing and 2 more	Completed at: 4 Minutes Ago
4	C		192.168.28.187	Q	HR, Marketing and 2 more	Completed at: 15 Minutes Ago
						• • • • • • • • • • • • • • • • • • •

You can restore deleted jobs by selecting the deleted jobs to restore and clicking .

Migrating Shares

To migrate shares to the IBM COS FA Gateway:

1 In the **CONFIGURATION** tab's **Main > Home** page, click **File Server Migration**. The **File Server Migration** page is displayed.

٢	IBM Clo Object Sto File Access	File Server Mig	ration			😝 Hello admin 🗸	Back to Administration
I	Dash	board					
	+				Filters: Discov	very Migration Completed	Deleted C
		Source	Туре	Shares	Status		A
		192.168.28.187	Q	HR, Marketing and 2 more	Completed at: 3 Minutes Ago		
	4					_	•

Click + to create a new job.The Create Job wizard is displayed showing the Task Type step.

Cre	ate Job		
	Task Type 🔶 Co	onnect Select Shares	
			ſ
	Q	\Rightarrow	
	Discovery Analyzing shares, you will get a report with information regarding each Share.	Migration Copying shares to Object Storage File Access	
		Cancel	Next

The default job is a discovery job.

3 Click the **Migration** job to change the job to migrate a file server.

Create Migration Job	
Task Type Connect	→ Select Shares → Select Options
Discovery Analyzing shares, you will get a report with information regarding each Share.	Migration Copying shares to Object Storage File Access
	Cancel

4 Click Next.

The **Connect** step is displayed.

Create Job	
Task Type	→ Connect → Select Shares → Select Options
Server Type	Other •
Source	Enter Source Server
Username	Enter Username
Password	Enter Password
	Cancel Previous Next

- 5 Select the server type to connect to from the drop-down box. You can connect to a **Windows Server**, **NetApp ONTAP**, **Panzura Freedom Filer** or another file server by selecting the **Other** option.
- 6 Enter the IP address or DNS name for the source file server and an administrator user name and password to access the filer server.

Note: The administrator used must have access to the files to migrate.

Note: The administrator used must have access to the files to migrate.

7 Click Next.

The **Select Shares** step is displayed.

Create Migration Job	
Task Type Connect	Select Shares Select Options
Select All	
	eritariteria andala 🔺
🗆 🖿 HR	C:\var\vol\2\HR
Marketing	C:\var\vol\2\Marketing
PreviousVersions	C:\var\vol\ctera
Projects	C:\var\vol\2\Projects
🗆 🖿 public	C:\var\vol\2\public
Sales	C:\var\vol\2\Sales
	Cancel Previous Next

8 Select the shares to migrate and click **Next**. The **Select Options** step is displayed.

Create Job		
Task Type 🛶	Connect Select Shares	Select Options
 Migrate NT-ACLs Exclude these path patterns from m 	igration: (use the colon character (':') a	is separator)
Example: *.pdf:*.jpg		
Start now		
Don`t start		
Schedule:	05/25/2020	01:01 PM
Limit bandwidth to:	1000	KB/Sec
Limit during hours:	08:00 AM	05:00 PM
		Cancel Previous Create

- 9 You can select to migrate the data from the file server with the ACLs.
- **10** You can specify patterns that you do not want to migrate, separating each pattern with a colon (:). You can include the asterisk (*) as a wildcard in the pattern.
- 11 You can specify when to start the migration, either immediately or at a scheduled date and time. If you are migrating during working hours, you can throttle the bandwidth used for the migration so as not to adversely impact ongoing work.
- 12 Click Create.

After migrating all the shares, the job completes.

٢	IBM Clo Object Stor File Access	ud ^{age} File Server Mig	ration		Hello admin -
I	Dashl	board			
	+				Filters Discovery Migration Completed Deleted C
		Source	Туре	Shares	Status
		192.168.28.187	⇒	HR, Marketing and 2 more	Completed at: 20 Minutes Ago
		192.168.28.187	Q	HR, Marketing and 2 more	Completed at: 3 Hours And 56 Minutes Ago
	4				•

If needed, scroll to the end of the job for buttons to access the migration report and shares details.

	IBM Cloud Object Storage File Access File Server M	ligration	e	Hello adn	nin 🕶 📲	Back to A	dministration
	Dashboard						
	+		Filters: Discovery	Migration	Completed	Deleted	G
		Status			Actions		^
	ng and 2 more	Completed at: 20 Minutes Ago			8		
~~		man for the state of the state	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~		\sim	

13 Click 🖉 to edit the migration job schedule and throttling.

Edit		
Schedule:	09/24/2020	05:10 PM
Limit bandwidth to:	1000	KB/Sec
Limit during hours:	08:00 AM	05:00 PM
		Cancel Update

14 Click to display the migration report.

Migration					
Source	Server Type Auto Detect	Log			
Share	Status	Files Copied	Size Copied	Start Time	End Time
HR HR	Completed	25	67.8 MB	Aug 30, 2020, 01:40 PM	Aug 30, 2020, 03:52 PM
Marketing	Completed	303	239.4 MB	Aug 30, 2020, 03:52 PM	Aug 30, 2020, 03:52 PM
Projects	Completed	9	153.3 MB	Aug 30, 2020, 03:52 PM	Aug 30, 2020, 03:52 PM
Sales	Completed	302	28.6 MB	Mar 30, 2020, 03:52 PM	Mar 30, 2020, 03:52 PM
4					• •
Job id: 5					Details Close

- Optionally, click to export the migration log file to a .log text file.
- 15 Click to display the list of every time this job was run with the results of each run, including the start and end times for the job, the number of files migrated and the total size of the migration, access to the report and the ability to download the log, which provides information about the migration and any errors that occurred during the migration.
- 16 Optionally, in the dashboard you can select a job and click it. After deleting a job, you can display all the jobs including the deleted jobs by clicking the **Deleted** filter in the dashboard.

You can restore deleted jobs by selecting the deleted jobs to restore and clicking 💼.

The share structure from the source is recreated on the IBM COS FA Gateway, including nested shares and their permissions. If there are any recoverable errors during the copy process, retry the migration for the failed shares.

Note: Only ACLs are migrated with the files. Extended attributes are not migrated. In the IBM COS FA Gateway the shares are defined with Windows ACL Emulation Mode, as in the following example.

				FILES	CONFIGURATION
Network Shares	5				
🕀 New Share 🏼 🖉	🕈 Edit Share 🛛 🛱	Remove Share	Advanced		S
Name	Volume	Path	Access	Protocols	Comment
Depublic	vol1	/public	Only Authenticated Users	۹	Auto-generated
Coud	vol1	/cloud	Windows ACL Emulation Mode	Q	Auto-generated
L∰ HR	vol1	/cloud/HR	Windows ACL Emulation Mode	۹	Created by Migration Tool
Marketing	vol1	/cloud/Mar	Windows ACL Emulation Mode	۹	Created by Migration Tool
Projects	vol1	/cloud/Projects	Windows ACL Emulation Mode	۹	Created by Migration Tool
Cales	vol1	/cloud/Sales	Windows ACL Emulation Mode	۹	Created by Migration Tool
•					•
	Network Share:	Network Shares Name Volume Name vol1 public vol1 cloud vol1 HR vol1 Marketing vol1 Projects vol1 Sales vol1	Network Shares	Network Shares Name Edit Share Remove Share Advanced Name Volume Path Access public vol1 /public Only Authenticated Users cloud vol1 /cloud Windows ACL Emulation Mode HR vol1 /cloud/HR Windows ACL Emulation Mode Marketing vol1 /cloud/Mar Windows ACL Emulation Mode Projects vol1 /cloud/Projects Windows ACL Emulation Mode Sales vol1 /cloud/Sales Windows ACL Emulation Mode	Network Shares Network Share New Share Edit Share Name Volume Path Access public vol1 vol1 /public Only Authenticated Users Q Icitod vol1 vol1 /cloud/HR Windows ACL Emulation Mode Q Marketing vol1 /cloud/Mar Vindows ACL Emulation Mode Q Sales vol1 /cloud/Sales Windows ACL Emulation Mode Q Sales vol1 /cloud/Sales

Unless the migration is completed when there is no access to the original file server, after completing the migration there may well be a number of new or changed files on the original file server that require migrating. Continue the migration process using the following procedure.

To complete a migration:

- 1 During off-peak hours, disconnect the filer server.
- 2 In the IBM COS FA Gateway user interface, pin the folders that you want to remain local to the IBM COS FA Gateway.
 - a In the **CONFIGURATION** tab, select **Cloud Drive > Pinned Folders** in the navigation pane. The **Pinned Folders** page is displayed.

BBM Cloud Diject Storage File Access		FILES CONFIGURA
Main	Pinned Folders	
Cloud Drive =		Search by user
Cloud Drive		Folders owned by Admin Admin
Pinned Folders	Users	Documentation
File Search	🔲 🗋 Admin Admin	Global Online Help - May 2019
Users	🔲 🗀 End User1	Global Online Help - May 2020 Global Online Help - May 2020 Global Online Help - May 2020
Share		▶ □□ Azure
Storage	End User2	
Event Log	End User3	Configuring_a_Restricted_Shell Drenect
Alerts	End Usord	→ □ CSS
Antivirus	4 4 Page 1 of 1 ▶ ▶	[] Global_Administration
Cloud Services		Save Revert

The **Pinned Folders** area is separated into a users pane and folders pane, with paging in the users pane. This makes it easier to page through the users and select the folders to pin.

- **b** Select a user to display the folders owned by the user and then select the folders that you want pinned for this user, so that the folder content is always available on the IBM COS FA Gateway. In addition, you can use the search field to jump to a specific user.
 - **Note:** You can select a a user to select all the folders and subfolders owned by the user. You can also select a higher level folder to select all the subfolders under it and then uncheck specific folders to unpin them. If you check a cloud folder, all the subfolders under the cloud folder are pinned and any folders added later under the cloud folder will be pinned automatically.
- c Click Save.

The checked folders are pinned.

3 In the **CONFIGURATION** tab's **Main > Home** page, click **File Server Migration**. The **File Server Migration** page is displayed.

Object Storag File Access	File Server Migrat	ion		8 Hello admin -
Dashb	oard			
+	Ĩ			Filters: Discovery Migration Completed
	Source	Туре	Shares	Status
	192.168.28.187	Q	HR, Marketing and 2 more	Completed at: 3 Minutes Ago

4 Click to rerun the migration (if needed, scroll to the end of the job for the button). The migration reruns, migrating the deltas from the last migration.

Direct all the users to the IBM COS FA Gateway.

Users can now access and work on the IBM COS FA Gateway.