



Working environments

Cloud Manager Automation

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Working environments

Create a working environment with PAYGO licensing

You can use this workflow to create a new Cloud Volumes ONTAP working environment using pay as you go (PAYGO) licensing. A new volume is also created with the working environment.

Before you begin

You must have a **Connector** for the cloud environment before beginning the workflow. You can create a Connector using the Cloud Manager web user interface. When you create a Connector, Cloud Manager adds the cloud provider account that you deployed the Connector in to your list of available accounts. See the [Cloud Manager documentation](#) for more information.

Also note the following when using PAYGO licensing:

- A marketplace subscription is required.
- A NetApp Support Site (NSS) key is recommended to register the system for support, but it's not required.
- You can add more volumes after creating the working environment.

1. Select the region

Perform the workflow [Get regions](#) and choose the `code` value for the `region` parameter in step 8.

2. Select the workspace

Perform the workflow [Get tenants](#) and choose the `workspacePublicId` value for the `tenantId` parameter in step 8.

3. Select the permutations configuration

Perform the workflow [Get permutations](#) and choose the `ontapVersion` and `license: type` and `instanceType` values for the `vsaMetadata` parameter in step 8.

4. Select the VPC

Perform the workflow [Get VPCs](#) and do the following:

- Choose the `vpcId` value for the `vpcId` parameter in step 8.
- Choose the `cidrBlock` values for the `ips` value of the `volume` parameter in step 8.

5. Select the EBS volume configuration

Perform the workflow [Get EBS volume types](#) and choose the `size` and `supportedVolumeTypes` values for the `ebsVolumeSize` parameter in step 8.

6. Attach a marketplace subscription

Perform the workflow [Attach SaaS subscription](#).

7. Optionally obtain an NSS key

An NSS key is optional when using PAYGO licensing. If needed, you can create a key or select an existing key, and include the NSS key in the `nssAccount` parameter in step 8.

- To create a new NSS key using the Cloud Manager web user interface, perform the task [Add NSS credentials key](#) and choose the `id`.
- To select an existing NSS key, perform the workflow [Get NSS keys](#) and choose the `id` of the required NSS user.

8. Create the working environment

HTTP method	Path
POST	/occm/api/vsa/working-environments

curl example

```
curl --location --request POST
'https://cloudmanager.cloud.netapp.com/occm/api/vsa/working-environments'
--header 'x-agent-id: <AGENT_ID>' --header 'Authorization: Bearer
<ACCESS_TOKEN>' --header 'Content-Type: application/json' --d @JSONinput
```

Input

The JSON input example includes the minimum list of parameters.



This request uses PAYGO licensing as indicated in the `licenseType` parameter.

JSON input example

```

{
  "name": "ziv01we02",
  "svmPassword": "user_password",
  "vpcId": "vpc-b16c90d4",
  "region": "us-east-1",
  "tenantId": "tenantIDgoeshere",
  "subnetId": "subnet-f4da95ac",
  "dataEncryptionType": "AWS",
  "vsaMetadata": {
    "ontapVersion": "ONTAP-9.9.0.T1",
    "licenseType": "cot-explore-paygo",
    "instanceType": "m5.xlarge"
  },
  "ebsVolumeSize": {
    "size": 100,
    "unit": "GB"
  },
  "ebsVolumeType": "gp2",
  "volume": {
    "name": "ziv02vol01",
    "size": {
      "size": 200,
      "unit": "GB"
    }
  },
  "exportPolicyInfo": {
    "policyType": "custom",
    "ips": [
      "172.31.0.0/16"
    ],
    "nfsVersion": [
      "nfs3",
      "nfs4"
    ]
  },
  "snapshotPolicyName": "default",
  "enableThinProvisioning": true,
  "enableCompression": true,
  "enableDeduplication": true
},
"writingSpeedState": "NORMAL"
}

```

Output

The JSON output example includes an example of the VsaWorkingEnvironmentResponse.

JSON output example

```
{
  "publicId": "VsaWorkingEnvironment-0NWSblaX",
  "name": "ziv01we02",
  "tenantId": "tenantIDgoeshere",
  "svmName": "svm_ziv01we02",
  "creatorUserEmail": "user_email",
  "status": null,
  "awsProperties": null,
  "reservedSize": null,
  "encryptionProperties": null,
  "clusterProperties": null,
  "ontapClusterProperties": null,
  "actionsRequired": null,
  "interClusterLifs": null,
  "cronJobSchedules": null,
  "snapshotPolicies": null,
  "svms": null,
  "activeActions": null,
  "replicationProperties": null,
  "schedules": null,
  "cloudProviderName": "Amazon",
  "isHA": false,
  "workingEnvironmentType": "VSA",
  "supportRegistrationProperties": null,
  "supportRegistrationInformation": null,
  "haProperties": null,
  "capacityFeatures": null,
  "cloudSyncProperties": null,
  "supportedFeatures": null,
  "k8sProperties": null,
  "fpolicyProperties": null,
  "saasProperties": null,
  "cbsProperties": null,
  "complianceProperties": null,
  "monitoringProperties": null
}
```

Create a working environment with BYOL licensing

You can use this workflow to create a new Cloud Volumes ONTAP working environment using bring your own license (BYOL) licensing.

Before you begin

You must have a **Connector** for the cloud environment before beginning the workflow. You can create a Connector using the Cloud Manager web user interface. When you create a Connector, Cloud Manager adds the cloud provider account that you deployed the Connector in to your list of available accounts. See the [Cloud Manager documentation](#) for more information.

Also note the following when using BYOL licensing:

- A marketplace subscription is not required.
- A NetApp Support Site (NSS) key is required to register the system for support.
- You can add a volume after creating the working environment.

To optionally create a new volume with the working environment, you must modify the JSON input provided on the REST API call. See [Create a working environment with PAYGO licensing](#) for an example.

1. Select the region

Perform the workflow [Get regions](#) and choose the `code` value for the `region` parameter in step 7.

2. Select the workspace

Perform the workflow [Get tenants](#) and choose the `workspacePublicId` value for the `tenantId` parameter in step 7.

3. Select the permutations configuration

Perform the workflow [Get permutations](#) and choose the `ontapVersion` and `license: type` and `instanceType` values for the `vsaMetadata` parameter in step 7.

You will also need to include the `platformSerialNumber` value in `vsaMetadata` parameter in the REST API call.

4. Select the VPC

Perform the workflow [Get VPCs](#) and choose the `vpcId` value for the `vpcId` parameter in step 7.

5. Select the EBS volume configuration

Perform the workflow [Get EBS volume types](#) and choose the `size` and `supportedVolumeTypes` values for the `ebsVolumeSize` parameter in step 7.

6. Obtain the required NSS key

An NSS key is required when using BYOL licensing. You can create a key or select an existing key, and include the NSS key in the `nssAccount` parameter in step 7.

- To create a new NSS key using the Cloud Manager web user interface, perform the task [Add NSS credentials key](#) and choose the `id`.
- To select an existing NSS key, perform the workflow [Get NSS keys](#) and choose the `id` of the required NSS user.

7. Create the working environment

HTTP method	Path
POST	/occm/api/vsa/working-environments

curl example

```
curl --location --request POST
'https://cloudmanager.cloud.netapp.com/occm/api/vsa/working-environments'
--header 'x-agent-id: <AGENT_ID>' --header 'Authorization: Bearer
<ACCESS_TOKEN>' --header 'Content-Type: application/json' --d @JSONinput
```

Input

The JSON input example includes the minimum list of parameters. This request uses BYOL licensing as indicated in the `licenseType` parameter. The `platformSerialNumber` is required.

JSON input example

```
{
  "name": "username",
  "svmPassword": "password",
  "vpcId": "vpc-b16c90d4",
  "region": "us-east-1",
  "tenantId": "tenantIDgoeshere",
  "subnetId": "subnet-f4da95ac",
  "dataEncryptionType": "AWS",
  "nssAccount": "ab332ce3-aa49-4995-8e09-752a0601c682",
  "vsaMetadata": {
    "ontapVersion": "ONTAP-9.9.0.T1",
    "licenseType": "cot-premium-byol",
    "instanceType": "m5.xlarge",
    "platformSerialNumber": "90120130000000000026"
  },
  "ebsVolumeSize": {
    "size": 100,
    "unit": "GB"
  },
  "ebsVolumeType": "gp2"
}
```

Output

The JSON output example includes an example of the `VsaWorkingEnvironmentResponse` response.

JSON output example


```

{
  "publicId": "VsaWorkingEnvironment-wL2MaBJs",
  "name": "username",
  "tenantId": "tenantIDshownhere",
  "svmName": "svm_ziv02we03",
  "creatorUserEmail": "user_email",
  "status": null,
  "awsProperties": null,
  "reservedSize": null,
  "encryptionProperties": null,
  "clusterProperties": null,
  "ontapClusterProperties": null,
  "actionsRequired": null,
  "interClusterLifs": null,
  "cronJobSchedules": null,
  "snapshotPolicies": null,
  "svms": null,
  "activeActions": null,
  "replicationProperties": null,
  "schedules": null,
  "cloudProviderName": "Amazon",
  "isHA": false,
  "workingEnvironmentType": "VSA",
  "supportRegistrationProperties": null,
  "supportRegistrationInformation": null,
  "haProperties": null,
  "capacityFeatures": null,
  "cloudSyncProperties": null,
  "supportedFeatures": null,
  "k8sProperties": null,
  "fpolicyProperties": null,
  "saasProperties": null,
  "cbsProperties": null,
  "complianceProperties": null,
  "monitoringProperties": null
}

```

Get working environments

You can retrieve the public identifier, working environment ID and the storage virtual machine name for Cloud Volumes ONTAP working environments (visible to currently logged in user) which would be used in other workflows.

1. Get the list of working environments

HTTP method	Path
GET	occm/api/vsa/working-environments

curl

```
curl --location --request GET
'https://cloudmanager.cloud.netapp.com/occm/api/vsa/working-environments'
--header 'Content-Type: application/json' --header 'x-agent-id:
<AGENT_ID>' --header 'Authorization: Bearer <ACCESS_TOKEN>'
```

Input

Optional query parameters:

- fields
- tenantId

Output

The JSON output example includes an array of VSA working environments.

JSON output example

```
[
  {
    "publicId": "VsaWorkingEnvironment-79VKenHW",
    "name": "ziv01we02",
    "tenantId": "tenantIDshownhere",
    "svmName": "svm_ziv01we02",
    "creatorUserEmail": "user_email",
    "status": null,
    "awsProperties": null,
    "reservedSize": null,
    "encryptionProperties": null,
    "clusterProperties": null,
    "ontapClusterProperties": null,
    "actionsRequired": null,
    "interClusterLifs": null,
    "cronJobSchedules": null,
    "snapshotPolicies": null,
    "svms": null,
    "activeActions": null,
    "replicationProperties": null,
    "schedules": null,
    "cloudProviderName": "Amazon",
    "isHA": false,
    "workingEnvironmentType": "VSA",
```

```

"supportRegistrationProperties": null,
"supportRegistrationInformation": [],
"haProperties": null,
"capacityFeatures": null,
"cloudSyncProperties": null,
"supportedFeatures": null,
"k8sProperties": null,
"fpolicyProperties": null,
"saasProperties": null,
"pbsProperties": null,
"complianceProperties": null,
"monitoringProperties": null
},
{
"publicId": "VsaWorkingEnvironment-61kN4p5P",
"name": "ziv01we03",
"tenantId": "tenantIDshownhere",
"svmName": "svm_ziv01we03",
"creatorUserEmail": "user_email",
"status": null,
"awsProperties": null,
"reservedSize": null,
"encryptionProperties": null,
"clusterProperties": null,
"ontapClusterProperties": null,
"actionsRequired": null,
"interClusterLifs": null,
"cronJobSchedules": null,
"snapshotPolicies": null,
"svms": null,
"activeActions": null,
"replicationProperties": null,
"schedules": null,
"cloudProviderName": "Amazon",
"isHA": false,
"workingEnvironmentType": "VSA",
"supportRegistrationProperties": null,
"supportRegistrationInformation": [],
"haProperties": null,
"capacityFeatures": null,
"cloudSyncProperties": null,
"supportedFeatures": null,
"k8sProperties": null,
"fpolicyProperties": null,
"saasProperties": null,
"pbsProperties": null,

```

```

    "complianceProperties": null,
    "monitoringProperties": null
  },
  {
    "publicId": "VsaWorkingEnvironment-E9WanX81",
    "name": "ziv01we04",
    "tenantId": "tenantIDshownhere",
    "svmName": "svm_ziv01we04",
    "creatorUserEmail": "user_email",
    "status": null,
    "awsProperties": null,
    "reservedSize": null,
    "encryptionProperties": null,
    "clusterProperties": null,
    "ontapClusterProperties": null,
    "actionsRequired": null,
    "interClusterLifs": null,
    "cronJobSchedules": null,
    "snapshotPolicies": null,
    "svms": null,
    "activeActions": null,
    "replicationProperties": null,
    "schedules": null,
    "cloudProviderName": "Amazon",
    "isHA": false,
    "workingEnvironmentType": "VSA",
    "supportRegistrationProperties": null,
    "supportRegistrationInformation": [],
    "haProperties": null,
    "capacityFeatures": null,
    "cloudSyncProperties": null,
    "supportedFeatures": null,
    "k8sProperties": null,
    "fpolicyProperties": null,
    "saasProperties": null,
    "cbsProperties": null,
    "complianceProperties": null,
    "monitoringProperties": null
  }
]

```

Delete a working environment

You can delete an existing Cloud Volumes ONTAP working environment.

1. Select the working environment to use

Perform the workflow [Get working environments](#) and choose the `publicId` value for the working environment used in the `workingEnvironmentId` path parameter.

2. Delete the working environment

HTTP method	Path
DELETE	/occm/api/vsa/working-environments/{workingEnvironmentId}

Curl example

```
curl --location --request DELETE
'https://cloudmanager.cloud.netapp.com/occm/api/vsa/working-
environments/<WORKING_ENV_ID>' --header 'Content-Type: application/json'
--header 'x-agent-id: <AGENT_ID>' --header 'Authorization: Bearer
<ACCESS_TOKEN>'
```

Input

Path parameter `<WORKING_ENV_ID>` (`workingEnvironmentId`)

Optional query parameters:

- `localDelete`

If `true` the Cloud Volumes ONTAP instance in the cloud is not terminated, but Cloud Manager no longer manages it (default is `false`).

- `forceDelete`

If `true` the working environment is deleted even if it is part of one or more SnapMirror relationships (default is `false`).

Output

None

Create CIFS server configuration

If you want to create CIFS volumes on your Cloud Volumes ONTAP system, you first need to configure the CIFS server. You can choose to set up the CIFS server in a workgroup or in an Active Directory domain. Review the [link](#) for more information.

Choose the workflow that is specific to your goal:

- [Set up a CIFS server in a workgroup](#)
- [Set up a CIFS server in an Active Directory domain](#)

Set up a CIFS server in a workgroup

You can configure a CIFS server in a workgroup when the Microsoft Active Directory domain infrastructure is not available.

1. Select the working environment

Perform the workflow [Get working environments](#) and choose the `publicId` value for the working environment used in the `workingEnvironmentId` path parameter.

2. Create the CIFS configuration

Create the CIFS server configuration.

HTTP method	Path
POST	/occm/api/vsa/working-environments/{workingEnvironmentId}/cifs-workgroup

curl example

```
curl --location --request POST
'https://cloudmanager.cloud.netapp.com/occm/api/vsa/working-
environments/<WORKING_ENV_ID>/cifs-workgroup' --header 'Content-Type:
application/json' --header 'x-agent-id: <AGENT_ID>' --header
'Authorization: Bearer <ACCESS_TOKEN>' --d @JSONinput
```

Input

- Path parameter `workingEnvironmentId`

JSON input example

```
{
  "serverName": "SMB_SERVER02",
  "workgroupName": "workgroup02",
  "svmName": "svm_ziv01we01"
}
```

Output

None.

Set up a CIFS server in an Active Directory domain

You can create a CIFS server on the SVM and specify the Active Directory (AD) domain to which it belongs.

1. Select the working environment

Perform the workflow [Get working environments](#) and choose the `publicId` value for the working environment used in the `workingEnvironmentId` path parameter.

2. Determine the Active Directory configuration

You need the following configuration parameters for an Active Directory server.

Input parameter	Description
dnsDomain	Use the Active Directory domain as the DNS name.
ipAddresses	Define the primary DNS IP address and optionally add a secondary IP address.
netBIOS	Use the CIFS server NetBIOS name.
organizationalUnit	Include the organizational unit as appropriate.
activeDirectoryDomain	Set the Active Directory domain to join.
activeDirectoryUsername	A username with authorization to join the domain.
activeDirectoryPassword	The password for the authorized username.

3. Create the CIFS configuration

Create the CIFS server configuration.

HTTP method	Path
POST	/occm/api/vsa/working-environments/{workingEnvironmentId}/cifs

curl example

```
curl --location --request POST
'https://cloudmanager.cloud.netapp.com/occm/api/vsa/working-
environments/<WORKING_ENV_ID>/cifs' --header 'Content-Type:
application/json' --header 'x-agent-id: <AGENT_ID>' --header
'Authorization: Bearer <ACCESS_TOKEN>' --d @JSONinput
```

Input

- Path parameter `workingEnvironmentId`

JSON input example

```

{
  "dnsDomain": "zivh.netapp.com",
  "ipAddresses": [
    "172.31.5.241"
  ],
  "netBIOS": "zivaws02we03",
  "organizationalUnit": "CN=Computers",
  "activeDirectoryDomain": "zivh.netapp.com",
  "activeDirectoryUsername": "administrator",
  "activeDirectoryPassword": "password"
}

```

Output

None.

Get CIFS server configurations

You can use this workflow to retrieve the CIFS server configurations for an existing Cloud Volumes ONTAP working environment.

1. Select the working environment

Perform the workflow [Get working environments](#) and choose the `publicId` value for the working environment used in the `workingEnvironmentId` path parameter.

2. Get the CIFS configurations

HTTP method	Path
GET	/occm/api/vsa/working-environments/{workingEnvironmentId}/cifs

curl example

```

curl --location --request GET
'https://cloudmanager.cloud.netapp.com/occm/api/vsa/working-
environments/<WORKING_ENV_ID>/cifs' --header 'Content-Type:
application/json' --header 'x-agent-id: <AGENT_ID>' --header
'Authorization: Bearer <ACCESS_TOKEN>'

```

Input

- Path parameter `workingEnvironmentId`
- Optional query parameter `svm`

Output

The JSON output example includes the CIFS configurations for an existing Cloud Volumes ONTAP ONTAP working environment.

JSON output example

```
[
  {
    "dnsDomain": "zivh.netapp.com",
    "activeDirectoryDomain": "zivh.netapp.com",
    "ipAddresses": [
      "172.31.5.241"
    ],
    "netBIOS": "zivaws02we01",
    "organizationalUnit": "CN=Computers",
    "authenticationType": "domain"
  }
]
```

Delete CIFS server configuration

You can use this workflow to delete a CIFS server configuration for an existing Cloud Volumes ONTAP working environment.

1. Select the working environment

Perform the workflow [Get working environments](#) and choose the `publicId` value for the working environment used in the `workingEnvironmentId` path parameter.

2. Delete the CIFS configurations

HTTP method	Path
POST	<code>/occm/api/vsa/working-environments/{workingEnvironmentId}/delete-cifs</code>

curl example

```
curl --location --request POST
'https://cloudmanager.cloud.netapp.com/occm/api/vsa/working-
environments/<WORKING_ENV_ID>/delete-cifs' --header 'Content-Type:
application/json' --header 'x-agent-id: <AGENT_ID>' --header
'Authorization: Bearer <ACCESS_TOKEN>'
```

Input

- Path parameter `workingEnvironmentId`
- Optional JSON body

```
{  
  "activeDirectoryUsername": "string",  
  "activeDirectoryPassword": "string",  
  "svmName": "string"  
}
```

Output

None.

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