BOCADA

Azure Cloud Recovery Plugin Configuration Guide

Contents

Azure Recovery Services vault

This is a guide to the Bocada plug-in for Microsoft Azure Recovery Services (MARS) which is an Azure cloud backup solution.

This Microsoft documentation will help explain the different types of MS Azure backup offerings:
https://docs.microsoft.com/en-us/azure/backup/backup-introduction-to-azure-backup

Recovery Services vaults overview:
https://docs.microsoft.com/en-us/azure/backup/backup-azure-recovery-services-vault-overview

As of Bocada 21.3.12 :

- ***Backup Services*** from Azure Recovery Services vaults is supported.
- ***Site Recovery Services*** from Azure Recovery services vaults is not yet supported. Please contact Bocada for current status if you require reporting on Site Recovery Services.

Azure Cloud Recovery Configuration Checklist

This checklist is an overview of the steps required to configure Azure Cloud Recovery Collections on your Bocada Data Collection Server. Detailed instructions are below.

- □ Verify access from Bocada DCS to the Azure REST API website.
- □ Obtain Tenant Id, Subscription Id, Client Id, Client Secret
- □ For Bocada 21.1.2 or older versions obtain Resource Group Name, Recovery Services vault name

Requirements

This section lists requirements that must be met prior to collecting data with the Bocada plugin for Azure:

Ports

Service	Default Port	Note
HTTPS	443	Outbound from DCS API connection via HTTPS

Supported Collection Types

The plugin, supports the following collection types from Azure Cloud Recovery servers:

Collection Type	Supported	Description
Backup	✓	Collects transactional details about backup, duplication and restore jobs. Example metrics include, start times, durations, bytes, files, errors etc. This includes In Progress jobs.
Storage	✓	Collects point-in-time inventory information. Example metrics include, total recoverable gigabytes (storage), media volume count, media volume status, etc.
Policy		Collects and stores information on policy attributes, schedules, storage units, storage groups, storage lifecycle policies, and clients.
In Progress	✓	Collects basic information on backups that are running or have completed since the previous full Backup jobs data collection. These updates are included in the Backup updates, but are lightweight and can be scheduled more often than backup updates if needed.

Data Sources

The plugin relies on the Azure REST API data source. Currently, the Bocada Azure plugin support all Azure Recovery Services vaults protected workloads (SQL in Azure VM, Azure Virtual Machine, Azure Backup Agent, Azure Backup Server, DPM, Azure Storage (Azure Files), SAP HANA in Azure VM), Azure SQL Managed Instance, Azure SQL Database.

Base URLs we use to collect data

- https://login.microsoftonline.com/
- https://management.azure.com/
- https://api.loganalytics.io/

Please note that these URLs are base, so if you want to limit network access - expect that they will be extended by specific API endpoints and by your specific data (subscription GUID etc.).

For example, on our data - one of the endpoints to get details for a specific job:
https://management.azure.com/subscriptions/2a2b6867-9493-4918-87dd-7532a22b5a79/resourceGroups/ABS-On-Prem-RSV1-RG/providers/Microsoft.RecoveryServices/vaults/ABS-On-Prem-RSV1/backupJobs/f4c37d3a-938c-4038-92d4-0149fae75325

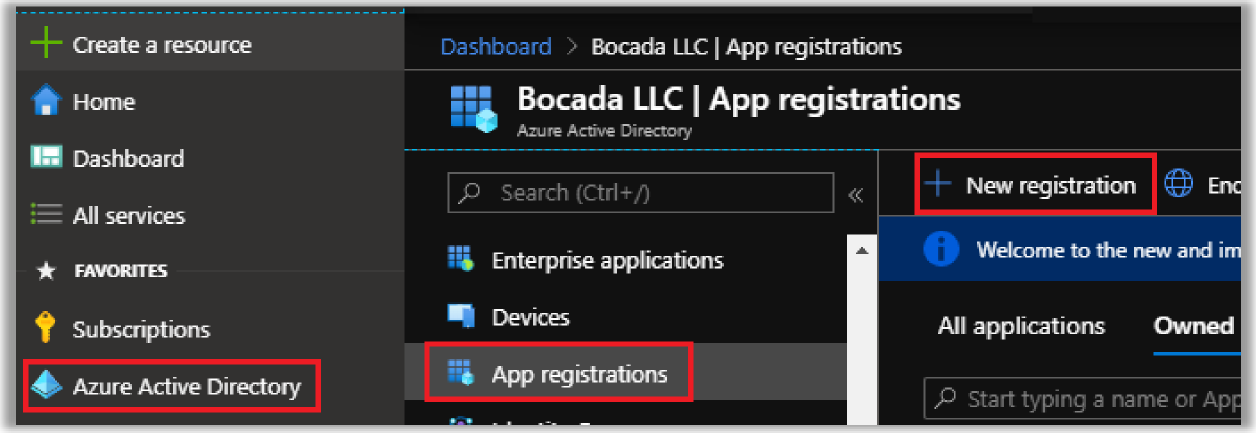
Requirements

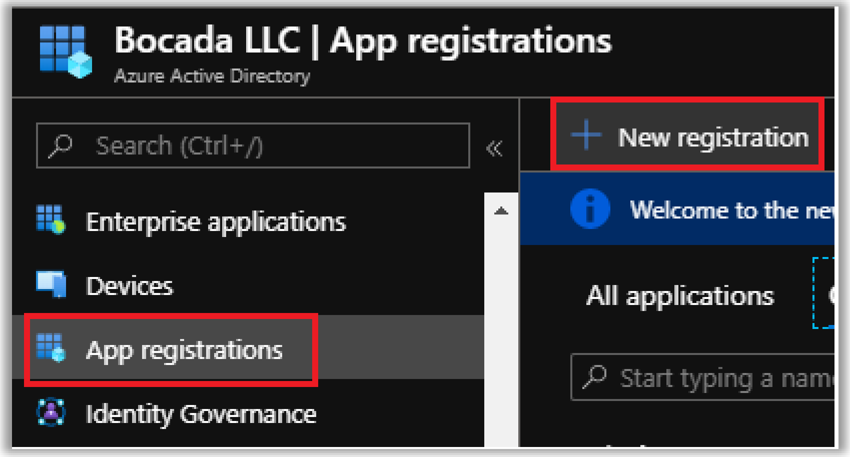
This section lists requirements that must be met before collecting data with the Bocada plugin for Azure Cloud Recovery.

Tenant ID, Client Id, & Client Secret

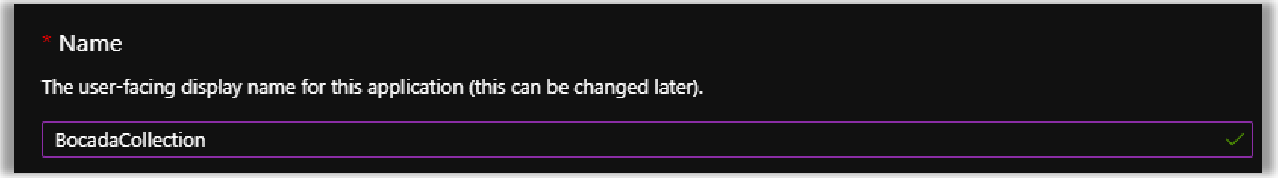
To obtain the needed properties, create a New App Registration:

1. Navigate to Azure Active Directory, then App Registration to add a new registration.





2. Name the new App:

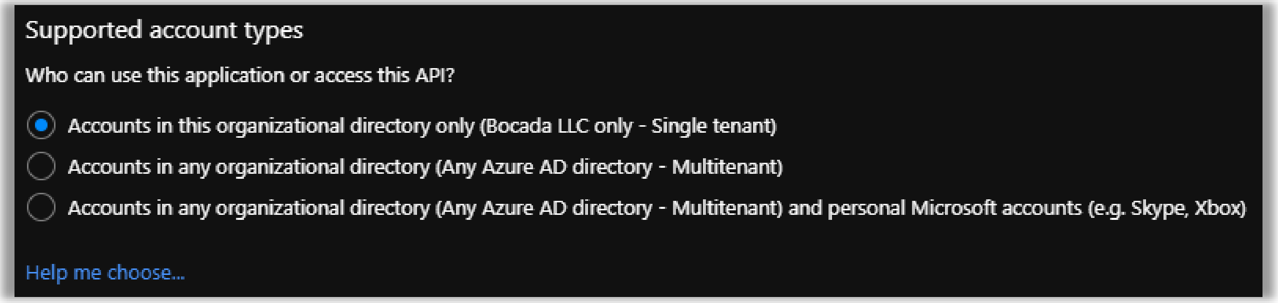


* Name

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

BocadaCollection

3. Choose the Supported Account Type:



Supported account types

Who can use this application or access this API?

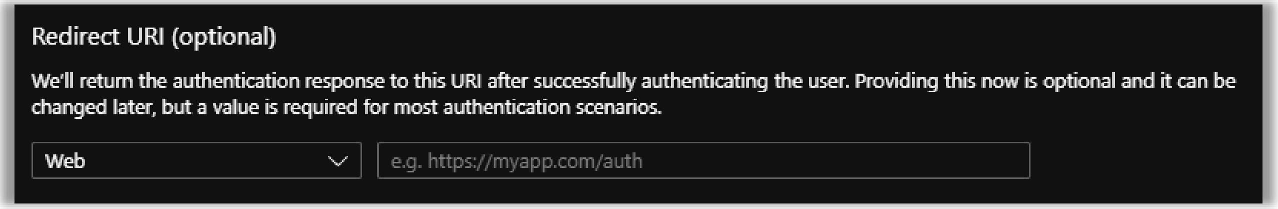
● Accounts in this organizational directory only (Bocada LLC only - Single tenant)

○ Accounts in any organizational directory (Any Azure AD directory - Multitenant)

○ Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)

Help me choose...

4. Do not set the Redirect URI:



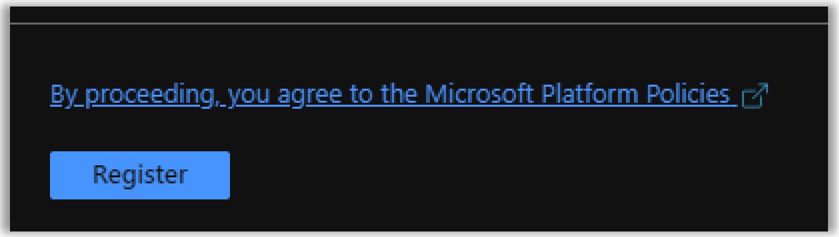
Redirect URI (optional)

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

Web

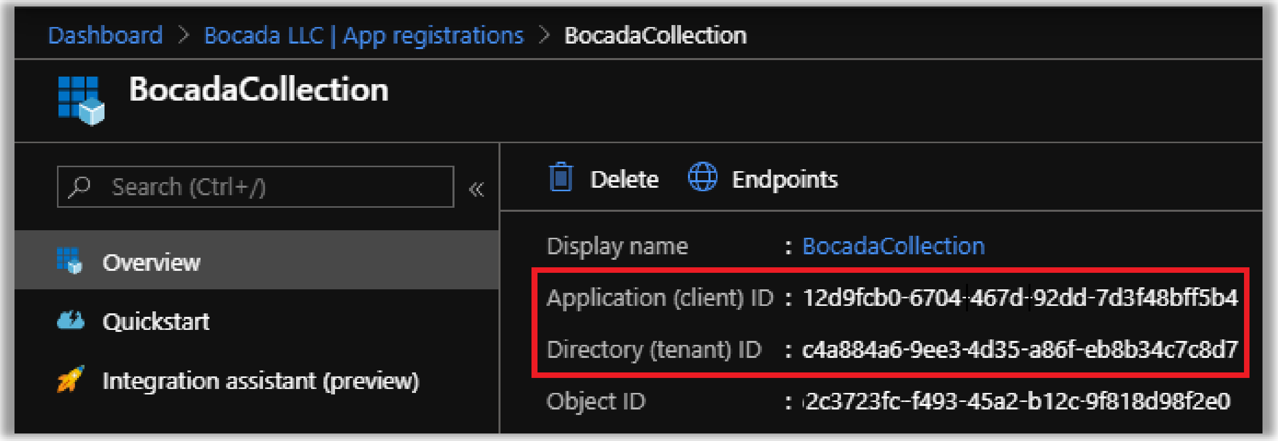
e.g. https://myapp.com/auth

5. Register:



By proceeding, you agree to the Microsoft Platform Policies

6. Note the ***Client ID*** and ***Tenant ID***:



Dashboard > Bocada LLC | App registrations > BocadaCollection

BocadaCollection

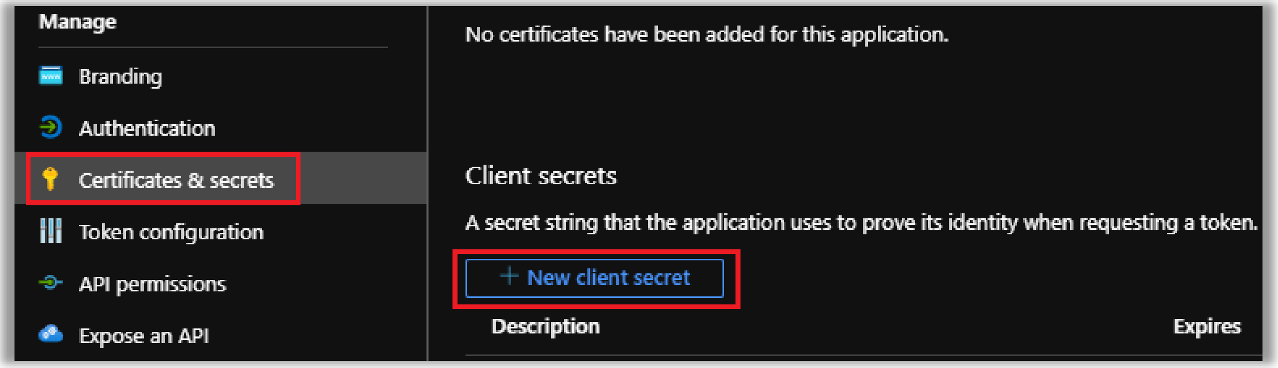
Display name : BocadaCollection

Application (client) ID : 12d9fcb0-6704-467d-92dd-7d3f48bff5b4

Directory (tenant) ID : c4a884a6-9ee3-4d35-a86f-eb8b34c7c8d7

Object ID : 2c3723fc-f493-45a2-b12c-9f818d98f2e0

7. Navigate to Certificates and Secrets, create a New client secret:

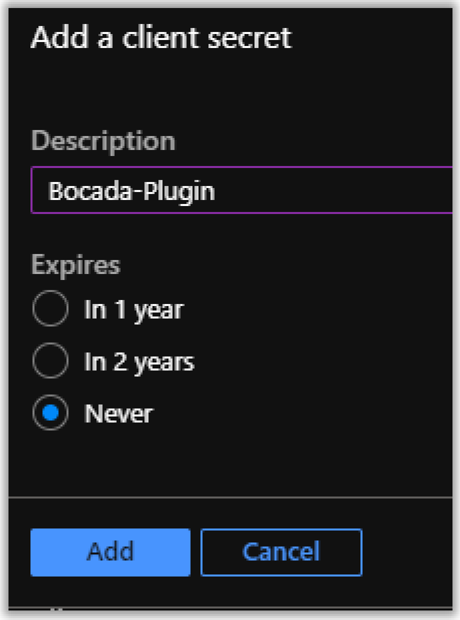


No certificates have been added for this application.

Client secrets

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

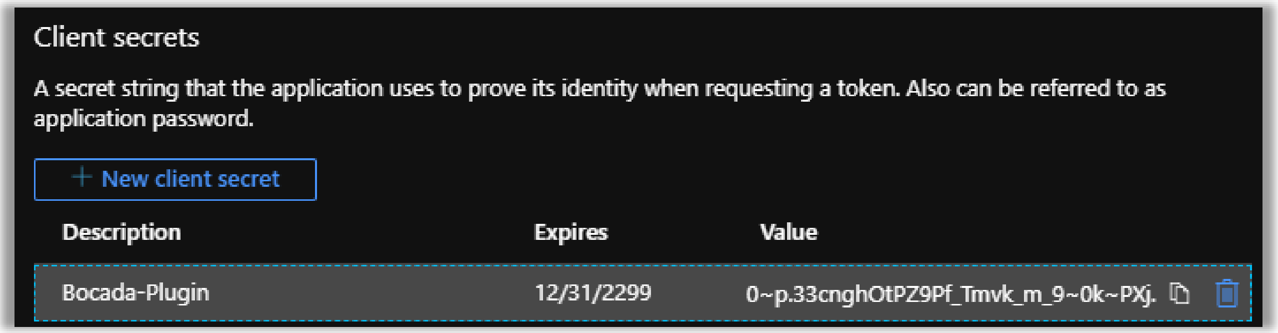
8. Enter a description, set expiration to “Never”, or the largest value available, and Add:



Description: Bocada-Plugin

Expires
○ In 1 year
○ In 2 years
● Never

9. Copy the Value of the ***Client Secret***:



Client secrets

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

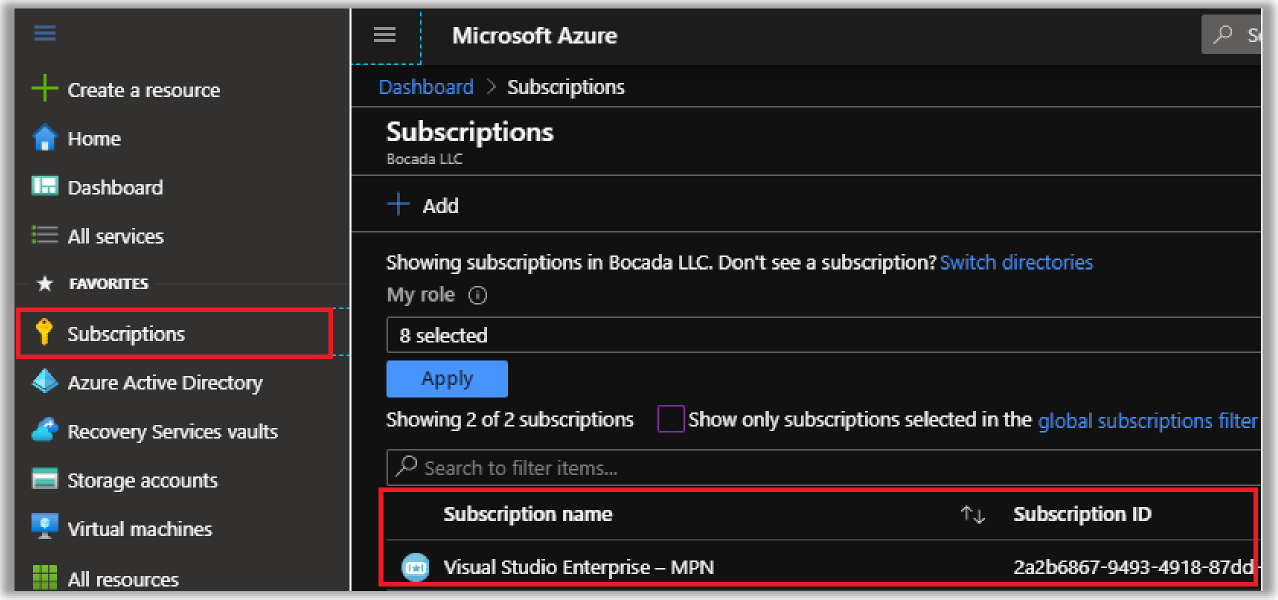
Description	Expires	Value
Bocada-Plugin	12/31/2299	0~p.33cnghOtPZ9Pf_Tmvk_m_9~0k~PXj.

Subscription ID

To obtain the ***Subscription ID***:

1. Open the Azure Portal, https://portal.azure.com

Navigate to Subscriptions, note the ***Subscription ID***



Subscriptions

Bocada LLC

Showing subscriptions in Bocada LLC. Don't see a subscription? Switch directories

My role ⓘ

8 selected

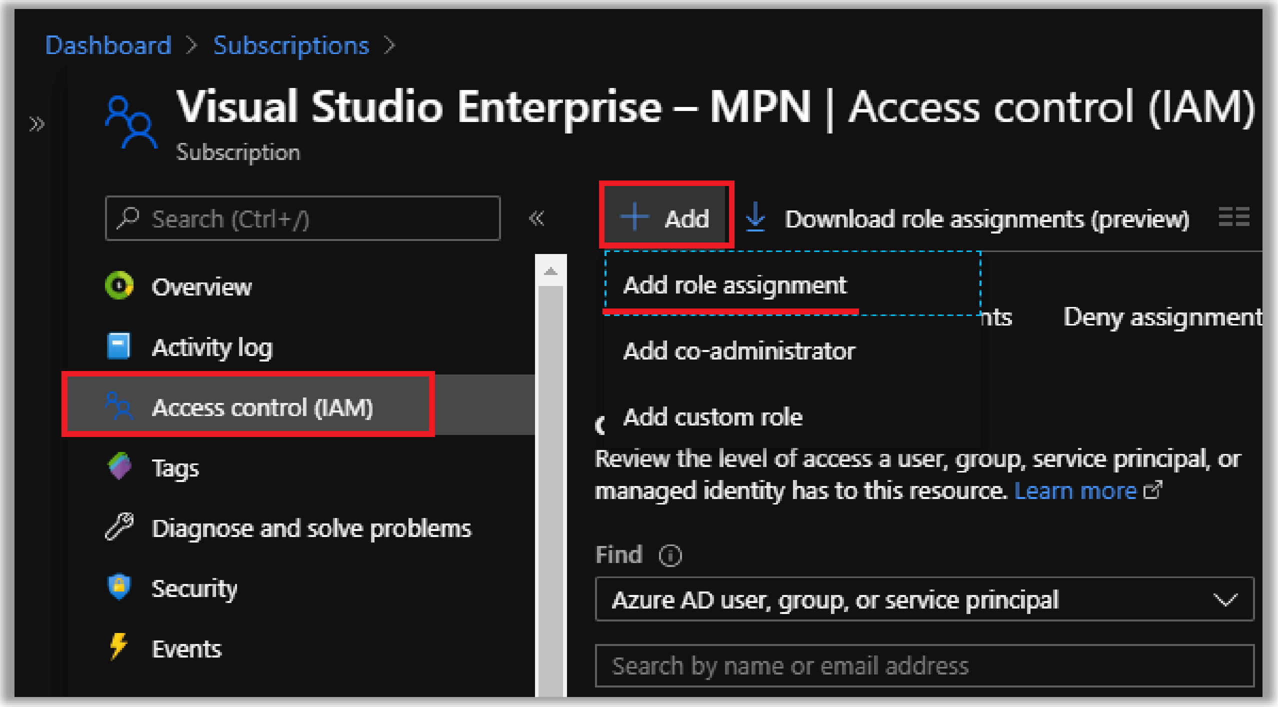
Showing 2 of 2 subscriptions □ Show only subscriptions selected in the global subscriptions filter

Subscription name	Subscription ID
Visual Studio Enterprise – MPN	2a2b6867-9493-4918-87dd

Assign Role to the Application

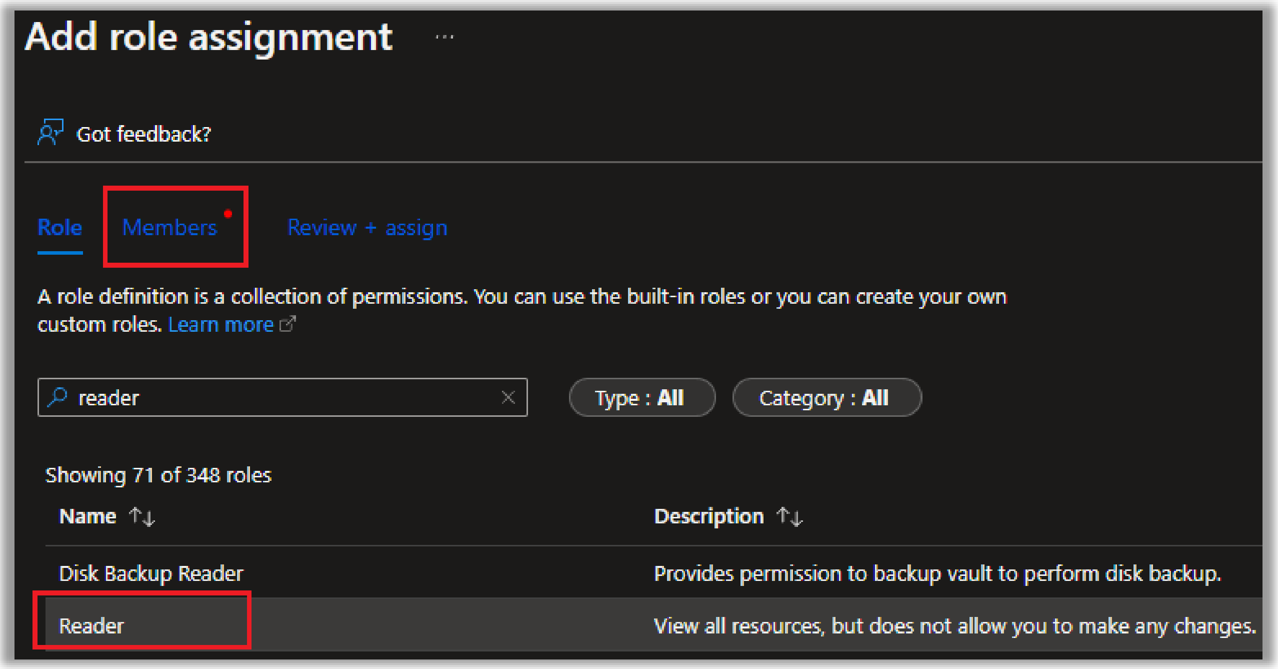
To access resources in your subscription, you must assign a role to the application.

1. Click into the relevant subscription, navigate to *Access control (IAM)*, ***Add role assignment***


Dashboard > Subscriptions >
Visual Studio Enterprise – MPN | Access control (IAM)
Subscription
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Security
Events
+ Add
Download role assignments (preview)
Add role assignment
Add co-administrator
Add custom role
nts
Deny assignment
Find
Azure AD user, group, or service principal
Search by name or email address

Review the level of access a user, group, service principal, or managed identity has to this resource. Learn more

2. Choose the *Reader* role and click Members:



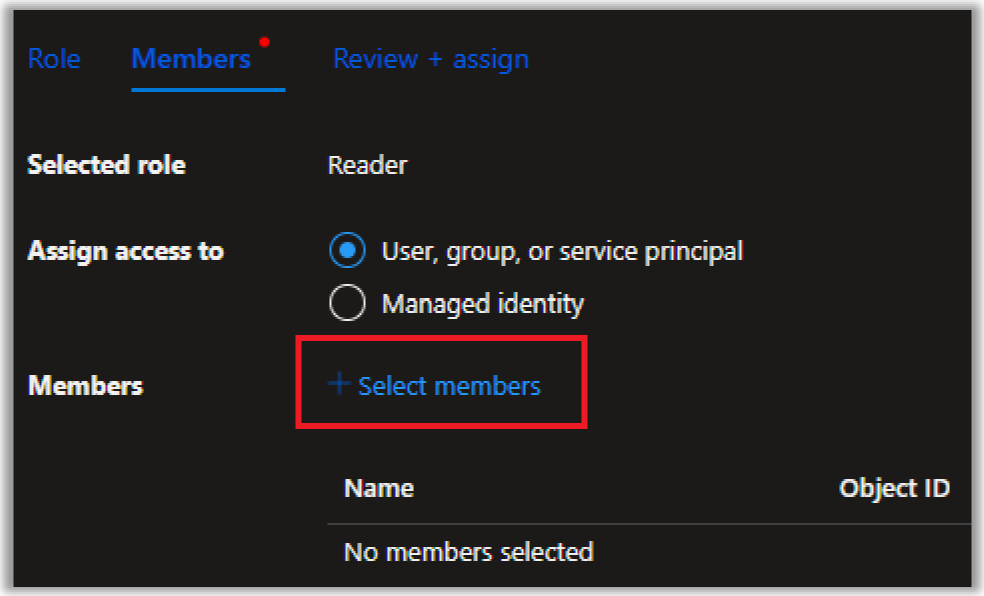
A role definition is a collection of permissions. You can use the built-in roles or you can create your own custom roles. Learn more

reader

Showing 71 of 348 roles

Name	Description
Disk Backup Reader	Provides permission to backup vault to perform disk backup.
Reader	View all resources, but does not allow you to make any changes.

3. Click *Select members* and select the Bocada App Client created above:

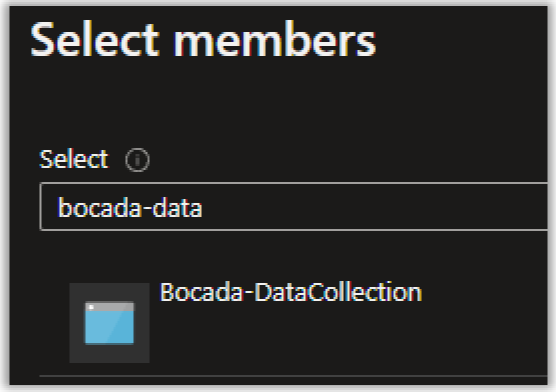


Selected role: Reader

Assign access to: ● User, group, or service principal ○ Managed identity

Members: + Select members

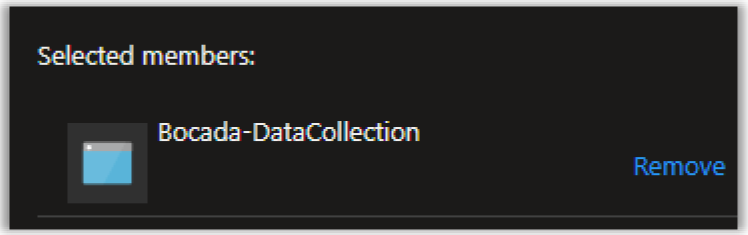
Name	Object ID
No members selected	



Select members

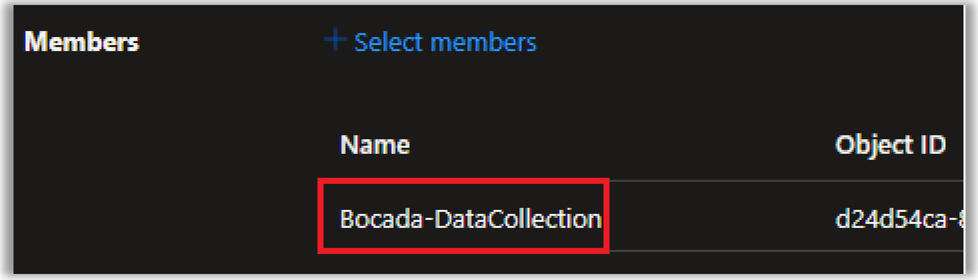
Select: bocada-data

Bocada-DataCollection



Selected members:

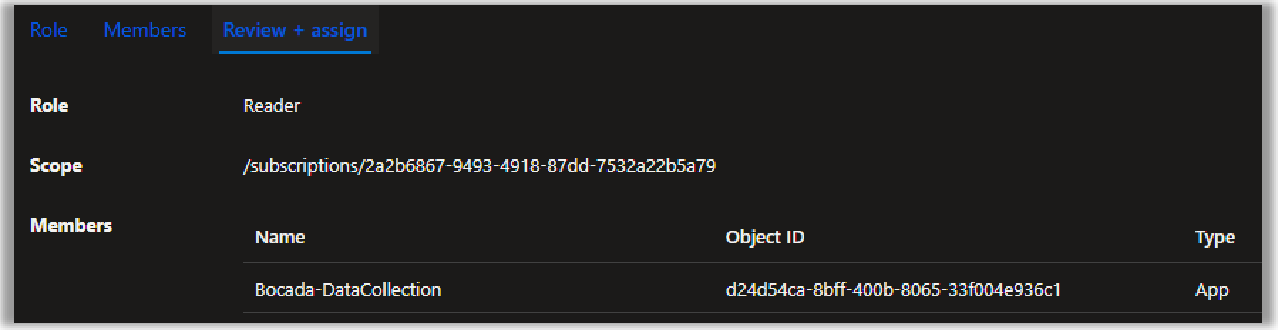
Bocada-DataCollection



Members: + Select members

Name	Object ID
Bocada-DataCollection	d24d54ca-8

4. Review and Assign



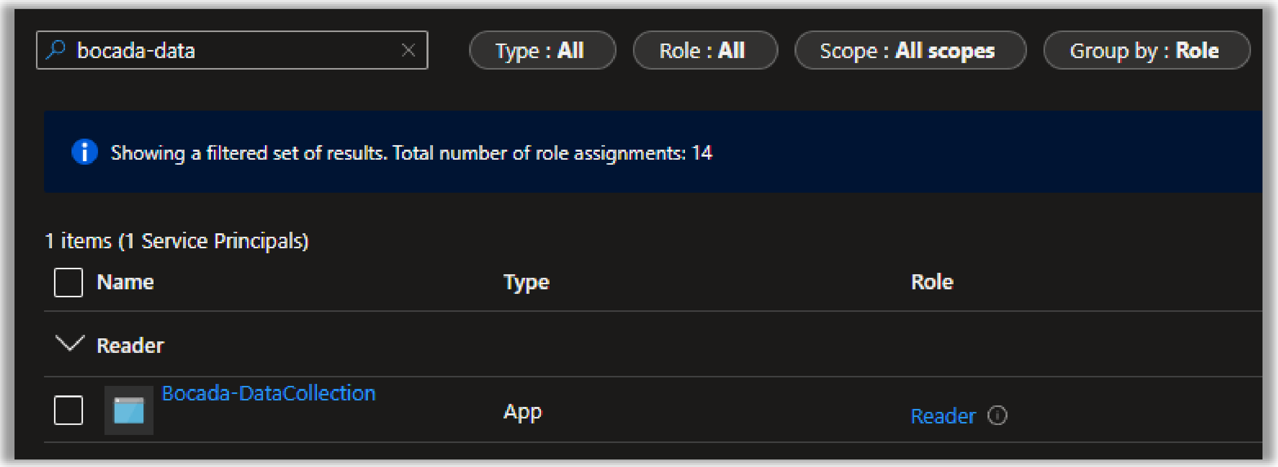
Role Reader

Scope /subscriptions/2a2b6867-9493-4918-87dd-7532a22b5a79

Members

Name	Object ID	Type
Bocada-DataCollection	d24d54ca-8bff-400b-8065-33f004e936c1	App

5. Validate the following:
   - Note the icon the Type added should be an App (not a user)
   - App has Reader Role



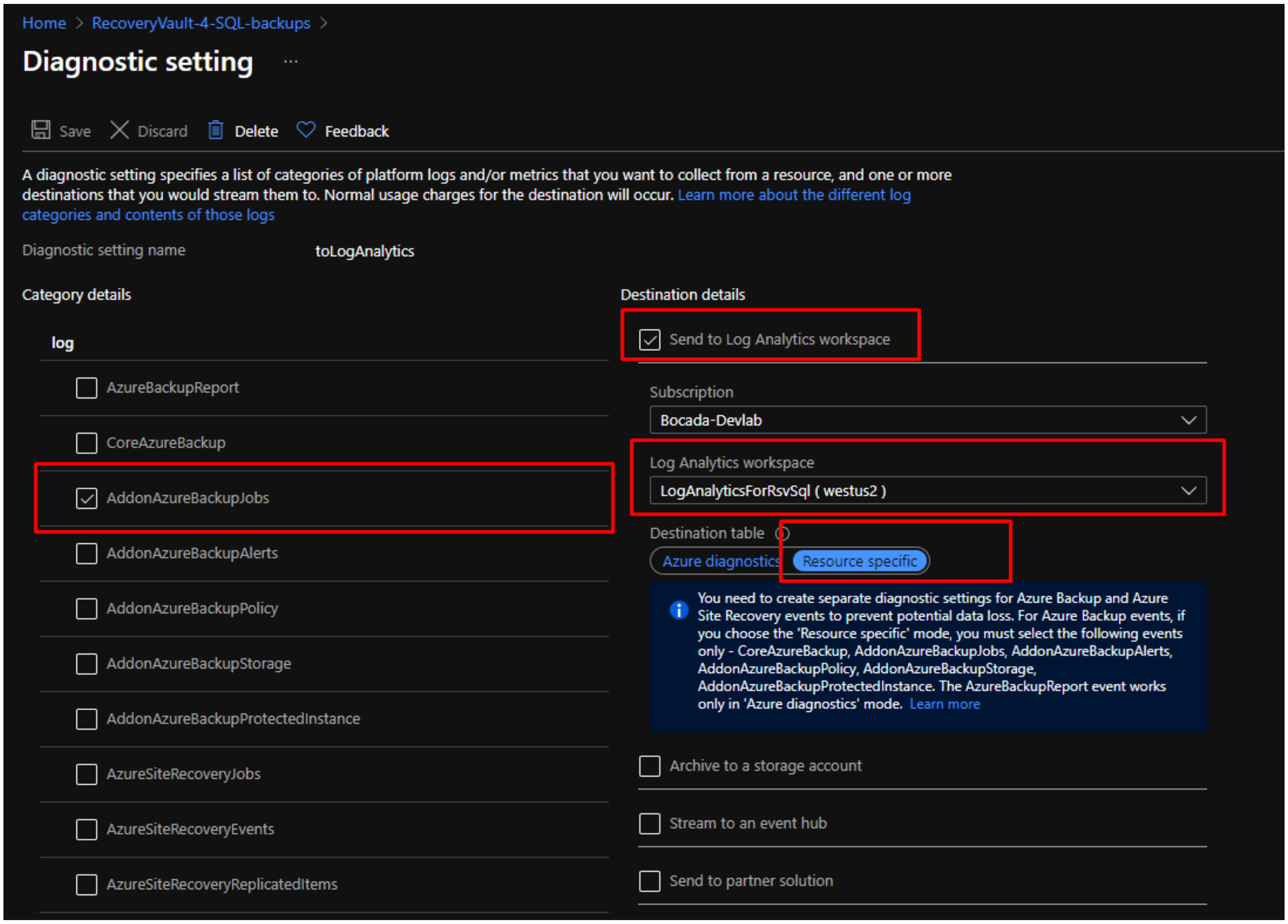
Showing a filtered set of results. Total number of role assignments: 14

1 items (1 Service Principals)

□ Name	Type	Role
Reader		
□ Bocada-DataCollection	App	Reader

SQL Log Backups Configuration (optional)

For collecting data on SQL log backups set by “SQL Server in Azure VM” R VM” Recovery Service Vault (RSV) policy type – need to add diagnostic setting to your RSV with the “Send to Log Analytics workspace” value and log “AddonAzureBackupJobs”. Also, please set the “Resource specific” destination table. See screenshot below.



Home > RecoveryVault-4-SQL-backups >

Diagnostic setting ···

Save   Discard   Delete   Feedback

A diagnostic setting specifies a list of categories of platform logs and/or metrics that you want to collect from a resource, and one or more destinations that you would stream them to. Normal usage charges for the destination will occur. Learn more about the different log categories and contents of those logs

Diagnostic setting name   toLogAnalytics

Category details

log

- ☐ AzureBackupReport
- ☐ CoreAzureBackup
- ☑ AddonAzureBackupJobs
- ☐ AddonAzureBackupAlerts
- ☐ AddonAzureBackupPolicy
- ☐ AddonAzureBackupStorage
- ☐ AddonAzureBackupProtectedInstance
- ☐ AzureSiteRecoveryJobs
- ☐ AzureSiteRecoveryEvents
- ☐ AzureSiteRecoveryReplicatedItems

Destination details

☑ Send to Log Analytics workspace

Subscription: Bocada-Devlab

Log Analytics workspace: LogAnalyticsForRsvSql (westus2)

Destination table: Azure diagnostics [✓ Resource specific]

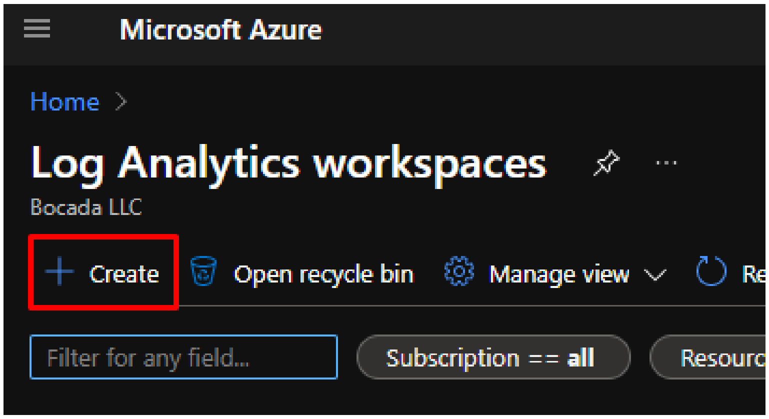
You need to create separate diagnostic settings for Azure Backup and Azure Site Recovery events to prevent potential data loss. For Azure Backup events, if you choose the 'Resource specific' mode, you must select the following events only - CoreAzureBackup, AddonAzureBackupJobs, AddonAzureBackupAlerts, AddonAzureBackupPolicy, AddonAzureBackupStorage, AddonAzureBackupProtectedInstance. The AzureBackupReport event works only in 'Azure diagnostics' mode. Learn more

☐ Archive to a storage account

☐ Stream to an event hub

☐ Send to partner solution

Please note that if you there is no Log Analytics workspace at you Azure deployment, need to create it first:



Microsoft Azure

Home >

Log Analytics workspaces

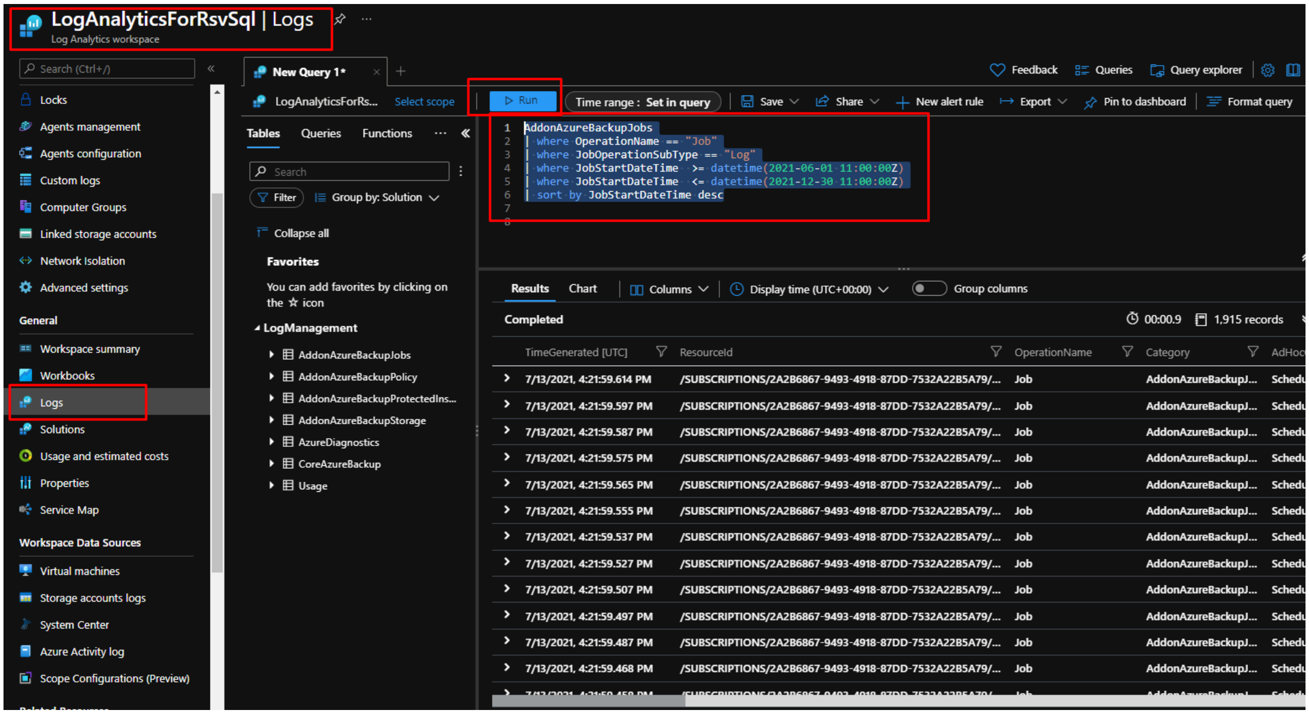
Bocada LLC

+ Create   Open recycle bin   Manage view   Re

Filter for any field...   Subscription == all   Resourc

You may also check log backup jobs on Azure Log Analytics workspace side by running the request below:

AddonAzureBackupJobs
| where OperationName == "Job"
| where JobOperationSubType == "Log"
| where JobStartDateTime >= datetime(2021-06-01 11:00:00Z) // Set needed date
| where JobStartDateTime <= datetime(2021-12-30 11:00:00Z) // Set needed date
| sort by JobStartDateTime desc



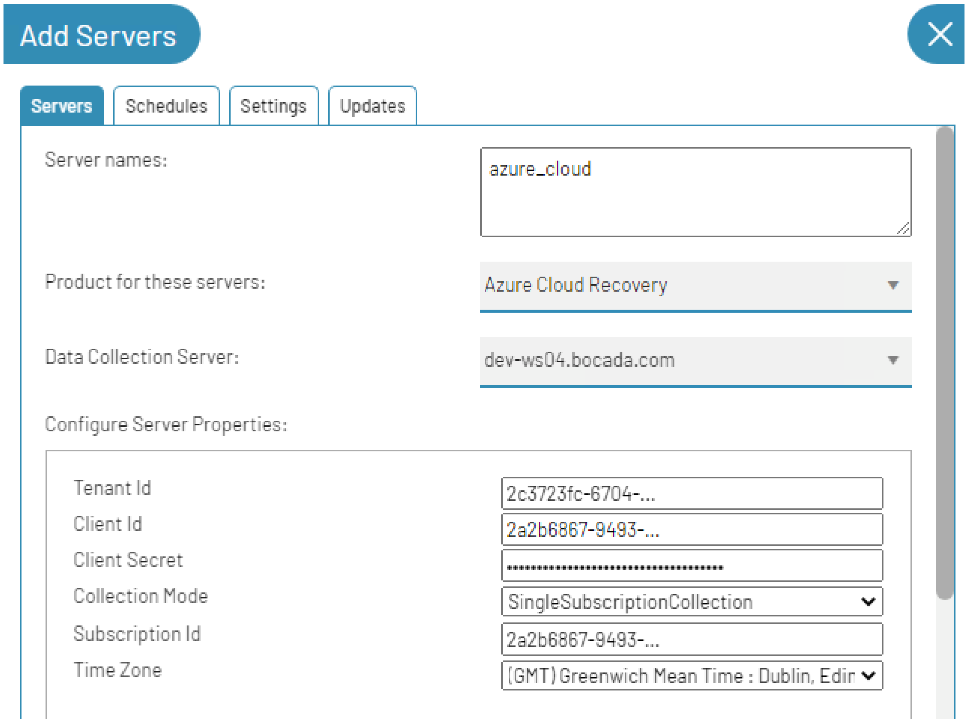
```
AddonAzureBackupJobs
| where OperationName == "Job"
| where JobOperationSubType == "Log"
| where JobStartDateTime  >= datetime(2021-06-01 11:00:00Z)
| where JobStartDateTime  <= datetime(2021-12-30 11:00:00Z)
| sort by JobStartDateTime desc
```

TimeGenerated [UTC]	ResourceId	OperationName	Category	AdHoc
7/13/2021, 4:21:59.614 PM	/SUBSCRIPTIONS/2A2B6867-9493-4918-87DD-7532A22B5A79/...	Job	AddonAzureBackupJ...	Schedu
7/13/2021, 4:21:59.597 PM	/SUBSCRIPTIONS/2A2B6867-9493-4918-87DD-7532A22B5A79/...	Job	AddonAzureBackupJ...	Schedu
7/13/2021, 4:21:59.587 PM	/SUBSCRIPTIONS/2A2B6867-9493-4918-87DD-7532A22B5A79/...	Job	AddonAzureBackupJ...	Schedu
7/13/2021, 4:21:59.575 PM	/SUBSCRIPTIONS/2A2B6867-9493-4918-87DD-7532A22B5A79/...	Job	AddonAzureBackupJ...	Schedu
7/13/2021, 4:21:59.565 PM	/SUBSCRIPTIONS/2A2B6867-9493-4918-87DD-7532A22B5A79/...	Job	AddonAzureBackupJ...	Schedu
7/13/2021, 4:21:59.555 PM	/SUBSCRIPTIONS/2A2B6867-9493-4918-87DD-7532A22B5A79/...	Job	AddonAzureBackupJ...	Schedu
7/13/2021, 4:21:59.537 PM	/SUBSCRIPTIONS/2A2B6867-9493-4918-87DD-7532A22B5A79/...	Job	AddonAzureBackupJ...	Schedu
7/13/2021, 4:21:59.527 PM	/SUBSCRIPTIONS/2A2B6867-9493-4918-87DD-7532A22B5A79/...	Job	AddonAzureBackupJ...	Schedu
7/13/2021, 4:21:59.507 PM	/SUBSCRIPTIONS/2A2B6867-9493-4918-87DD-7532A22B5A79/...	Job	AddonAzureBackupJ...	Schedu
7/13/2021, 4:21:59.497 PM	/SUBSCRIPTIONS/2A2B6867-9493-4918-87DD-7532A22B5A79/...	Job	AddonAzureBackupJ...	Schedu
7/13/2021, 4:21:59.487 PM	/SUBSCRIPTIONS/2A2B6867-9493-4918-87DD-7532A22B5A79/...	Job	AddonAzureBackupJ...	Schedu
7/13/2021, 4:21:59.468 PM	/SUBSCRIPTIONS/2A2B6867-9493-4918-87DD-7532A22B5A79/...	Job	AddonAzureBackupJ...	Schedu

Setup

Server Properties

Backup Server Properties determine how the plugin will interact with the Azure.



Server names: azure_cloud

Product for these servers: Azure Cloud Recovery

Data Collection Server: dev-ws04.bocada.com

Configure Server Properties:

Tenant Id 2c3723fc-6704-...

Client Id 2a2b6867-9493-...

Client Secret ••••••••••••••••••••••••••••••••••••••

Collection Mode SingleSubscriptionCollection

Subscription Id 2a2b6867-9493-...

Time Zone (GMT) Greenwich Mean Time : Dublin, Edir

Field Definitions

Server name

Enter your preferred name for the server. It must be a single token with letters, numbers, dot (.), hyphen (-), and underscore only. On Bocada 21.1.3 and later versions it can be suitable name for representing the group of all Azure instances with the same subscription ID. On Bocada 21.1.2 and older the name of the Recovery Services Vault is suggested.

Tenant Id

The *Tenant ID* is the Directory ID of the Azure Active Directory that governs access to the resources of the account being inventoried. The Bocada plugin relies on an App registration tied to an Azure AD.

Client Id

The *Client Id* is the ID of an Azure Directory App that will be created for Bocada data collection.

Client Secret

The *Client Secret* is the key that you assign to the App used for Bocada data collection.

Collection Mode

Select "Multiple Subscription Collection" if you need this server to collect data from all accessible subscriptions under "Tenant Id".
Select "Single Subscription Collection" if you need this server to collect data only from one subscription, which you will set on the "Subscription Id" property.

A corresponding zone and rules will be created for each Azure subscription, from which you collect data.

Subscription Id

The ***Subscription Id*** is the Azure subscription associated with the Active Directory tenant. Appears only for the "Single Subscription Collection" Collection Mode.

Time Zone

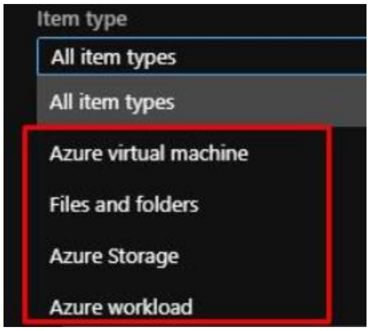
Select the time zone where Azure Cloud Recovery server resides. This setting ensures times are displayed consistently in environments that span multiple time zones (Azure groups by regions, e.g. USWest).

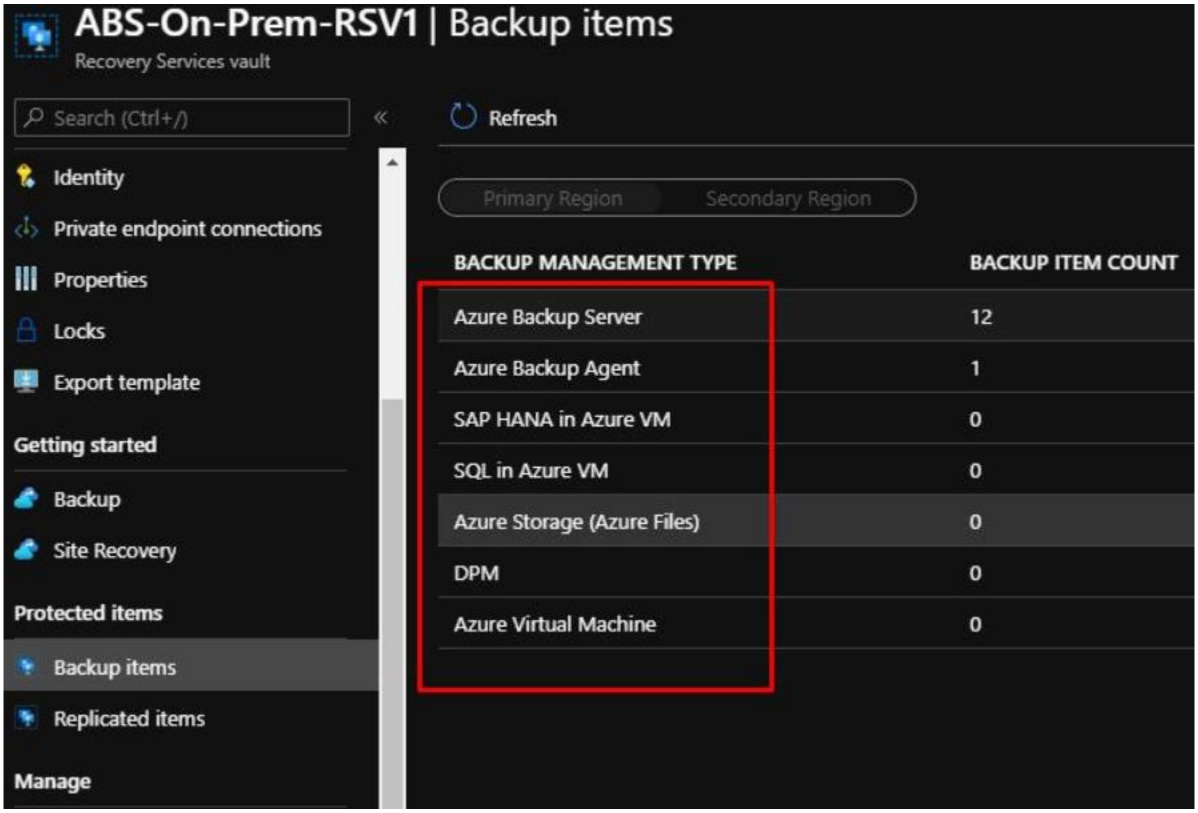
Reporting Notes

Azure to Bocada Data and Item Mapping

In Bocada you will see your Azure "Protected Server" reported as the backup client and the Azure "Backup Item" as the backup target.

Bocada will report on the same assets that you see in Backup Jobs report in Azure Recovery Services Vault. The Azure Protection Analysis Reports in Bocada will show you which of your Azure assets have Azure backup records and which do not. This will include VM, Workload, Storage, Files & Folder, and DPM Backup assets and Azure backups for these can also be seen in the Bocada Job Trends report. The screen snips below show examples:





BACKUP MANAGEMENT TYPE	BACKUP ITEM COUNT
Azure Backup Server	12
Azure Backup Agent	1
SAP HANA in Azure VM	0
SQL in Azure VM	0
Azure Storage (Azure Files)	0
DPM	0
Azure Virtual Machine	0

Backup Type Coverage

Both built in PaaS backups and custom backups that are going to a Storage Account are reported on.

Troubleshooting

This section describes issues found and how they have been resolved.

Problem: Data Collection fails with the following message: Error: Azure REST API issue while getting client resources: The HTTP status code of the response was not expected (403).

Data collection can fail because the needed Role has not been assigned. With this problem the connection can get an auth token for the subscription, but it will not have enough permissions to access the needed resources.

To correct, review the section *Assign Role to the Application* above.

Here is an example Bocada data collecton log file for this issue:

```
Status: 403
Response:
{"error":{"code":"AuthorizationFailed","message":"The client '…-…-…-… with
object id …-…-….-…-…' does not have authorization to perform action
'Microsoft.Resources/subscriptions/resources/read' over scope
'/subscriptions/…-…-…-…-…' or the scope is invalid. If access was recently
granted, please refresh your credentials."}}
 Inner Exception:
   at AzureREST.AzureRestPlugin.CollectBackupLog()
   at CollectBackupLog(SByte* repositoryPath, SByte* server, SByte*
properties, Double startDate, Double endDate)
Error 545: CollectBackupException: Error found while collecting backup data.
Please review log for detail.
Error: Azure REST API issue while getting client resources: The HTTP status
code of the response was not expected (403).
```

Problem: Data Collection fails with the following message: Error: Azure REST API issue while getting Backup Jobs: The HTTP status code of the response was not expected (404).

Error code 404 on Azure Rest API describes a case where the specified API resource does not exist. It could be that one of the fields for server properties on Bocada needs to be corrected (for example – Resource Group Name) in order to fix this issue. Suggested solution would be to verify each of the fields on server properties is correct and then run another backup collection. If this issue is not resolved this way, run logging on Bocada to see more details on the root cause.

Note that the following server properties are retired and do not do anything

Under Show Advanced Properties: Resource Group Name

Decommissioned: The *Resource Group Name* from Azure to which the Recovery Services Vault belongs.

Under Show Advanced Properties: Recovery Services vault name

Decommissioned: The *Recovery Services vault name* is the name of Recovery Services Vault from Azure.

Technical Support

For technical support or a copy of our standard support agreement, please contact us.

E-mail:	support@bocada.com
Support Portal:	https://bocada-support.force.com
Phone:	+1-425-898-2400

Protected by U.S patents 6,640,217; 6,708,188; 6,745,210; 7,457,833; 7,469,269; 7,496,614; 8,407,227

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