

Implementation Guide:

Multi-account AWS Cloud Monitoring and Analytics with Datadog

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Foreword

Datadog is a software-as-a-service (SaaS) monitoring platform encompassing infrastructure monitoring, application performance monitoring, log management, user experience monitoring, and more.

This Implementation Guide describes how AWS Marketplace customers can activate Datadog's monitoring capabilities automatically when creating new accounts with AWS Control Tower.

Solution overview and features

By bringing together data from every tool and service in your company's stack, Datadog provides a single source of truth for troubleshooting, optimizing performance, and cross-team collaboration. By eliminating the blind spots, Datadog reduces the risk of overlooked errors, mitigates the burden of ongoing service maintenance, and accelerates digital transformations.

With Datadog, you can:

- ✓ Monitor every layer of complex multi-account AWS environments
- ✓ Track the performance of services side-by-side during every phase of a cloud migration.
- Capture data from dynamic new infrastructure platforms like AWS Fargate and Lambda
- ✓ Get affordable access to 100% of your logs for troubleshooting with Datadog's unique Logging without Limits™ model, which separates log ingest from indexing
- Address problems before they significantly impact customers with machine learning-based alerting

The solution described in this guide greatly simplifies the process for provisioning Datadog in multi-account AWS environments by automatically adding metric and log collection to newly created accounts.

Architecture diagram

The solution is deployed using AWS CloudFormation templates and integrates with AWS Control Tower Lifecycle events. When a new account is created or an existing one is enrolled using the AWS Control Tower Account Factory, the Lifecycle event triggers a Lambda function to create a new CloudFormation StackSet Instance. This instance creates the required identity and access management (IAM) role in the newly vended account along with a log forwarder Lambda function within that new account.

The instance also configures Datadog to use the IAM role to collect Amazon CloudWatch metrics from the new account. In the Datadog UI, you can limit metric collection to specific namespaces if desired. Using the provisioned log forwarder function, you can start sending logs to Datadog where you can easily search and analyze them. You can either manually set up the Amazon CloudWatch log groups or Simple Storage Service (S3) buckets that trigger log forwarding. Alternatively, Datadog can do this automatically. See the documentation here for more details.

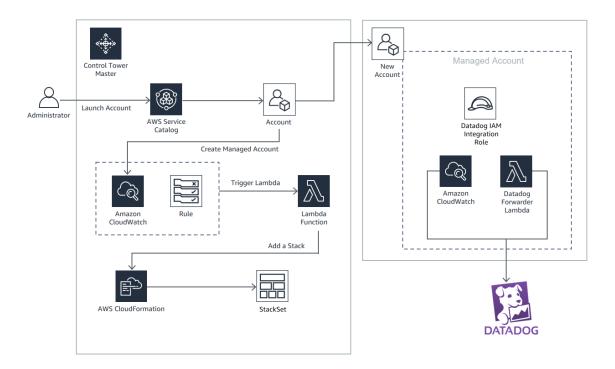


Figure 1 Datadog Architecture Diagram

Pre-requisites

To leverage the solution, you will need:

- An existing Datadog account. You can register for a <u>30-day trial</u> or purchase a subscription via the AWS Marketplace.
- An AWS account with AWS Control Tower set up in it. For more information check, out the <u>Getting</u>
 started with AWS Control Tower section in the AWS Control Tower User Guide.

Deployment and configuration steps

The solution can be found in the <u>Datadog Control Tower GitHub repository</u>. It uses two AWS CloudFormation templates that you will deploy to your AWS Control Tower management account. These templates include all the components required to integrate Datadog with new AWS accounts that you enroll or create using the AWS Control Tower Account Factory.

Step 1: Datadog – Initial setup

- From the <u>Datadog console</u>:
 - Create an application programming interface (API) Key and give it a name.
 - Create an Application Key and give it a name.

Step 2: AWS Setup – AWS Control Tower Management account

- Download the <u>aws-datadog-controltower-v1.yml template</u> from the Datadog GitHub repository.
- Log in to the AWS Control Tower Management account. Ensure you are on the AWS Control Tower home region.
- Open the <u>AWS CloudFormation console</u> and upload the template file.
- Enter the Stack Name and the mandatory parameters:
 - Enter the API Key you created in the previous step.
 - Enter the Application Key you created in the previous step.
 - Leave the remaining parameters as default or modify it as required.
- Launch the stack and wait until it deploys successfully.

Step 3: Test – Create or enroll an AWS Control Tower managed account

- From the AWS Control Tower Management account:
 - Use Account Factory to create a new account or enroll an existing one.
 - It can take up to 30 minutes for the account to be successfully created and the AWS Control
 Tower Lifecycle event to trigger.
- Log in to the AWS Control Tower managed account:
 - Validate that an AWS CloudFormation Stack Instance has been provisioned that launches the
 Datadog Forwarder template in the managed account.
 - Validate that a Datadog Integration Role (DatadogIntegrationRole IAM role) has been created in the managed account. This is a cross-account Role with the trusted account ID 464622532012.

Step 4: Set up automatic Lambda log forwarder triggers

 Datadog can automatically add triggers to the log forwarding function so that CloudWatch logs and S3 buckets containing AWS service logs are forwarded to Datadog. Follow the instructions here to enable this feature.

Step 5: View the Datadog AWS (Overview) Dashboard

- Log in to your Datadog account, click **Dashboards**, and search for "AWS (Overview)."
- Select the account dropdown at the top left and enter the account number for your newly created account.
- Verify that metrics show for services running in your new account.
- Click **Clone Dashboard** to create a copy and customize.



Note: It may take a few minutes until the newly created AWS integration is fully validated. You could accelerate this by navigating to the Datadog AWS integration tile and selecting **Update Configuration**.

Best practices

- Store your Datadog API Key securely. Use Secrets Manager or Parameter Store so you can retrieve it if required in the future.
- On the <u>Datadog AWS Integration tile</u>, you can optionally filter out services for which you do not want
 Datadog to collect metrics to avoid unnecessary AWS API costs.

Solution estimated pricing

Datadog offers flexible pricing plans to fit your scale. Visit the <u>Datadog Pricing page</u> to learn more.

FAQs

You can find a list of FAQs for the Datadog AWS Integration in our documentation here.

Additional resources

- Datadog AWS Solutions page
- <u>Datadog AWS Integration documentation</u>

Contact information

For general inquiries, contact info@datadoghq.com. To speak to a sales representative, call us at 866-329-4466 ext. 1