

Referencing resource attributes using Fn::GetAtt Function

Start by locating the template in the GitHub repository, saving it locally, and opening it in VS Code. Review the AWS CloudFormation documentation for RDS instance return values, particularly Endpoint.Address and Endpoint.Port. Open the template, navigate to the Outputs section, and add a new output (MasterDbEndpoint) using Fn::GetAtt to reference the Endpoint.Address attribute of the MasterDbInstance. Save and upload the updated template to AWS CloudFormation Console. Create a stack and configure parameters like VPC, DB subnets, and environment. Verify the output in the console, then delete the stack to clean up resources.

Activity

1. Find the template files in our GitHub repository under the same name as the heading for easy access and edits. Find and Save the attached template locally, open it in VS Code for edits.
2. Review the AWS CloudFormation documentation for RDS instance return values and attributes.

The screenshot shows the AWS CloudFormation documentation page for the `AWS::RDS::DBInstance` resource. The page title is "AWS::RDS::DBInstance". The left sidebar lists various AWS resources, with `AWS::RDS::DBInstance` selected. The main content area provides an overview of the resource, stating it creates an Amazon DB instance. It includes links to "Creating an Amazon RDS DB Instance" and "Creating an Amazon Aurora DB cluster". A note mentions that if a DB instance is deleted or replaced during an update, AWS CloudFormation deletes all automated snapshots. An "Important" box highlights that manual DB snapshots are retained during updates. The right sidebar contains links for "On this page" (Syntax, Properties, Return values, Examples) and "Did this page help you?" (Yes, No).

The screenshot shows the "Return values" section of the AWS CloudFormation documentation for the `AWS::RDS::DBInstance` resource. The left sidebar is the same as the previous screenshot. The main content area is titled "Return values" and lists the following attributes:

- Ref**: When you pass the logical ID of this resource to the intrinsic `Ref` function, `Ref` returns the DB instance name. For more information about using the `Ref` function, see [Ref](#).
- Fn::GetAtt**: The `Fn::GetAtt` intrinsic function returns a value for a specified attribute of this type. The following are the available attributes and sample return values. For more information about using the `Fn::GetAtt` intrinsic function, see [Fn::GetAtt](#).
 - `CertificateDetails.CAIdentifier`: The CA identifier of the CA certificate used for the DB instance's server certificate.
 - `CertificateDetails.ValidTill`: The expiration date of the DB instance's server certificate.
 - `DBInstanceArn`: The Amazon Resource Name (ARN) for the DB instance.
 - `DbiResourceId`

The right sidebar contains links for "On this page" (Syntax, Properties, Return values, Examples) and "Did this page help you?" (Yes, No).

3. Identify the additional attributes `Endpoint.Address` and `Endpoint.Port` accessible with `Fn::GetAtt`.
4. Open the latest database stack template and locate the Outputs section. Add a new output named `MasterDbEndpoint` to reference the endpoint address. Use the `Fn::GetAtt` function with `MasterDbInstance` as the logical ID and `Endpoint.Address` as the attribute. Optionally, add a description like "Connection endpoint of the master database instance."

```
73
74 Outputs:
75   MasterDbId:
76     Value: !Ref MasterDbInstance
77     Description: Master database instance identifier
78   MasterDbEndpoint:
79     Value: !GetAtt [ MasterDbInstance, Endpoint.Address ]
80     Description: The connection endpoint of the master database instance
```

5. Save the template and upload it to AWS CloudFormation Console using the 'Create stack' option.
6. Name the stack (e.g., `TestDatabaseStack`) and configure parameters such as VPC, DB subnets, and environment. Proceed through the wizard to the 'Review' page and click 'Create stack.'

Provide a stack name

Stack name

TestDataBaseStack

Stack name must be 1 to 128 characters, start with a letter, and only contain alphanumeric characters. Character count: 17/128.

Parameters

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

Network Settings

VpcId

A valid VPC id in your AWS account

vpc-0b0c8badfef0024a4

DbSubnets

Db subnet ids as a list: <subnet1>, <subnet2>,...

Select List<AWS::EC2::Subnet::Id>

subnet-0619479663b4084af

subnet-08c772de46d053876

subnet-0a1bbb2feaa84bb95

Environment

test

Cancel

Previous

Next

7. Wait for the stack creation to complete, then check the Outputs tab for the endpoint address.

TestDataBaseStack

Stack info | **Events - updated** | Resources | Outputs | Parameters | Template | Change sets | Git sync

Table view | Timeline view - new

Events (11)

Search events

Timestamp	Logical ID	Status	Detailed status	Status reason
2024-12-19 14:41:02 UTC+0530	TestDataBaseStack	CREATE_COMPLETE	-	-
2024-12-19 14:41:01 UTC+0530	MasterDbInstance	CREATE_COMPLETE	-	-
2024-12-19 14:34:26 UTC+0530	MasterDbInstance	CREATE_IN_PROGRESS	-	Resource creation Initiated
2024-12-19 14:34:24 UTC+0530	MasterDbInstance	CREATE_IN_PROGRESS	-	-
2024-12-19 14:34:23 UTC+0530	DbSecurityGroup	CREATE_COMPLETE	-	-

8. Verify the value and description of the output.

TestDataBaseStack

Stack info | Events - updated | Resources | **Outputs** | Parameters | Template | Change sets | Git sync

Outputs (2)

Search outputs

Key	Value	Description	Export name
MasterDbEndpoint	testdatabasestack-masterdbinstance-qkqhxpvhrtet.c924886wdbj.eu-west-1.rds.amazonaws.com	The connection endpoint of the master database instance	-
MasterDbId	testdatabasestack-masterdbinstance-qkqhxpvhrtet	Master database instance identifier	-

8. Delete the stack to clean up resources after verifying the output.

CloudFormation > Stacks > TestDataBaseStack

Stacks (2)

Filter by stack name

Filter status: Active View nested

TestDataBaseStack

2024-12-19 14:34:13 UTC+0530

DELETE_IN_PROGRESS

ProductionDataBaseStack

2024-12-19 14:33:11 UTC+0530

DELETE_IN_PROGRESS

TestDataBaseStack

Stack info | **Events - updated** | Resources | Outputs | Parameters | Template | Change sets | Git sync

Table view | Timeline view - new

Events (13)

Search events

Timestamp	Logical ID	Status	Detailed status	Status reason
2024-12-19 14:57:47 UTC+0530	MasterDbInstance	DELETE_IN_PROGRESS	-	-
2024-12-19 14:57:45 UTC+0530	TestDataBaseStack	DELETE_IN_PROGRESS	-	User Initiated
2024-12-19 14:41:02 UTC+0530	TestDataBaseStack	CREATE_COMPLETE	-	-
2024-12-19 14:41:01 UTC+0530	MasterDbInstance	CREATE_COMPLETE	-	-
2024-12-19 14:34:26 UTC+0530	MasterDbInstance	CREATE_IN_PROGRESS	-	Resource creation Initiated