

Implementation Guide:

**Multi account cloud data access with Couchbase and AWS
Control Tower**



Couchbase

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Foreword

Couchbase is a distributed document database with a powerful search engine and in-built operational and analytical capabilities. It brings the power of NoSQL to the edge and provides fast, efficient bidirectional synchronization of data between the edge and the cloud.

This Implementation Guide describes how AWS Marketplace customers can provision a unique Couchbase user automatically when creating new accounts with AWS Control Tower.

Solution overview and features

This solution provisions infrastructure in AWS that allows for management and access to your centralized Couchbase Server Cluster deployed in a Shared Services account.

- Provisions Couchbase Stacksets in the AWS Control Tower management account.
 - o These stacksets enable deployment of cloudformation stacks in the Shared Services account and the newly vended managed account
- Provisions Amazon CloudWatch Events Rule that is triggered based on AWS Control Tower Lifecycle Event
- Provisions a Lifecycle Lambda as a target for the CloudWatch Events Rule
 - o The Lifecycle Lambda creates an integration role in the managed account to access the Shared Services account and it also provisions a unique user in the Couchbase Cluster deployed in the Shared Services account. This user is used by the managed account to access the Couchbase Cluster.

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. The Lambda function creates new CloudFormation stack instances in the vended account as well as the Shared Services account.

The stack instance in the Shared Services account provisions a new user for the Couchbase Cluster, stores it in a Secret Manager Secret and the stack instance in the newly vended account creates an IAM role for the managed account to access the couchbase server in the shared services account

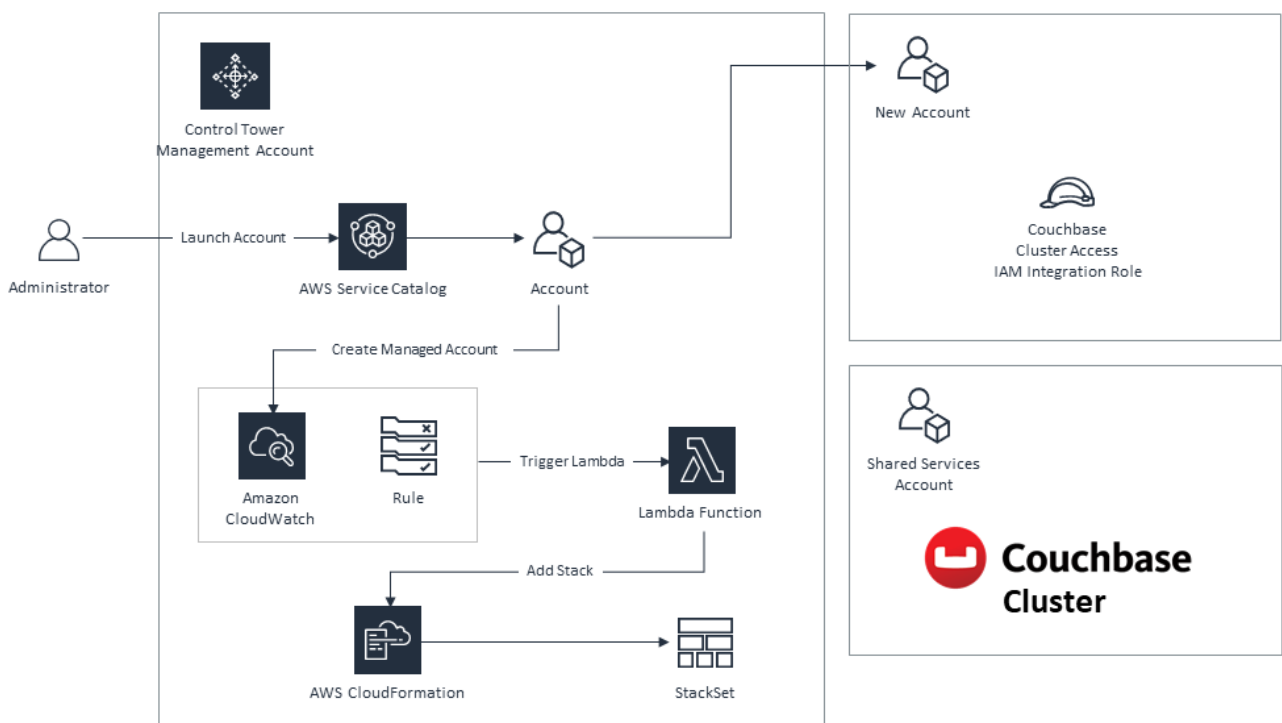


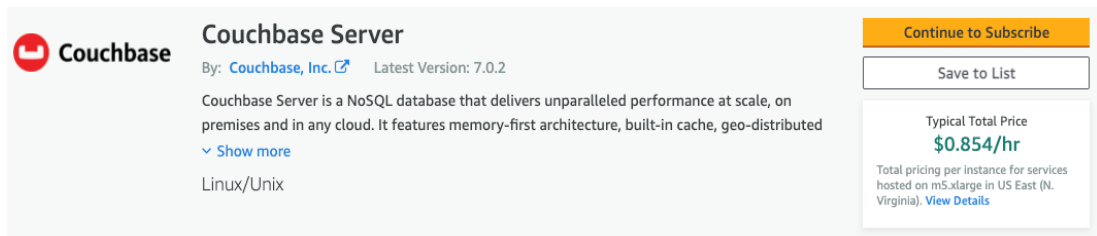
Figure 1 Couchbase Architecture Diagram

Deployment and Configuration Steps

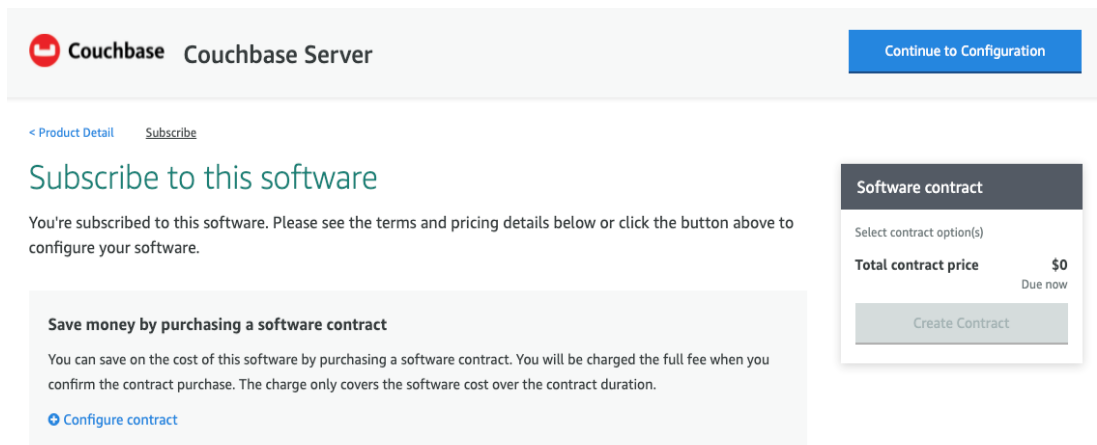
The solution can be found in the [Couchbase Control Tower GitHub Repository](#). It uses three AWS CloudFormation templates that you will deploy in your AWS Control Tower management account. These templates include all the components required to integrate Couchbase Server with new AWS accounts that you create using the AWS Control Tower Account Factory.

Step 1: Couchbase Server – Shared Services Account - Initial Setup

1. Subscribe to Couchbase Server in the Shared Services Account via the [AWS Marketplace](#)
 - a. From [AWS Marketplace](#)
 - b. Choose **Continue to Subscribe**



Click **Continue to Configuration**



- c. Choose **Continue to Configuration** to proceed to Configure this software page.
- d. Under **Delivery Method** select **CloudFormation Template** and other options if required. Defaults values point to the latest version.
- e. Choose **Continue to Launch** to go to Launch this software page.
- f. Under **Choose Action** select **Launch CloudFormation** and choose **Launch**.

- g. Follow through the CloudFormation deployment instructions under **Usage Information** of the AWS Marketplace listing to launch Couchbase Server.
- h. Once the template deploys successfully, note down the **CouchbaseBootstrapParameter** and the **CouchbaseSecretArn** from the Output section of the CloudFormation template.

Step 2: AWS Setup – AWS Control Tower management account

1. Launch the [control-tower-management.yml](#) template in the AWS Control Tower Management account
 - a. For parameters, accept all defaults:
 - i. For **CouchbaseBootstrapParameter** enter the value that you noted earlier in Step 1c
 - ii. For **CouchbaseSecretArn** enter the value that you noted earlier in Step 1h
 - b. Ensure that AWS CloudFormation StackSets are successfully created in the management account
 - c. Ensure that an Amazon CloudWatch Events rule is successfully created with an AWS Lambda target to handle Control Tower lifecycle events

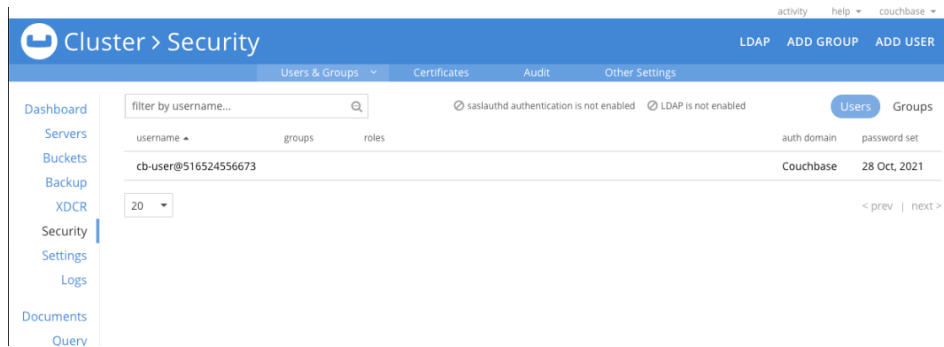
Step 3: Test - Create a Lifecycle Event - Add a managed account

1. From the AWS Control Tower Management Account:
 - a. Use Account Factory to [create a new managed account](#) in the AWS Control Tower.
 - b. This can take up to 30 mins for the account to be successfully created and the AWS Control Tower Lifecycle Event to trigger.
 - c. Login to the newly created AWS Control Tower managed account –
 - i. Validate that an AWS CloudFormation stack instance has been provisioned that creates a new user in your Couchbase Server Cluster and a Secrets Manager Secret.

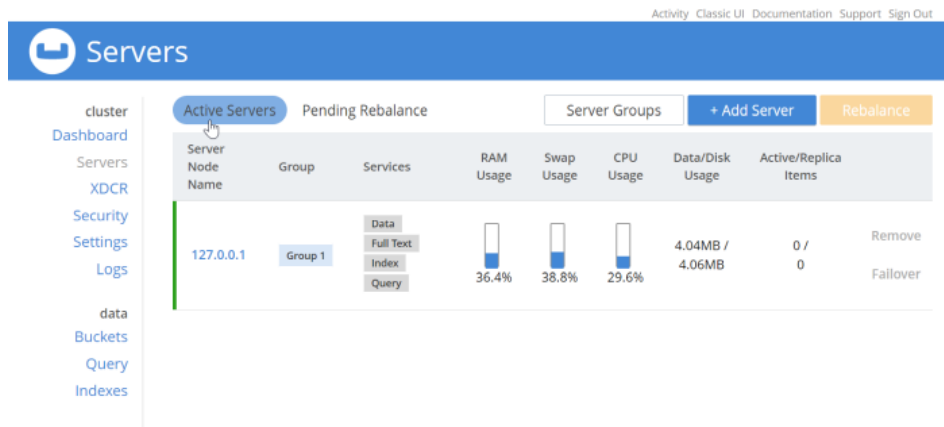
Step 4: Test – Access the Couchbase cluster

From the newly vended AWS Control Tower Managed Account:

1. Use AWS Single Sign On from your AWS Control Tower environment and sign in to the newly vended managed account
2. Log into your Couchbase Server Cluster Administrative Webpage at <http://<ClusterURL>:8091/> and go to Security tab to view the created user for the managed account



3. You can also now view server details of your Couchbase Server from the Couchbase console



Solution Estimated Pricing

Contact [Couchbase Team](#) to learn more.

Best Practices

Refer to best practices for deployment of the Couchbase Server on AWS Integration [here](#).

Additional resources

- [Couchbase Server Documentation](#)
- [Using Couchbase as Session Storage](#)
- [Using Couchbase as User Profile Storage](#)

Partner contact information

For general inquiries, contact [Couchbase](#).