



## SAP Oracle Database Backup to S3 – Setup Guide

### Pre-requisites:

- Create an AMI before installing the agent
- brtools should be already installed and working on source server
- The server should be able to connect to S3 service, preferably through VPC end-point
- Install and configure AWS CLI on source EC2 instance
- The SAP oracle system being used in this process should be an AWS EC2 instance
- The S3 bucket created in step 2 should be in the same region of oracle database(s) for performance reasons

### Step 1

Download all the file from S3 bucket file sent to you via pre-signed S3 URL or zipfile into your local machine or jump box

### Step 2

Logon to the AWS console and create a S3 bucket using the cloud formation template (S3BucketForSAPORABackups.yml).

See below for step-by-step instructions:

Copy the S3BucketForSAPORABackups.yml to your PC or jump box.

Log on to the AWS console and go to Cloud Formation and click on “Create stack”, “With new resources”



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CloudFormation > Stacks > Create stack

Step 1  
**Specify template**

Step 2  
Specify stack details

Step 3  
Configure stack options

Step 4  
Review

## Create stack

**Prerequisite - Prepare template**

**Prepare template**  
Every stack is based on a template. A template is a JSON or YAML file that contains configuration information about the AWS resources you want to include in the stack.

☒ Template is ready ☐ Use a sample template ☐ Create template in Designer

**Specify template**  
A template is a JSON or YAML file that describes your stack's resources and properties.

**Template source**  
Selecting a template generates an Amazon S3 URL where it will be stored.

☐ Amazon S3 URL ☒ Upload a template file

**Upload a template file**

`S3BucketForSAPORABackups.yml`

JSON or YAML formatted file

S3 URL: `https://s3-ap-southeast-2.amazonaws.com/cf-templates-w29xwr0qldtu-ap-southeast-2/2020214dlH-S3BucketForSAPORABackups.yml`

Select “Upload a template” and then Click on “Choose file” and select the S3BucketForSAPORABackups.yml file. Then click on “Next”

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Step 1  
[Specify template](#)

Step 2  
**Specify stack details**

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## Specify stack details

**Stack name**

Stack name

Stack name can include letters (A-Z and a-z), numbers (0-9), and dashes (-).

**Parameters**  
Parameters are defined in your template and allow you to input custom values when you create or update a stack.

**ArchiveStorageClass**  
Storage Class for archiving - the default is Glacier <https://aws.amazon.com/s3/storage-classes/>

**ExpirationDays**  
Number of days before the files are expired/deleted from the long term storage

**S3BucketName**  
Name of the S3 Bucket you want to create to store your backups. The name must be unique globally and follow S3 naming conventions

**TransitionDays**  
Number of days before the files are transitioned to the long term storage like GLACIER (the storage class can be selected in the ArchiveStorageClass below)



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ArchiveStorageClass has to be set to S3-Standard or S3-IA.

You can use life cycle option to send it to GLACIER based on your retention policy.

S3BucketName in above screen is an example and you can change it a unique name of your choice. This name will be used in step 8.

Enter a Stack Name and make sure you enter a globally unique S3 bucket name. Click on “Next”

CloudFormation > Stacks > Create stack

Step 1  
[Specify template](#)

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**Configure stack options**

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### Configure stack options

#### Tags

You can specify tags (key-value pairs) to apply to resources in your stack. You can add up to 50 unique tags for each stack. [Learn more](#)

Key	Value	Remove
		<a href="#">Remove</a>

[Add tag](#)

#### Permissions

Choose an IAM role to explicitly define how CloudFormation can create, modify, or delete resources in the stack. If you don't choose a role, CloudFormation uses permissions based on your user credentials. [Learn more](#)

**IAM role - optional**  
Choose the IAM role for CloudFormation to use for all operations performed on the stack.

[IAM role name](#) [Sample-role-name](#) [Remove](#)

#### Advanced options

You can set additional options for your stack, like notification options and a stack policy. [Learn more](#)

- Stack policy**  
Defines the resources that you want to protect from unintentional updates during a stack update.
- Rollback configuration**  
Specify alarms for CloudFormation to monitor when creating and updating the stack. If the operation breaches an alarm threshold, CloudFormation rolls it back. [Learn more](#)
- Notification options**
- Stack creation options**

[Cancel](#) [Previous](#) [Next](#)

Click on “Next”



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## Summary Screen

CloudFormation > Stacks > Create stack

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[Specify template](#)

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Step 4  
**Review**

### Review TestAgent

Step 1: Specify template Edit

**Template**

Template URL  
https://s3-ap-southeast-2.amazonaws.com/cf-templates-w29xwrQldtu-ap-southeast-2/2020214dlH-S3BucketForSAPORABackups.yml

Stack description  
-

[Estimate cost](#)

Step 2: Specify stack details Edit

**Parameters (4)**

Key	Value
ArchiveStorageClass	GLACIER
ExpirationDays	90
S3BucketName	test-agent-non-production-sap-backups
TransitionDays	7

Step 3: Configure stack options Edit

**Tags (0)**

Key	Value
No tags	
There are no tags defined for this stack	



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Permissions

No permissions  
There is no IAM role associated with this stack

Stack policy

No stack policy  
There is no stack policy defined

Rollback configuration

Monitoring time  
-  
CloudWatch alarm ARN  
-

Notification options

No notification options  
There are no notification options defined

Stack creation options

Rollback on failure  
Enabled  
Timeout  
-  
Termination protection  
Disabled

Quick-create link

Capabilities

The following resource(s) require capabilities: [AWS::IAM::Role]

This template contains Identity and Access Management (IAM) resources. Check that you want to create each of these resources and that they have the minimum required permissions. In addition, they have custom names. Check that the custom names are unique within your AWS account. [Learn more](#)

☐ I acknowledge that AWS CloudFormation might create IAM resources with custom names.

Cancel

Previous

Create change set

Create stack

Check checkbox next to “**I acknowledge that AWS CloudFormation might create IAM resources with custom names.**” And then click on “**Create Stack**”



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This will create the S3 bucket, an IAM role and a managed IAM Policy. Once they have been created, assign the role to the EC2 instance where you want to install the S3 backup agent. If you already have an IAM role assigned to your EC2 instance, you can add the managed IAM policy to your existing role.

For mapping an existing S3 bucket to a EC2 instance please map the IAM role for S3 bucket to the EC2 instance. If you already have an IAM role assigned to your EC2 instance, you can add the managed IAM inline policy to your existing role.

### Step 3

You can log on to the EC2 instance (Oracle database) where you need to install the agent. Shutdown oracle database before running the script.

### Step 4

Create a directory under *tmp* and call it *agentinstall*

### Step 5

Place the files (*sap-ora-backup-agent*, *setup\_backup\_agent.sh*, *root.sh*) which are downloaded in step1 into this directory (*/tmp/agentinstall*) and provide 775 permission to */tmp/agentinstall* folder.

### Step 6

Place the file *sap-ora-backup-agent* from */tmp/agentinstall* into kernel directory and provide 775 permission with owner as *SIDADM:sapsys*

### Step 7

Change to the user to *oracle*

### Step 8

Is not already set please set environment variables for *ORACLE\_SID*, *ORACLE\_HOME* and *PATH* similar to oraSID user

### Step 9

Run the install by issuing the below command:

*./setup\_backup\_agent.sh <S3 bucket name created in step 2>*



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### Step 10

After the run is completed successfully change to user to root and go into */tmp/agentinstall* directory

### Step 11

Execute *./root.sh SID*

### Step 12

Change the user to oraSID

Now you are ready to use brtools to do a log, full backups and restore – See Appendix for sample commands and also ensure the sticky bit is set.

## Appendix

### Sample Commands

Log backup: *brarchive -c -u /* (or use *brtools* and *brgui*)

Full backup: *brbackup -c -u / -t online -e 21 /* (or use *brtools* and *brgui*)

Restore: Use *brtools* command line or *brgui* and follow the prompts

Point-in-time restore: Use *brtools* command line or *brgui* and follow the prompts

### Setting up sticky bit

Make sure you have below permission set as below, if not you can use these commands to run it. These commands has to be run as root user.

```
chown oracle:oinstall brarchive brbackup brconnect brrecover brrestore brspace
```

```
chmod 6774 brarchive brbackup brconnect brrecover brrestore brspace
```

```
chown SIDADM:sapsys brtools
```

```
chmod 775 brtools
```

### Compression

If you want to turn on compression, please go into initSID.sap as editor and add compress in front of s3 for remote\_host variable as shown below.

```
remote_host = s3compress://<your bucketname>
```



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### Restoring from another System

Copy *backSID.log* and latest backup file (\*\*\*\*\*.ans) from */oracle/SID/sapbackup/* from the source system to target system.

Copy *archSID.log* and all the logs file catalogs (\*\*\*\*\*svd) after the full back up from */oracle/SID/saparch/* from the source system to target system.

Backup *backSID.log* and *archSID.log* in target system to a *tmp* directory

On the Target system rename *SID* to target system for *backSID.log* and *archSID.log* that is copied from source to the target.

Use *brtools* to perform full restore or point-in-time restore.

Please note, there will be additional steps that will have to be performed if changing the SID.

Refer to SAP System Copy Guide for Instructions:

[https://help.sap.com/viewer/30839dda13b2485889466316ce5b39e9/CURRENT\\_VERSION/en-US/bf15a049b0044c79b19109023291fa67.html](https://help.sap.com/viewer/30839dda13b2485889466316ce5b39e9/CURRENT_VERSION/en-US/bf15a049b0044c79b19109023291fa67.html) (this is for UNIX)