AWS Backup
Plugin Configuration Guide

Contents

Introduction

The Bocada plugin for AWS provides backup reporting for:

- AWS Native Snapshots
  - EBS Volumes
  - EC2 Instances
  - RDS
  - DynamoDB
  - Redshift
  - FSx
- AWS Backups
  - EBS Volumes
  - EC2 Instances
  - RDS
  - DynamoDB
  - EFS
  - Storage Gateway

There are two ways to collect data from AWS accounts:

1. IAM User
   a. Collection from a single AWS account
   b. Bocada server running on any platform (on-prem, cloud, etc.)
2. IAM Role assigned to an AWS EC2 Instance running Bocada
   a. Collection from multiple AWS accounts
   b. AWS Policy to govern IAM Role to assume access within each account

Supported Collection Types

The plugin currently supports the following collection types from AWS for Snapshot reporting:

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 (occupancy), 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.

AWS Configuration Checklist

Detailed steps are in sections below. This checklist is an overview of the steps to configure AWS collections on your Bocada Data Collection Server:

Single AWS Account: IAM User

☐ Verify IAM User exists with proper read-access to AWS Services
☐ Have ready: Access Key ID & Secret Access Key for the above IAM User
☐ Verify that your Bocada Data Collection server can reach https://aws.amazon.com/

Multiple AWS Accounts: IAM Roles

☐ Verify IAM Role is assigned to the EC2 Instance where Bocada Data Collection is installed
☐ Subnet that allows internet access via an Internet Gateway or a NAT Gateway.
☐ Verify AWS Policy exists which will govern the Roles to assume access within multiple AWS Accounts

Commented [JM1]: @Brad Hendrix: What does this mean? Is that different then reaching https://aws.amazon.coim above? Is it covered by the Network Connectivity requirements below?

Commented [BH2R1]: @James McDonnell If the DCS is on-prem, then it needs to reach https://aws.amazon.com. If the DCS is in AWS, then it need to be able to reach out to AWS API via a public network interface.

Data Sources

The plugin relies on the AWS API via Amazon SDK (Software Development Kit) that handles the REST API calls to collect data.

Requirements

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

AWS Ports

Service	Default Port	Note
HTTPS	443	API connection through HTTPS. Specific Amazon URL is determined by the Amazon SDK.

Network Connectivity

- Bocada must communicate with public AWS APIs, so outbound connectivity to the Internet is required. This communication can be achieved by placing the instance in a public subnet with a public IP address, by assigning an Elastic IP to the instance, using a NAT instance or by using an Internet Gateway.
- RDP is used for the initial installation of Bocada. Allowing port 3389 for inbound traffic in the VPC Security group is required.

Allowing HTTP and/or HTTPS ports for inbound traffic in the VPC security group is required for access to the Bocada GUI

Bocada Setup

IAM User – Collection for a Single AWS Account

You will need an AWS Access Key ID & Secret Access Key for AWS API access to each AWS Account and Bocada will report only on what the Access Keys has permission to view. See *Appendix A: How to set up AWS user for Bocada data mining* for steps to create or modify an IAM User.

Server Properties

Backup Server Properties determine how the plugin will interface with the AWS Cloud and are managed through the Backup Servers view.

Field Definitions

Server name

This field can be any string token with letters, numbers, hyphen, underscore, and dot. No other special characters are allowed and capitalization will be ignored. Please use a name that can be easily identifiable for the AWS account that you are adding to Bocada.

Access Type

Select *IAM User access*

Access Key ID

For 'IAM User access', enter an Access Key ID with Read-only access to the services and resources you wish to report on. For steps on creating the Access Key ID, click here.

Secret access key

For 'IAM User access', enter the Secrete Access Key for the Access Key ID above. Please note, the secret access key can only be retrieved when the key is created.

Time Zone

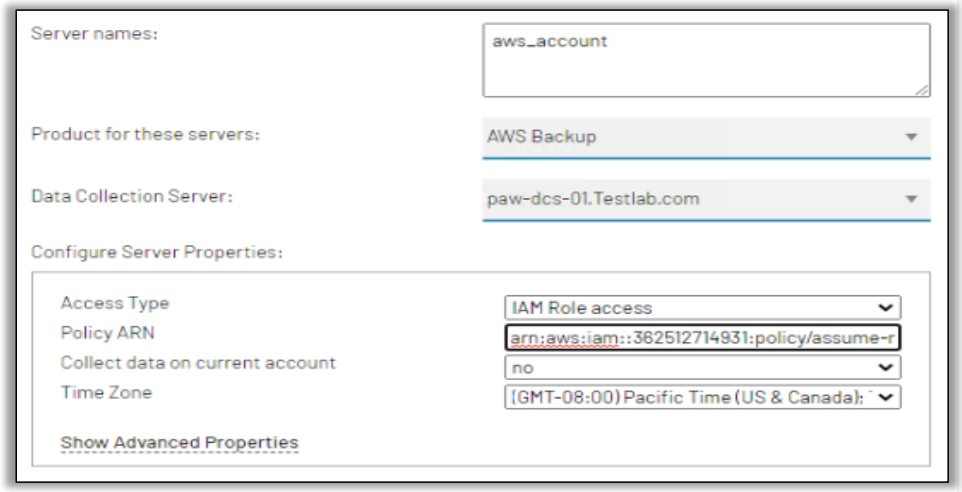
Select the time zone associated with the AWS account, if unsure leave as the default.

IAM Roles – Collection for Multiple AWS Accounts

When running Bocada on an AWS Instance Bocada data collection leverages an IAM Role assigned to the instance to assume Roles across multiple AWS accounts provided by an AWS policy (using the Policy ARN). See *Appendix B: Creating IAM Role & Policy* for steps on how to configure the relevant IAM Role and Policy within AWS.

Server Properties

Backup Server Properties determine how the plugin will interface with the AWS Cloud and are managed through the Backup Servers view.



Field Definitions

Server name

This field can be any string token with letters, numbers, hyphen, underscore, and dot. No other special characters are allowed and capitalization will be ignored.

Access Type

Choose IAM Role access

Policy ARN

For 'IAM Roles access', enter Policy ARN where the policy defines all the accounts Bocada Data Collection can switch to and assume a new role. The IAM Role assigned to the Bocada instance in AWS requires read access to the policy to determine all the roles to assume within each account.

Collect data on current account

Select 'yes' to enable collection on the AWS account in which the Bocada Data Collection server is running. Default is set to no.

Reporting Notes

A few notes about AWS specific reporting in Bocada.

- *AWS Snapshots* is a dedicated report for AWS in Bocada under *Storage Monitoring* in Bocada.
- *AWS Unprotected, Protected, and All* are dedicated AWS reports for verifying AWS data is being backed up coverage under *Asset Protection*.
- AWS does not provide access to how much incremental data is being used by each backup snapshot. Only the capacity size for each snapshot is possible to mine, and that is what Bocada reports on.
- Bocada does not collect data for AWS Vault.
- Some Bocada fields to AWS field name mapping are in the below table.

Bocada Names	AWS Names
Server or *Backup Server*	Name used when adding your AWS Account
Client or *Backup Client*	For EC2: NameTag (InstanceID) or InstanceID. For RDS: DB Instance OR DB Cluster for Aurora. For Dynamo DB: Table. For Redshift: DB Cluster. For FSx: File System. For EBS: Volume.
Tag	VM Tag Name
Target or Asset	For EC2/EBS: NameTag (VolumeID) OR VolumeID. For RDS: Engine EngineVersion. For Dynamo DB: Table. For Redshift: DB Name. For FSx: File System.
Media Proprietary Type	AWS Service: e.g. DynamoDB, EBS, EC2, EFS, FSx, RDS, Storage Gateway
Job Group	Contains the AWS Account ID plus Region in which the resource resides.

Troubleshooting

This section will be filled in as scenarios are discovered.

Appendix A: Configure AWS User

You will need an AWS user to be configured for Bocada to mine data from AWS.

Create a User and record Access Key ID and Secret Access Key

1. Log into the AWS account via your AWS Management Console:
   https://console.aws.amazon.com/
2. In the page header, click on Services and search for IAM
3. From the left panel, click on Users
4. Click on Add User
5. Username = Bocada-Collector-User (or any user name)
6. Access type = Programmatic access
7. Click Next: Permissions
8. Set permissions = Attach existing policies directly
9. Assign policies for services which you want to report:
   - AWS Backup
     - AWSBackupOperatorAccess
   - AWS Native Snapshots
     - EC2 - AmazonEC2ReadOnlyAccess
     - RDS – AmazonRDSReadOnlyAccess
     - DynamoDB – AmazonDynamoDBReadOnlyAccess
     - Redshift – AmazonRedshiftReadOnlyAccess
     - FSx – AmazonFSxReadOnlyAccess
   - Extra Logging for all backups
     - AWSCloudTrailReadOnlyAccess
10. Click Next: Tags
11. Add Tags (Optional) then click Next: Review
12. Click Create User
13. The next pages shows that the user was created successfully.
    1. Record the Access Key ID
    2. Record the Secret Access Key (Make sure you record this Secret Access key from this screen. **This is the ONLY time the Secret Access Key is visible**. If this key is lost, a new key will need to be generated)

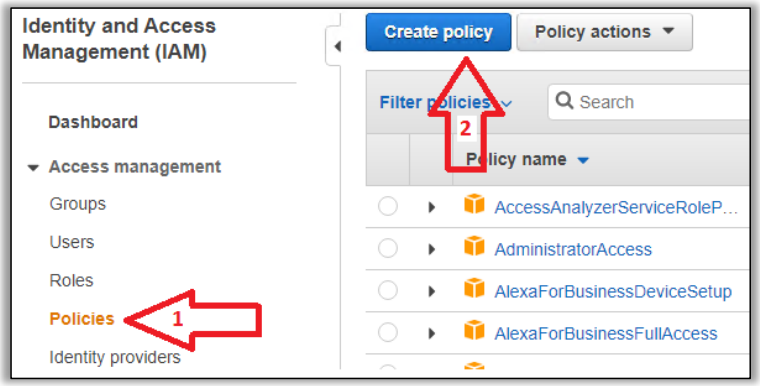
To update an existing user

1. Log into your AWS account via the AWS Management Console
   https://console.aws.amazon.com/
2. In the page header, click on Services and search for IAM
3. From the left panel, click on Users
4. In the main panel, click on the current user
5. Click Add Permissions
6. Click Attach existing policies directly
7. Assign policies for services which you want to report (see above for new user)
8. Click Next: Review
9. Click Add permission

Appendix B: Creating IAM Role & Policy

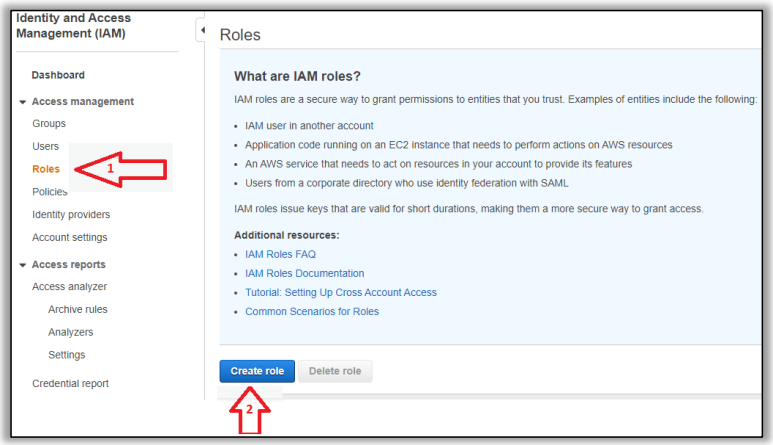
The following steps are to create the required IAM Role, which is to be assigned to the Bocada Instance.

1. In the AWS console, go to IAM
2. Under Access Management, click Policies, then click Create policy

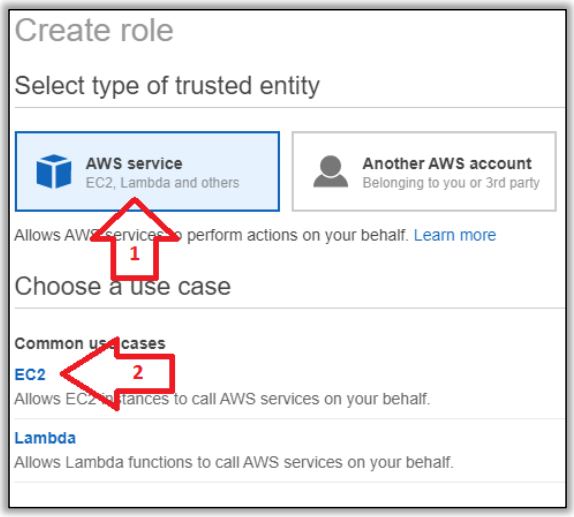


3. Click on the JSON tab and replace everything in it with the JSON code found here

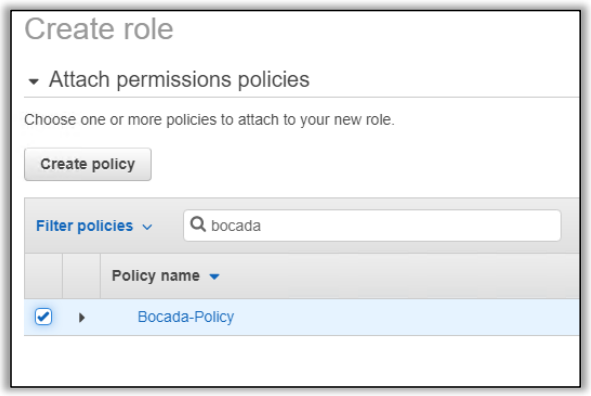
4. Click Review Policy
5. Set Name to Bocada-Policy
6. Update Description as needed
7. Click Create policy
8. Copy the ARN of this policy as this will be needed during the setup process
9. Back on the IAM main page, under Access management, click Roles. The click Create Role.



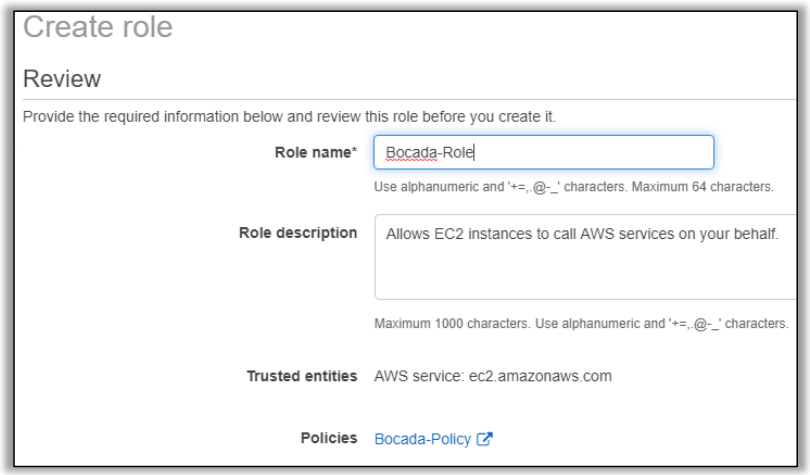
10. Under Select type of trust entity, select AWS service
11. Under Choose a use case, select EC2.



12. Click on Next: Permissions
13. In the filter policies, search for Bocada



14. Select Bocada-Policy and click Next: Tags
15. Add any needed Tags, then click Next: Review
16. Set Role name to Bocada-Role



17. Click Create role

Additional Configuration

Add the AssumeRole action to the Bocada-Policy

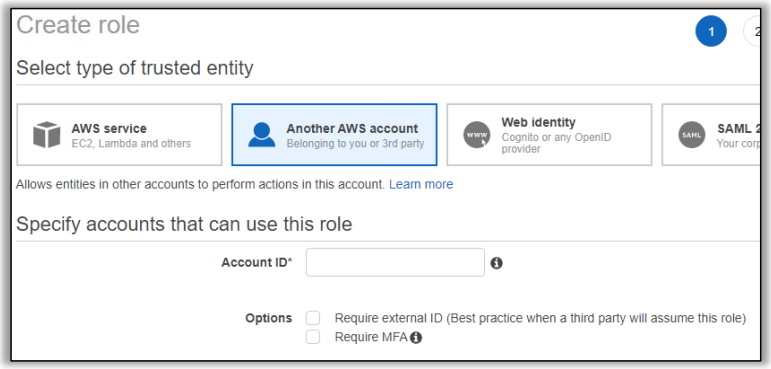
1. In the AWS console, go to IAM
2. Under Access Management, click Policies and search for Bocada
3. Click on the policy.
4. On the permissions tab, click edit policy
5. Click on the JSON tab and add the following lines of code between the 3rd and 4th line. Replace the 000000000000 and 000000000001 with the account numbers where collections are needed. There will be line entry for each required account:

```
{
        "Effect": "Allow",
        "Action": "sts:AssumeRole",
        "Resource": [
            "arn:aws:iam::000000000000:role/Bocada-Role",
            "arn:aws:iam::000000000001:role/Bocada-Role"
        ]
},
```

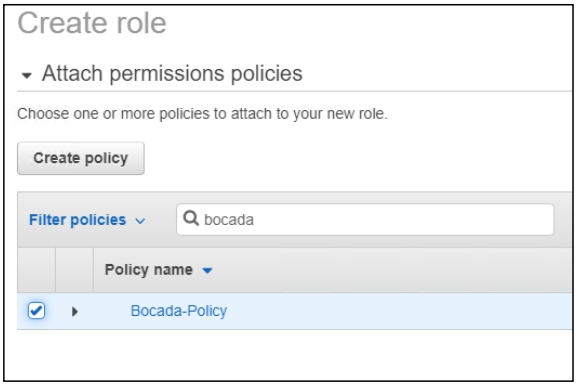
6. Click Review Policy, then Save Changes

For Each AWS Account

1. Log into each additional account
2. go to IAM
3. Under Access Management, click Policies, then click Create policy
4. Click on the JSON tab and replace everything in it with the JSON code found here
5. Click Next: Tags and add any required tags
6. Click Next: Review
7. Set Name to Bocada-Policy
8. Update Description as needed
9. Click Create policy
10. Back on the IAM main page, under Access management, click Roles. The click Create Role.
11. Under Select type of trust entity, select “Another AWS account”
12. Update the Account ID with the account where the Bocada instance is configured.
13. Both options should be left unchecked



14. Click on Next: Permissions
15. In the filter policies, search for Bocada



16. Select Bocada-Policy and click Next: Tags
17. Add any needed Tags, then click Next: Review
18. Set Role name to Bocada-Role
19. Click Create role

Technical Support

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

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