



Activate scanning on your data sources

Cloud Manager 3.8

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Activate scanning on your data sources

Getting started with Cloud Compliance for Cloud Volumes ONTAP and Azure NetApp Files

Complete a few steps to get started with Cloud Compliance for Cloud Volumes ONTAP or Azure NetApp Files.

Quick start

Get started quickly by following these steps or scroll down to the remaining sections for full details.



Deploy the Cloud Compliance instance

Deploy [Cloud Compliance in Cloud Manager](#) if there isn't already an instance deployed.



Enable Cloud Compliance in your working environments

Click **Cloud Compliance**, select the **Configuration** tab, and activate compliance scans for specific working environments.



Ensure access to volumes

Now that Cloud Compliance is enabled, ensure that it can access volumes.

- The Cloud Compliance instance needs a network connection to each Cloud Volumes ONTAP subnet or Azure NetApp Files subnet.
- Security groups for Cloud Volumes ONTAP must allow inbound connections from the Cloud Compliance instance.
- NFS volume export policies must allow access from the Cloud Compliance instance.
- Cloud Compliance needs Active Directory credentials to scan CIFS volumes.

Click **Cloud Compliance > Scan Configuration > Edit CIFS Credentials** and provide the credentials. The credentials can be read-only, but providing admin credentials ensures that Cloud Compliance can read data that requires elevated permissions.



Configure volumes to scan

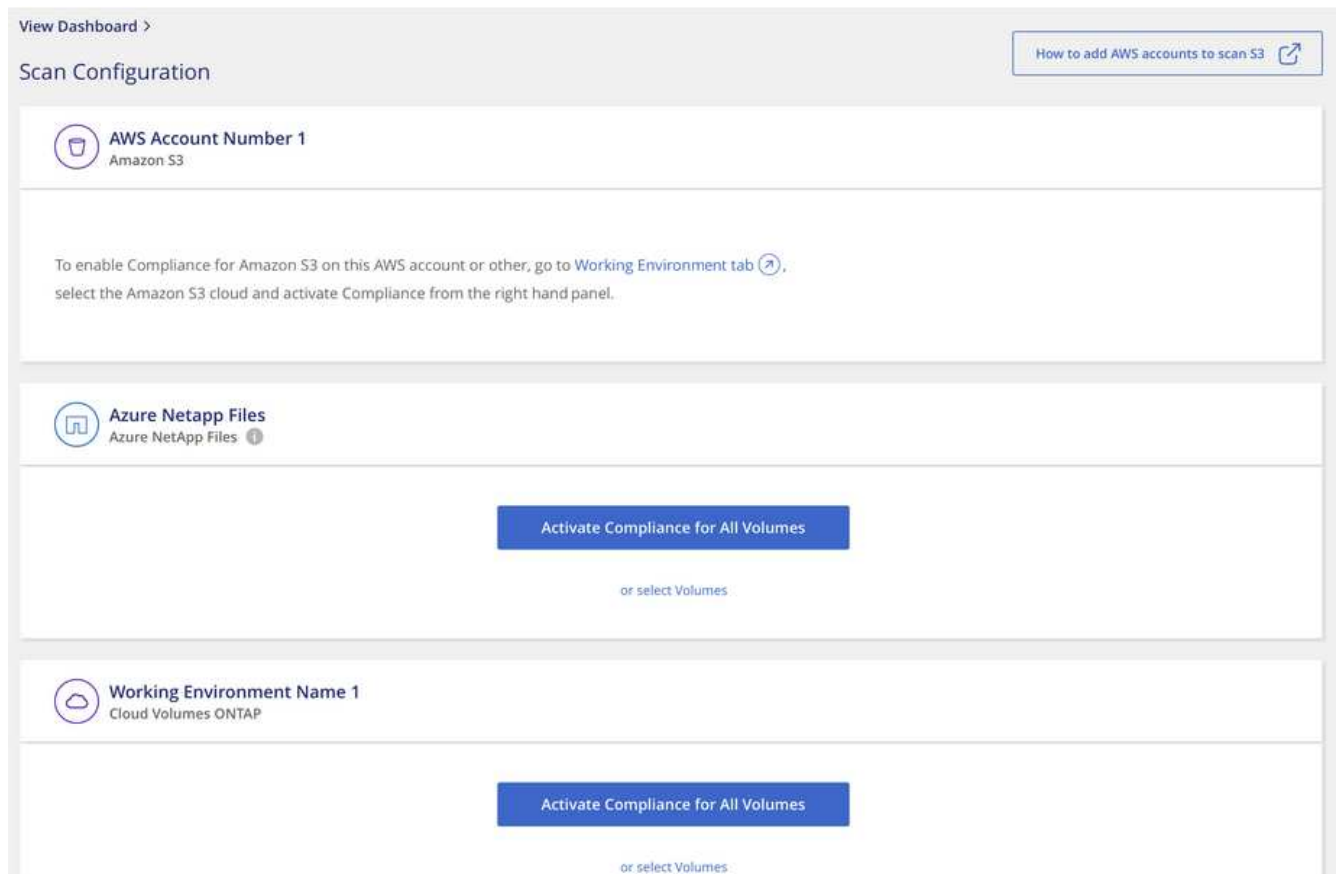
Select the volumes that you'd like to scan and Cloud Compliance will start scanning them.

Deploying the Cloud Compliance instance

Deploy [Cloud Compliance in Cloud Manager](#) if there isn't already an instance deployed.

Enabling Cloud Compliance in your working environments

1. At the top of Cloud Manager, click **Cloud Compliance** and then select the **Configuration** tab.



2. To scan all volumes in a working environment, click **Activate Compliance for All Volumes**.

To scan only certain volumes in a working environment, click **or select Volumes** and then choose the volumes you want to scan.

See [Enabling and disabling compliance scans on volumes](#) for details.

Result

Cloud Compliance starts scanning the data on each working environment. Results will be available in the Compliance dashboard as soon as Cloud Compliance finishes the initial scans. The time that it takes depends on the amount of data—it could be a few minutes or hours.

Verifying that Cloud Compliance has access to volumes

Make sure that Cloud Compliance can access volumes by checking your networking, security groups, and export policies. You'll need to provide Cloud Compliance with CIFS credentials so it can access CIFS volumes.

Steps

1. Make sure that there's a network connection between the Cloud Compliance instance and each network that includes volumes for Cloud Volumes ONTAP or Azure NetApp Files.

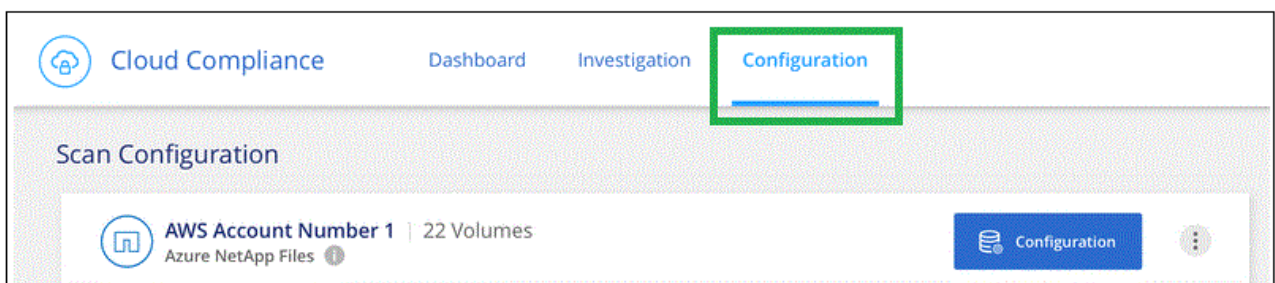


For Azure NetApp Files, Cloud Compliance can only scan volumes that are in the same region as Cloud Manager.

2. Ensure that the security group for Cloud Volumes ONTAP allows inbound traffic from the Cloud Compliance instance.

You can either open the security group for traffic from the IP address of the Cloud Compliance instance, or you can open the security group for all traffic from inside the virtual network.

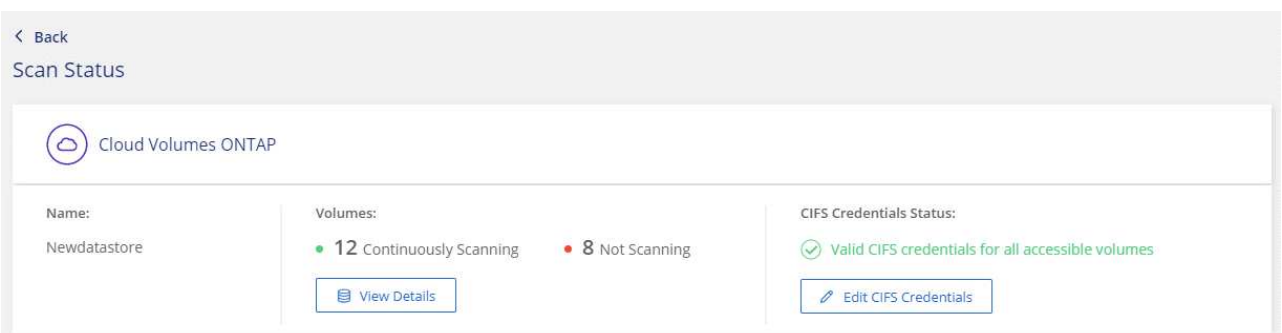
3. Ensure that NFS volume export policies include the IP address of the Cloud Compliance instance so it can access the data on each volume.
4. If you use CIFS, provide Cloud Compliance with Active Directory credentials so it can scan CIFS volumes.
 - a. At the top of Cloud Manager, click **Cloud Compliance**.
 - b. Click the **Configuration** tab.



- c. For each working environment, click **Edit CIFS Credentials** and enter the user name and password that Cloud Compliance needs to access CIFS volumes on the system.

The credentials can be read-only, but providing admin credentials ensures that Cloud Compliance can read any data that requires elevated permissions. The credentials are stored on the Cloud Compliance instance.

After you enter the credentials, you should see a message that all CIFS volumes were authenticated successfully.



5. On the *Scan Configuration* page, click **View Details** to review the status for each CIFS and NFS volume and correct any errors.

For example, the following image shows three volumes; one of which Cloud Compliance can't scan due to network connectivity issues between the Cloud Compliance instance and the volume.

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Newdatastore Scan Configuration

Activate Compliance for all Volumes | 28/28 Volumes selected for compliance scan

Compliance	Name ↑	Protocol ↑	Status ↑	Required Action ↑
<input checked="" type="checkbox"/>	10.160.7.6/yuval22	NFS	Continuously Scanning	
<input checked="" type="checkbox"/>	10.160.7.6/yuvalnewtarget	NFS	Continuously Scanning	
<input checked="" type="checkbox"/>	\\10.160.7.6\Danny_share	CIFS	No Access	The CIFS credentials that you provided have expired. Edit the CIFS credential...

Enabling and disabling compliance scans on volumes

You can stop or start scanning volumes in a working environment at any time from the Scan Configuration page. We recommend that you scan all volumes.

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Newdatastore Scan Configuration

Activate Compliance for all Volumes | 27/28 Volumes selected for compliance scan

Compliance	Volume Name ↑	Status	Required Action
<input checked="" type="checkbox"/>	VolumeName1	Not Scanning	Add CIFS Credentials
<input checked="" type="checkbox"/>	VolumeName2	Continuously Scanning	
<input type="checkbox"/>	VolumeName3	Not Scanning	
<input checked="" type="checkbox"/>	VolumeName4	Continuously Scanning	
<input checked="" type="checkbox"/>	VolumeName5	Continuously Scanning	

To:	Do this:
Disable scanning for a volume	Move the volume slider to the left
Disable scanning for all volumes	Move the Activate Compliance for all Volumes slider to the left
Enable scanning for a volume	Move the volume slider to the right
Enable scanning for all volumes	Move the Activate Compliance for all Volumes slider to the right



New volumes added to the working environment are automatically scanned only when the **Activate Compliance for all Volumes** setting is enabled. When this setting is disabled, you'll need to activate scanning on each new volume you create in the working environment.

Scanning data protection volumes

By default, data protection (DP) volumes are not scanned because they are not exposed externally and Cloud Compliance cannot access them. These volumes are typically the destination volumes for SnapMirror

operations from an on-premises ONTAP cluster.

Initially, the Cloud Compliance volume list identifies these volumes as *Type DP* with the *Status Not Scanning* and the *Required Action Enable Access to DP volumes*.

'Working Environment Name' Scan Configuration

Activate Compliance for: all Volumes | 22/28 Volumes selected for compliance scan

Enable Access to DP Volumes | Edit CIFS Credentials

Compliance	Volume Name	Type	Status	Required Action
<input type="checkbox"/>	VolumeName1	DP	Not Scanning	Enable access to DP Volumes
<input checked="" type="checkbox"/>	VolumeName2	NFS	Continuously Scanning	
<input type="checkbox"/>	VolumeName3	CIFS	Not Scanning	

Steps

If you want to scan these data protection volumes:

1. Click the **Enable Access to DP volumes** button at the top of the page.
2. Activate each DP volume that you want to scan, or use the **Activate Compliance for all Volumes** control to enable all volumes, including all DP volumes.

Once enabled, Cloud Compliance creates an NFS share from each DP volume that was activated for Compliance so that it can be scanned. The share export policies only allow access from the Cloud Compliance instance.



Only volumes that were initially created as NFS volumes in the source ONTAP system are shown in the volume list. Source volumes that were created initially as CIFS do not currently appear in Cloud Compliance.

Getting started with Cloud Compliance for Amazon S3

Cloud Compliance can scan your Amazon S3 buckets to identify the personal and sensitive data that resides in S3 object storage. Cloud Compliance can scan any bucket in the account, regardless if it was created for a NetApp solution.

Quick start

Get started quickly by following these steps, or scroll down to the remaining sections for full details.



1 Set up the S3 requirements in your cloud environment

Ensure that your cloud environment can meet the requirements for Cloud Compliance, including preparing an IAM role and setting up connectivity from Cloud Compliance to S3. [See the complete list.](#)



Deploy the Cloud Compliance instance

Deploy [Cloud Compliance in Cloud Manager](#) if there isn't already an instance deployed.



Activate Compliance on your S3 working environment

Select the Amazon S3 working environment, click **Enable Compliance**, and select an IAM role that includes the required permissions.



Select the buckets to scan

Select the buckets that you'd like to scan and Cloud Compliance will start scanning them.

Reviewing S3 prerequisites

The following requirements are specific to scanning S3 buckets.

Set up an IAM role for the Cloud Compliance instance

Cloud Compliance needs permissions to connect to the S3 buckets in your account and to scan them. Set up an IAM role that includes the permissions listed below. Cloud Manager prompts you to select an IAM role when you enable Cloud Compliance on the Amazon S3 working environment.


```

{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "s3:Get*",
        "s3:List*",
        "s3:HeadBucket"
      ],
      "Resource": "*"
    },
    {
      "Effect": "Allow",
      "Action": [
        "iam:GetPolicyVersion",
        "iam:GetPolicy",
        "iam:ListAttachedRolePolicies"
      ],
      "Resource": [
        "arn:aws:iam::*:policy/*",
        "arn:aws:iam::*:role/*"
      ]
    }
  ]
}

```

Provide connectivity from Cloud Compliance to Amazon S3

Cloud Compliance needs a connection to Amazon S3. The best way to provide that connection is through a VPC Endpoint to the S3 service. For instructions, see [AWS Documentation: Creating a Gateway Endpoint](#).

When you create the VPC Endpoint, be sure to select the region, VPC, and route table that corresponds to the Cloud Compliance instance. You must also modify the security group to add an outbound HTTPS rule that enables traffic to the S3 endpoint. Otherwise, Cloud Compliance can't connect to the S3 service.

If you experience any issues, see [AWS Support Knowledge Center: Why can't I connect to an S3 bucket using a gateway VPC endpoint?](#)

An alternative is to provide the connection by using a NAT Gateway.



You can't use a proxy to get to S3 over the internet.

Deploying the Cloud Compliance instance

[Deploy Cloud Compliance in Cloud Manager](#) if there isn't already an instance deployed.

You need to deploy the instance in an AWS Connector so that Cloud Manager automatically discovers the S3

buckets in this AWS account and displays them in an Amazon S3 working environment.

Activating Compliance on your S3 working environment

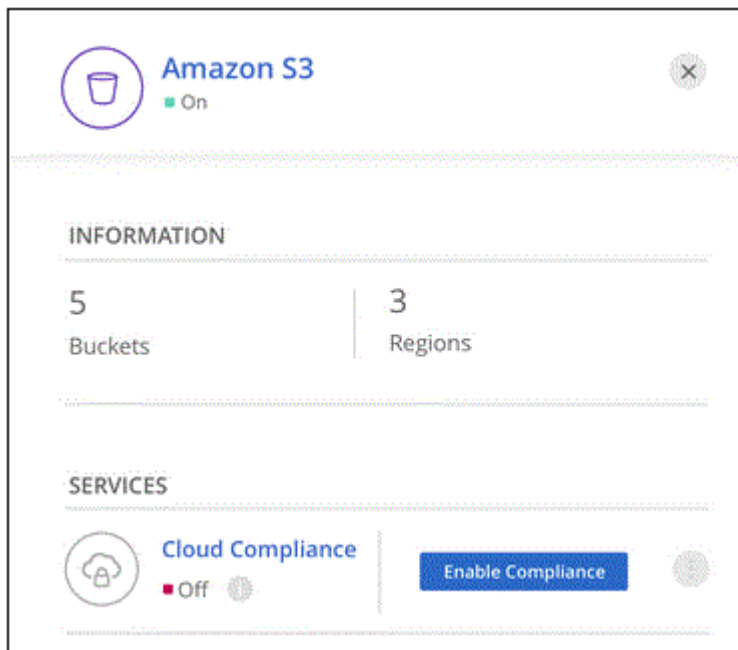
Enable Cloud Compliance on Amazon S3 after you verify the prerequisites.

Steps

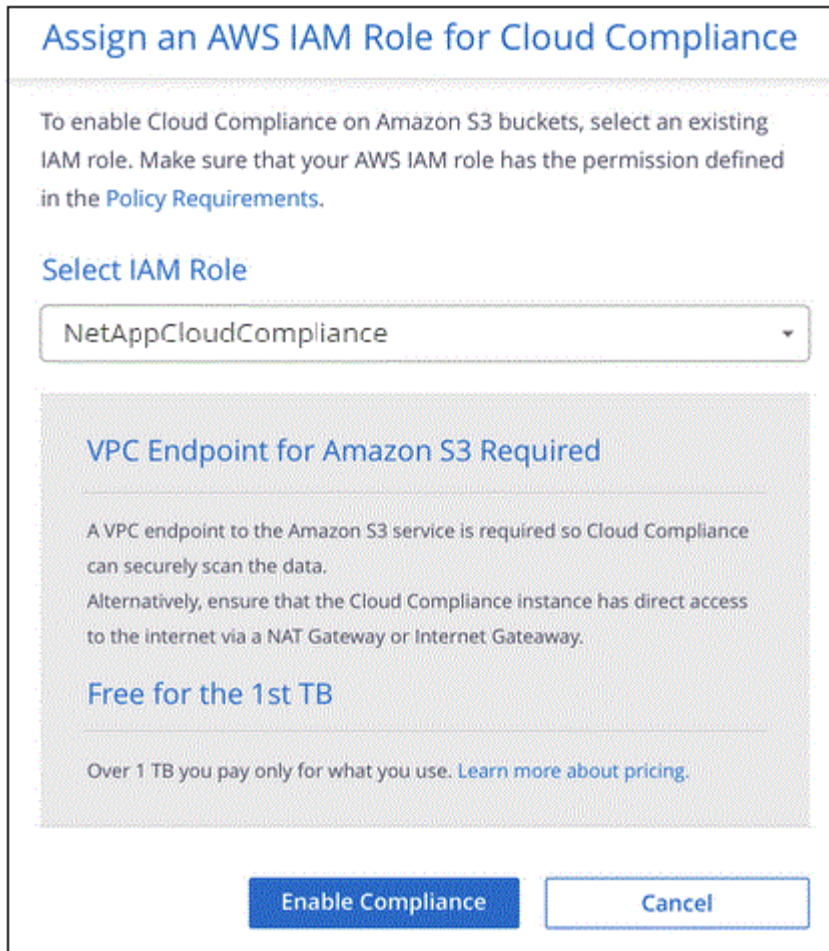
1. At the top of Cloud Manager, click **Working Environments**.
2. Select the Amazon S3 working environment.



3. In the pane on the right, click **Enable Compliance**.




4. When prompted, assign an IAM role to the Cloud Compliance instance that has [the required permissions](#).



5. Click **Enable Compliance**.



You can also enable compliance scans for a working environment from the Scan Configuration page by clicking the  button and selecting **Activate Compliance**.

Result

Cloud Manager assigns the IAM role to the instance.

Enabling and disabling compliance scans on S3 buckets

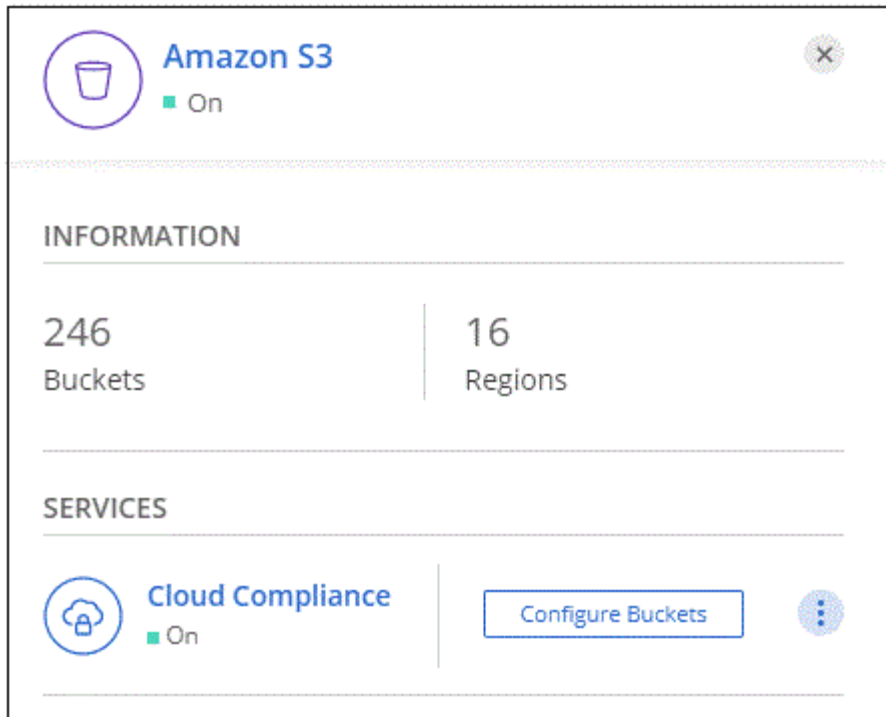
After Cloud Manager enables Cloud Compliance on Amazon S3, the next step is to configure the buckets that you want to scan.

When Cloud Manager is running in the AWS account that has the S3 buckets you want to scan, it discovers those buckets and displays them in an Amazon S3 working environment.

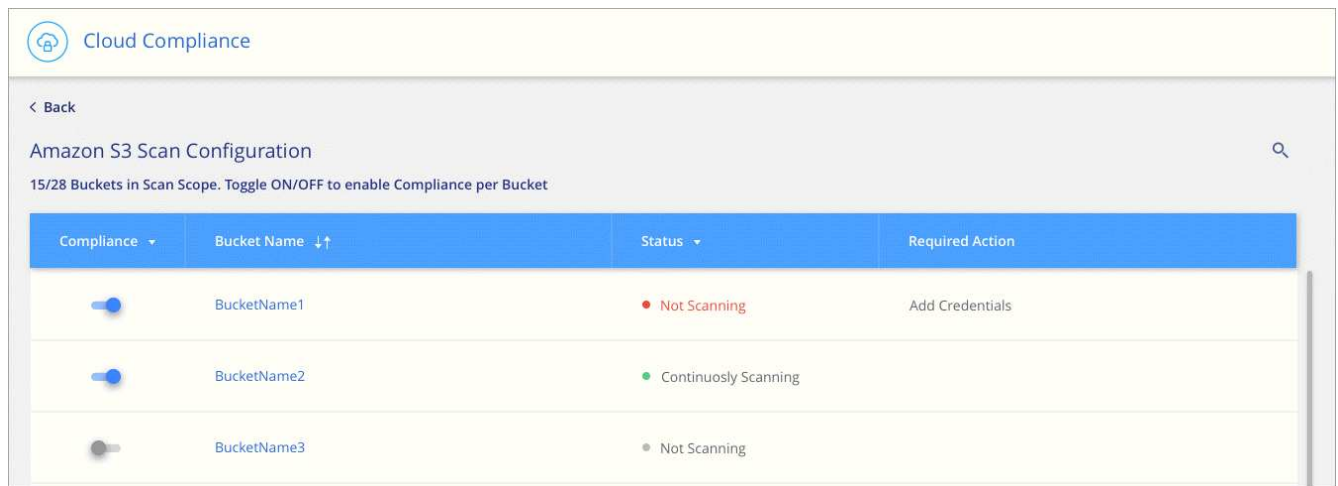
Cloud Compliance can also [scan S3 buckets that are in different AWS accounts](#).

Steps

1. Select the Amazon S3 working environment.
2. In the pane on the right, click **Configure Buckets**.



3. Enable compliance on the buckets that you want to scan.



Result

Cloud Compliance starts scanning the S3 buckets that you enabled. If there are any errors, they'll appear in the Status column, alongside the required action to fix the error.

Scanning buckets from additional AWS accounts





You can scan S3 buckets that are under a different AWS account by assigning a role from that account to access the existing Cloud Compliance instance.

Steps

1. Go to the target AWS account where you want to scan S3 buckets and create an IAM role by selecting **Another AWS account**.

Create role

Select type of trusted entity

 AWS service EC2, Lambda and others	 Another AWS account Belonging to you or 3rd party	 Web identity Cognito or any OpenID provider	 SAML 2.0 federation Your corporate directory
--	---	---	--

Allows entities in other accounts to perform actions in this account. [Learn more](#)

Specify accounts that can use this role

Account ID* ⓘ

- Options**
- Require external ID (Best practice when a third party will assume this role)
 - Require MFA ⓘ

Be sure to do the following:

- Enter the ID of the account where the Cloud Compliance instance resides.
- Change the **Maximum CLI/API session duration** from 1 hour to 12 hours and save that change.
- Attach the Cloud Compliance IAM policy. Make sure it has the required permissions.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "s3:Get*",
        "s3:List*",
        "s3:HeadBucket"
      ],
      "Resource": "*"
    }
  ]
}
```

2. Go to the source AWS account where the Cloud Compliance instance resides and select the IAM role that is attached to the instance.
 - a. Change the **Maximum CLI/API session duration** from 1 hour to 12 hours and save that change.
 - b. Click **Attach policies** and then click **Create policy**.
 - c. Create a policy that includes the "sts:AssumeRole" action and the ARN of the role that you created in the target account.

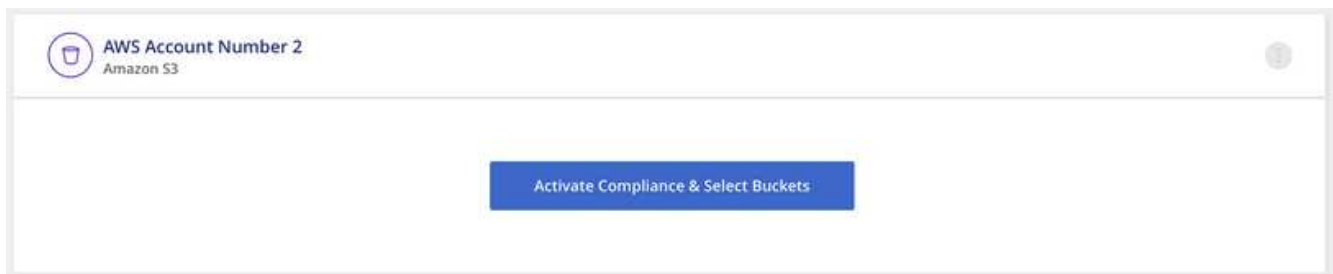
```

{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "sts:AssumeRole",
      "Resource": "arn:aws:iam::<ADDITIONAL-ACCOUNT-
ID>:role/<ADDITIONAL_ROLE_NAME>"
    },
    {
      "Effect": "Allow",
      "Action": [
        "iam:GetPolicyVersion",
        "iam:GetPolicy",
        "iam:ListAttachedRolePolicies"
      ],
      "Resource": [
        "arn:aws:iam::*:policy/*",
        "arn:aws:iam::*:role/*"
      ]
    }
  ]
}

```

The Cloud Compliance instance profile account now has access to the additional AWS account.

3. Go to the **Amazon S3 Scan Configuration** page and the new AWS account is displayed. Note that it can take a few minutes for Cloud Compliance to sync the new account's working environment and show this information.



4. Click **Activate Compliance & Select Buckets** and select the buckets you want to scan.

Result

Cloud Compliance starts scanning the new S3 buckets that you enabled.

Scanning database schemas

Complete a few steps to start scanning your database schemas with Cloud Compliance.

Quick start

Get started quickly by following these steps or scroll down to the remaining sections for full details.



Review database prerequisites

Ensure that your database is supported and that you have the information necessary to connect to the database.



Deploy the Cloud Compliance instance

Deploy [Cloud Compliance in Cloud Manager](#) if there isn't already an instance deployed.



Add the database server

Add the database server that you want to access.



Select the schemas

Select the schemas that you want to scan.

Reviewing prerequisites

Review the following prerequisites to make sure that you have a supported configuration before you enable Cloud Compliance.

Supported databases

Cloud Compliance can scan schemas from the following databases:

- MongoDB
- Oracle
- PostgreSQL
- SAP HANA
- SQL Server (MSSQL)



The statistics gathering feature **must be enabled** in the database.

Database requirements

Any database with connectivity to the Cloud Compliance instance can be scanned, regardless of where it is hosted. You just need the following information to connect to the database:

- IP Address or host name
- Port

- Service name (only for accessing Oracle databases)
- Credentials that allow read access to the schemas

When choosing a user name and password, it's important to choose one that has full read permissions to all the schemas and tables you want to scan. We recommend that you create a dedicated user for the Cloud Compliance system with all the required permissions.

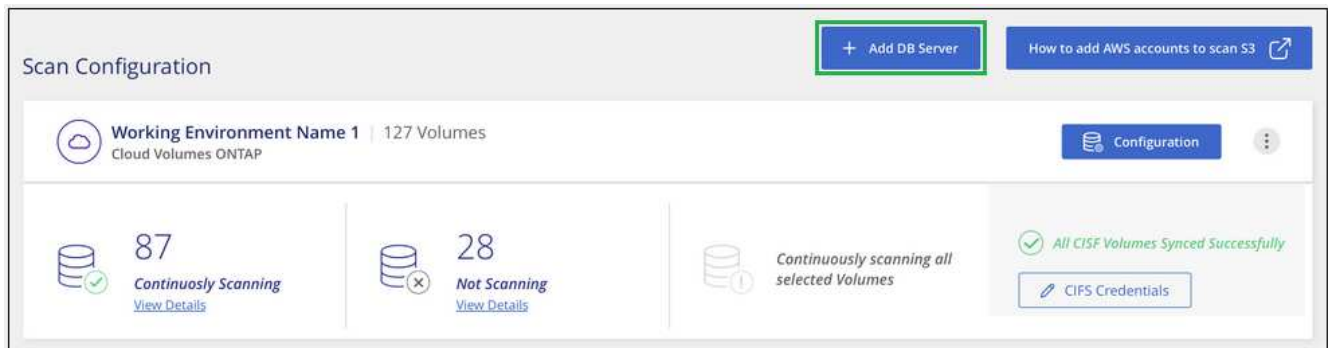
Note: For MongoDB, a read-only Admin role is required.

Adding the database server

You must have [deployed an instance of Cloud Compliance in Cloud Manager already](#).

Add the database server where the schemas reside.

1. From the *Scan Configuration* page, click the **Add DB Server** button.



2. Enter the required information to identify the database server.
 - a. Select the database type.
 - b. Enter the port and the host name or IP address to connect to the database.
 - c. For Oracle databases, enter the Service name.
 - d. Enter the credentials so that Cloud Compliance can access the server.
 - e. Click **Add DB Server**.

Add DB Server

To activate Compliance on Databases, first add a Database Server. After this step, you'll be able to select which Database Schemas you would like to activate Compliance for.

Database

Database Type

Host Name or IP Address

Port

Service Name

Credentials

Username

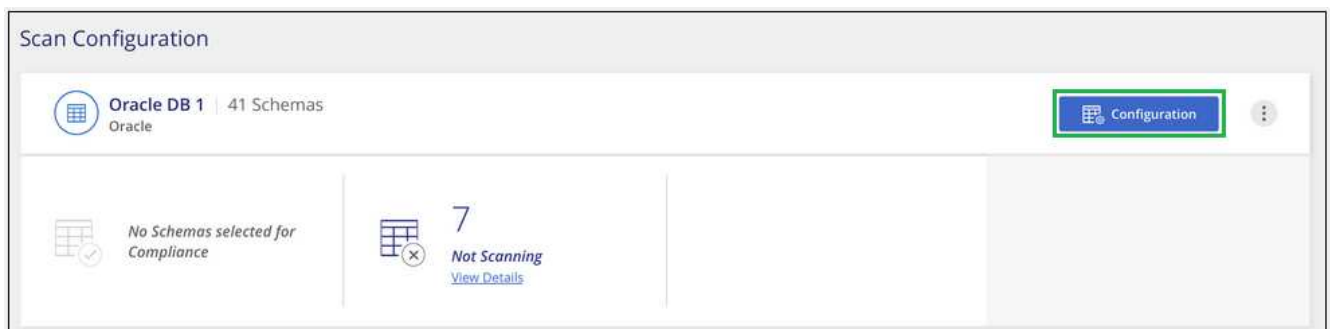
Password

The database is added to the list of working directories.

Enabling and disabling compliance scans on database schemas

You can stop or start scanning schemas at any time.

1. From the *Scan Configuration* page, click the **Configuration** button for the database you want to configure.



2. Select the schemas that you want to scan by moving the slider to the right.

'Working Environment Name' Scan Configuration			
Compliance	Schema Name	Status	Required Action
<input checked="" type="checkbox"/>	DB1 - SchemaName1	Not Scanning	Add Credentials ⓘ
<input checked="" type="checkbox"/>	DB1 - SchemaName2	Continuously Scanning	
<input checked="" type="checkbox"/>	DB1 - SchemaName3	Continuously Scanning	
<input checked="" type="checkbox"/>	DB1 - SchemaName4	Continuously Scanning	

Result

Cloud Compliance starts scanning the database schemas that you enabled. If there are any errors, they'll appear in the Status column, alongside the required action to fix the error.

Removing a database from Cloud Manager

If you no longer want to scan a certain database, you can delete it from the Cloud Manager interface and stop all scans.

From the *Scan Configuration* page, click the  button in the row for the database, and then click **Remove DB Server**.



The screenshot shows the 'Scan Configuration' page for 'Oracle DB 1 | 41 Schemas'. It features three summary cards: 'No Schemas selected for Compliance', '7 Not Scanning', and '11 No Access - Action Required'. A 'Configuration' menu is open, showing options: 'Deactivate Compliance', 'Remove DB Server' (highlighted with a green box), and '+ Credentials'.

Scanning on-premises ONTAP data with Cloud Compliance by using SnapMirror

You can scan your on-premises ONTAP data with Cloud Compliance by replicating the on-prem NFS or CIFS data to a Cloud Volumes ONTAP working environment and then enabling compliance. Scanning the data directly from an on-premises ONTAP working environment isn't supported.

You must have [deployed an instance of Cloud Compliance in Cloud Manager already](#).

Steps

1. From Cloud Manager, create a SnapMirror relationship between the on-premises ONTAP cluster and Cloud Volumes ONTAP.

- a. [Discover the on-premises cluster in Cloud Manager.](#)
 - b. [Create a SnapMirror replication between the on-premises ONTAP cluster and Cloud Volumes ONTAP from Cloud Manager.](#)
2. For DP volumes that were created from SMB source volumes, from the ONTAP CLI, configure the SMB destination volumes for data access. (This is not required for NFS volumes because data access is enabled automatically through Cloud Compliance.)
- a. [Create a SMB share on the destination volume.](#)
 - b. [Apply the appropriate ACLs to the SMB share at the destination volume.](#)
3. From Cloud Manager, activate Cloud Compliance on the Cloud Volumes ONTAP working environment that contains the SnapMirror data:
- a. Click **Working Environments**.
 - b. Select the working environment that contains the SnapMirror data and click **Enable Compliance**.

[Click here if you need help with enabling Cloud Compliance on a Cloud Volumes ONTAP system.](#)
 - c. Click the **Enable Access to DP volumes** button at the top of the *Scan Configuration* page.
 - d. Activate each DP volume that you want to scan, or use the **Activate Compliance for all Volumes** control to enable all volumes, including all DP volumes.

See [Scanning data protection volumes](#) for more information about scanning DP volumes.

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