

# Oracle® Exadata Cloud@Customer Database Software Images



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# Exadata Cloud@Customer Gen2 Oracle Database Software Images

Learn about Database Software Image resource type and how you can use it to create Oracle Databases and Oracle Database Homes and to patch databases.

Database Software Images enable you to create a customized Oracle Database software configuration that includes your chosen updates (PSU, RU or RUR), and optionally, a list of one-off (or interim) patches or an Oracle Home inventory file. This reduces the time required to provision and configure your databases, and makes it easy for your organization to create an approved "gold image" for developers and database administrators.

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# Creation and Storage of Database Software Images

Database software images are resources within your tenancy that you create prior to provisioning or patching an Exadata Cloud@Customer instance, a Database Home, or a database.

There is no limit on the number of database software images you can create in your tenancy, and you can create your images with any Oracle Database software version and update supported in Oracle Cloud Infrastructure.

Database software images are automatically stored in Oracle-managed Object Storage and can be viewed and managed in the Oracle Cloud Infrastructure Console. Note that database software images incur Object Storage usage costs. Database software images are regional-level resources and can be accessed from any *availability domain* within their region.

# Using a Database Software Image with an Exadata Cloud@Customer System

Create, save, and reuse an Oracle Database Software Image.

Creating an Oracle Database Software Image enables you to:

- Create custom Database Home images based on Database Software Images, RU/RUR, and one-off patches.
- Save a custom image automatically to Object Storage as a resource.
- Use a Database Software Image to create Database Homes.
- Patch the Database Home created using the Database Software Image.
- Clone Database Software Image to another service in the Data Guard creation process.

**Provisioning:** After you create a database software image, you can use it to create an Oracle Database Home in an Exadata Cloud@Customer system. For more information, see [Using the Console to Create Oracle Database Home on Exadata Cloud@Customer](#).

**Patching:** To patch a database in an Exadata Cloud@Customer system using a custom database software image, create the Database Home using the image, and then move the database to that Database Home. For more information, see [Patching an Exadata Cloud at Customer System](#).

**Setting up Data Guard:** When creating an Oracle Data Guard association, the custom Database Software Image associated with the primary database will be used to create a Database Home for the new standby. If the Database Software Image used by the primary database is no longer available, then enable Data Guard operation will not proceed. For more information, see [Using Oracle Data Guard with Exadata Cloud@Customer](#).



## Note

The Database Software Images are created and managed by the customer and they are available for use until explicitly deleted.

# Using the Console to Create a Database Software Image

To create an Oracle Database Software Image with the console, use this procedure.

1. Open the navigation menu. Under **Oracle Database**, click **Exadata Cloud@Customer**.
2. Under **Resources**, click **Database Software Images**.
3. Click **Create Database Software Image**.
4. In the **Display name** field, provide a display name for your image. Avoid entering confidential information.
5. Choose your **Compartment**.
6. Choose the Database version for your image.
7. Choose the patch set update, proactive bundle patch, or release update. For information on Oracle Database patching models, see [Release Update Introduction and FAQ \(Doc ID 2285040.1\)](#).
8. Optionally, you can enter a comma-delimited list of one-off (interim) patch numbers.
9. Optionally, you can upload an Oracle Home inventory file from an existing Oracle Database.
10. Click **Show Advanced Options** to add tags to your database software image. To apply a defined tag, you must have permission to use the tag namespace. For more information about tagging, see [Resource Tags](#). If you are not sure if you should apply tags, skip this option (you can apply tags later) or ask your administrator.
11. Click **Create Database Software Image**.

# Using the OPatch Lsinventory Command to Verify the Patches Applied to an Oracle Home

The OPatch utility enables you to apply the interim patches to Oracle Database software. You can find the `opatch` utility in the `$ORACLE_HOME/OPatch` directory.

1. Run the `opatch lsinventory` command to get the list of interim patches applied.

```
$ORACLE_HOME/OPatch/opatch lsinventory
Oracle Interim Patch Installer version 12.2.0.1.21
Copyright (c) 2021, Oracle Corporation. All rights reserved.

Oracle Home : /u02/app/oracle/product/19.0.0.0/dbhome_2
Central Inventory : /u01/app/oraInventory
from : /u02/app/oracle/product/19.0.0.0/dbhome_2/oraInst.loc
OPatch version : 12.2.0.1.21
OUI version : 12.2.0.7.0
Log file location : /u02/app/oracle/product/19.0.0.0/dbhome_2/cfgtoollogs/o
patch/opatch2021-01-21_09-22-45AM_1.log

Lsinventory Output file location : /u02/app/oracle/product/19.0.0.0/dbhome_
2/cfgtoollogs/opatch/lsinv/lsinventory2021-01-21_09-22-45AM.txt
```

2. Use the `lsinventory` output file to extract the additional One-Off Patches applied to a specific Oracle Home.



# Using the Console to Delete a Database Software Image

1. Open the navigation menu. Under **Oracle Database**, click **Exadata Cloud@Customer**.
2. Under **Resources**, click **Database Software Images**.
3. In the list of database software images, find the image you want to delete and click the action icon (three dots) at the end of the row.
4. Click **Delete**.
5. Enter the **Database Software Image** name to confirm the deletion and click **Delete Database Software Image**.

# Using the Console to View the Patch Information of a Database Software Image

To view the Oracle Database version, update information (PSU/BP/RU level), and included one-off (interim) patches of a database software image, use the following instructions:

1. Open the navigation menu. Under **Oracle Database**, click **Exadata Cloud@Customer**.
2. Under **Resources**, click **Database Software Images**.
3. In the list of database software images, find the image you want to view and click on the display name of the image.
4. On the **Database Software Image Details** page for your selected image, details about the image are displayed:
  - The Oracle Database version is displayed in the **General Information** section. For example: 19.0.0.0
  - The PSU/BP/RU field of the **Patch Information** section displays the update level for the image. For example: 19.5.0.0
  - The **One-Off Patches** field displays the number of one-off patches included in the image if any. The count includes all patches specified when creating the image (excluding patches listed in `lsinventory`). To view the included patches (if any are included), click the **Copy All** link and paste the list of included patches into a text editor. The copied list of patch numbers is comma-delimited and can be used to create additional Database Software Images.

# Using the Console to Move Database Software Image to a Different Compartment

Follow these steps to move a Database Software Image to a different compartment of your choice:

1. Open the navigation menu. Under **Oracle Database**, click **Exadata Cloud@Customer**.
2. Under **Resources**, click **Database Software Images**.
3. In the list of database software images, find the image you want to delete and click the action icon (three dots) at the end of the row.
4. Click **Move Resource**.
5. Choose a new compartment in the **Move Resource to a Different Compartment** dialog.
6. Click **Move Resource**.

# Using the Console to Create Oracle Database Home on Exadata Cloud@Customer

To create an Oracle Database home in an existing VM cluster with the Console, be prepared to provide values for the fields required.

1. Open the navigation menu. Under **Oracle Database**, click **Exadata Cloud@Customer**.  
VM Clusters is selected by default.
2. Choose your **Compartment**.  
A list of VM Clusters is displayed for the chosen Compartment.
3. In the list of VM clusters, click the VM cluster on which you want to create the Database Home.
4. Under **Resources**, click **Database Homes**.
5. Click **Create Database Home**.
6. In the Create Database Home dialog, enter the following:
  - **Database Home display name:** The display name for the Database Home.
  - **Database image:** Determines what Oracle Database version is used for the database. You can mix database versions on the Exadata VM Cluster., but not editions. By default, the latest Oracle-published database software image is selected.

Click **Change Database Image** to use an older Oracle-published image or a custom Database Software Image that you have created in advance, then select an Image Type.

**Oracle Provided Database Software Images:** These images contain generally available versions of Oracle Database software.

**Custom Database Software Images:** These images are created by your organization and contain customized configurations of software updates and patches. Use the **Select a compartment** and **Select a Database version** selectors to limit the list of custom Database Software Images to a specific compartment or Oracle Database software major release version.

After choosing a software image, click **Select** to return to the **Create Database Home** dialog.



## Note

Oracle recommends using a custom Database Software Image not older than N-3 from the latest.

A Database Software Image will not be available for Database Home creation if:

- The database version of Database Software Image is out of support. For example, Database Software Images created using 11.2.0.4 will not be available for Database Home provisioning after 31-Dec-2022.
- The Exadata model should support the PSU/RU version of the Database Software Image. For example, for the 19c release, the X8M-2 model supports RU version 19.4 and greater.

- Only Database Software Images created specifically in the context of Exadata Cloud@Customer service can be used while provisioning and patching Database Homes within the Exadata Cloud@Customer service.
- The Database Software Image is not in Available state, that is, Deleted or is being Updated.

- **Show Advanced Options**

You have the option to configure advanced options.

- **Tags:** (Optional) You can choose to apply tags. If you have permissions to create a resource, then you also have permissions to apply free-form tags to that resource. To apply a defined tag, you must have permission to use the tag namespace. For more information about tagging, see [Resource Tags](#). If you are not sure if you should apply tags, then skip this option (you can apply tags later) or ask your administrator.

Note that after Home install, patch to the latest if the latest patch is available.

7. Click **Create**.

When the Database Home creation is complete, the status changes from Provisioning to Available.

# Using the Console to Perform a Patch Operation on a Database Home

Learn to apply patches on a Database Home.

1. Open the navigation menu. Under **Oracle Database**, click **Exadata Cloud@Customer**.  
VM Clusters is selected by default.
2. Choose your **Compartment**.  
A list of VM Clusters is displayed for the chosen Compartment.
3. In the list of VM clusters, click the VM cluster where the Database Home is located.
4. Under **Resources**, click **Database Homes**.
5. In the list of Database Homes, click the Database Home on which you want to perform a patch operation.
6. Under **Database Software Version**, click **View Patches**.
7. Review the scope:
  - **Database Home:** Automatically set to the context from which you have launched this page.
8. Review the list of available patches for the Database Home.

The **Oracle Provided Database Software Images** tab displays generally available Oracle Database software images that you can use to patch your database. Oracle images that can be used for patching have the update Type of "Patch".

The **Custom Database Software Images** tab allows you to select a database software image that you have created in advance. Use the Select a Compartment selector to specify the compartment that contains the database software image.

9. Click the Actions icon (three dots) for the patch you are interested in, and then click one of the following actions:
  - **Run Precheck:** Check for any prerequisites to make sure that the patch can be successfully applied. Oracle highly recommends that you run this operation before you apply a patch. The Precheck does not cause any availability impact to the cluster, everything remains operational.
  - **Apply Patch:** Applies the selected patch.
10. Confirm when prompted.

The patch list displays the status of the operation. While the precheck is running, the patch's status shows *Checking*. While a patch is being applied, the patch's status shows *Applying*, the status of the Database Home and the databases in it display as *Updating*, and lifecycle operations on the VM cluster and its resources are temporarily unavailable. Patches are applied to the Database Home in a rolling fashion, node by node, and each database in the home is stopped and then restarted. This may result in temporary service disruption. If patching completes successfully, the patch's status changes to *Applied* and the Database Home's status changes to *Available*. You can view more details about an individual patch operation by clicking **Patch History**.

# Using the Console to Move a Database to Another Database Home

Learn to move a database to another Database Home.

1. Open the navigation menu. Under **Oracle Database**, click **Exadata Cloud@Customer**.  
VM Clusters is selected by default.
2. Choose your Compartment that contains the VM cluster that hosts the database that you want to move.
3. Click the name of the VM cluster that contains the database that you want to move.
4. In the Resources list of the VM Cluster Details page, click **Databases**.
5. Click the name of the database that you want to move.  
The Database Details page displays information about the selected database.
6. Click **Move Database**.
7. In the resulting dialog, select the target Database Home.

## Note



Oracle recommends using Database Homes, which are running the latest (N) to 3 versions from the latest (N-3) RU versions when updating the software version of the database by moving them to a target DB Home. Only DB Homes provisioned with database versions, which meet this best practice criterion are available as target homes to move your database.

8. Click **Move Database**.  
The database will be stopped in the current home and then restarted in the destination home. While the database is being moved, the Database Home status displays as **Moving Database**. When the operation completes, Database Home is updated with the current home. If the operation is unsuccessful, the status of the database displays as **Failed**, and the Database Home field provides information about the reason for the failure.

# Using the API for Managing Oracle Database Software Images

Review the list of API calls to manage Oracle Database Software Image.

For information about using the API and signing requests, see [REST APIs](#) and [Security Credentials](#). For information about SDKs, see [Software Development Kits and Command Line Interface](#).

Use these API operations to manage Database Software Images:

Operation	REST API Endpoint
Gets a list of the database software images in the specified compartment.	<a href="#">ListDatabaseSoftwareImages</a>
Gets information about the specified database software image.	<a href="#">GetDatabaseSoftwareImage</a>
Updates the properties of a Database Software Image, like Display Name.	<a href="#">UpdateDatabaseSoftwareImage</a>
Moves the Database Software Image and its dependent resources to the specified compartment.	<a href="#">ChangeDatabaseSoftwareImageCompartment</a>
Creates database software image in the specified compartment.	<a href="#">CreateDatabaseSoftwareImage</a>
Deletes a database software image.	<a href="#">DeleteDatabaseSoftwareImage</a>



# Permissions Required for Each Database Software Images API Operation

For information about permissions, see [Permissions](#).

API Operation	Permissions Required to Use the Operation
ListDatabaseSoftwareImages	DB_SOFTWARE_IMG_INSPECT
GetDatabaseSoftwareImage	DB_SOFTWARE_IMG_INSPECT
UpdateDatabaseSoftwareImage	DB_SOFTWARE_IMG_INSPECT and DB_SOFTWARE_IMG_UPDATE
ChangeDatabaseSoftwareImageCompartment	DB_SOFTWARE_IMG_INSPECT and DB_SOFTWARE_IMG_UPDATE
CreateDatabaseSoftwareImage	DB_SOFTWARE_IMG_INSPECT and DB_SOFTWARE_IMG_CREATE
DeleteDatabaseSoftwareImage	DB_SOFTWARE_IMG_INSPECT and DB_SOFTWARE_IMG_DELETE

# Database Software Images Verb + Resource-Type Combinations

Review the list of permissions and API operations for database-software-image resource-type. For more information, see [Permissions](#), [Verbs](#), and [Resource-Types](#).

## INSPECT

Permissions	APIs Fully Covered	APIs Partially Covered
DB_SOFTWARE_IMG_INSPECT	ListDatabaseSoftwareImages GetDatabaseSoftwareImage	<i>none</i>

## READ

Permissions	APIs Fully Covered	APIs Partially Covered
<i>No extra</i>	<i>No extra</i>	<i>none</i>

## USE

Permissions	APIs Fully Covered	APIs Partially Covered
READ + DB_SOFTWARE_IMG_UPDAT E	UpdateDatabaseSoftwareImage ChangeDatabaseSoftwareImageCompartment	<i>none</i>

## MANAGE

Permissions	APIs Fully Covered	APIs Partially Covered
USE + DB_SOFTWARE_IMG_CREATE + DB_SOFTWARE_IMG_DELETE	CreateDatabaseSoftwareImage DeleteDatabaseSoftwareImage	<i>none</i>

# Database Software Images Event Types

The Oracle Database resources emit events, which are structured messages that indicate changes in resources.

Action	EventName	EventType
Create Database Software Image	CreateDatabaseSoftwareImage	com.oraclecloud.DatabaseService.CreatedatabaseSoftwareImage.begin
	CreateDatabaseSoftwareImage	com.oraclecloud.DatabaseService.CreatedatabaseSoftwareImage.end
Delete Database Software Image	DeleteDatabaseSoftwareImage	com.oraclecloud.DatabaseService.DeletedatabaseSoftwareImage.begin
	DeleteDatabaseSoftwareImage	com.oraclecloud.DatabaseService.DeletedatabaseSoftwareImage.end
List Database Software Images	ListDatabaseSoftwareImages	com.oraclecloud.DatabaseService.ListDatabaseSoftwareImages
Get Database Software Image	GetDatabaseSoftwareImage	com.oraclecloud.DatabaseService.GetDatabaseSoftwareImage
Change compartment of Database Software Image	MoveDatabaseSoftwareImage	com.oraclecloud.DatabaseService.MoveDatabaseSoftwareImage.begin
	MoveDatabaseSoftwareImage	com.oraclecloud.DatabaseService.MoveDatabaseSoftwareImage.end
Update Database Software Image	UpdateDatabaseSoftwareImage	com.oraclecloud.DatabaseService.UpdatedatabaseSoftwareImage

## Database Software Image Events Examples

**This is a reference event for Create Database Software Image - Begin**

```

{
  "eventType": "com.oraclecloud.DatabaseService.CreateDatabaseSoftwareImage.begin",
  "cloudEventsVersion": "0.1",
  "eventTypeVersion": "2.0",
  "source": "DatabaseService",
  "eventId": "6dcad2c5-de0a-4e46-9a18-25c66f292dcf",
  "eventTime": "2021-06-18T04:04:35.451Z",
  "contentType": "application/json",
  "data": {
    "eventGroupId": "csid68e598ea4474b18860cdd476af4a/b46a0a70da064d57a149c3c49b7cc588/FB22262C016611EFC401A9292187861D",
    "eventName": "CreateDatabaseSoftwareImage",
    "compartmentId": "ocidl.tenancy.region1..aaaaaaaee34gwbez3dbo7urtcf462wj3mmanbba5xqinczgm2z5d64cnl5q",
    "compartmentName": "sic-dbaas",
    "resourceName": "DBImage_19c",
    "resourceId": "ocidl.databasesoftwareimage.oc1.sea.abzwljlsbpu3kxb54loym5sgkn2z4briz4xbokhouxywkir764ht4ttx4nya",
    "availabilityDomain": "AD2",
    "freeformTags": null,
    "definedTags": null,
    "identity": {
      "principalName": "xxxx",
      "principalId": "ocidl.user.region1..aaaaaaaedlsln4welqy3upwixqrss3fnu6pottqmds4xo3xld5sqyzwbveq",
      "authType": "natv",
      "callerName": null,
      "callerId": null,
      "tenantId": "ocidl.tenancy.region1..aaaaaaaee34gwbez3dbo7urtcf462wj3mmanbba5xqinczgm2z5d64cnl5q",
      "ipAddress": "160.34.124.111",
      "credentials": ""
    },
    "request": {
      "id": "csid68e598ea4474b18860cdd476af4a/b46a0a70da064d57a149c3c49b7cc588/FB22262C016611EFC401A9292187861D",
      "path": "/20160918/databaseSoftwareImages",
      "action": "POST",
      "parameters": {},
      "headers": {}
    },
    "response": {
      "status": "200",
      "responseTime": "2021-06-18T04:04:36.457Z",
      "headers": {},
      "payload": null,
      "message": "CreateDatabaseSoftwareImage succeeded"
    }
  },
}

```

```

"stateChange": {
  "previous": null,
  "current": {
    "displayName": "DBImage_19c",
    "lifecycleState": "PROVISIONING"
  }
},
"additionalDetails": {
  "dbVersion": "19.0.0.0",
  "displayName": "DBImage_19c",
  "lifecycleState": "PROVISIONING",
  "timeCreated": "2021-06-18T04:04:35.739Z"
}
}
}

```

### This is a reference event for Create Database Software Image – End

```

{
  "eventType": "com.oraclecloud.DatabaseService.CreateDatabaseSoftwareImage.end"
,
  "cloudEventsVersion": "0.1",
  "eventTypeVersion": "2.0",
  "source": "DatabaseService",
  "eventId": "7bf14762-1ec7-4230-99d0-6323c5e8b3cb",
  "eventTime": "2021-06-18T04:26:24.119Z",
  "contentType": "application/json",
  "data": {
    "eventGroupingId": "csid68e598ea4474b18860cdd476af4a/b46a0a70da064d57a149c3c49b7cc588/FB22262C016611EFC401A9292187861D",
    "eventName": "CreateDatabaseSoftwareImage",
    "compartmentId": "ocidl.tenancy.region1..aaaaaaae34gwbez3dbo7urctcf462wj3mnm anbba5xqinczgm2z5d64cnl5q",
    "compartmentName": "sic-dbaas",
    "resourceName": "DBImage_19c",
    "resourceId": "ocidl.databasesoftwareimage.oc1.sea.abzwljlsbpu3kxb54loym5sgkn2z4briz4xbokhouxywkir764ht4txx4nya",
    "availabilityDomain": null,
    "freeformTags": null,
    "definedTags": null,
    "identity": {
      "principalName": null,
      "principalId": null,
      "authType": null,
      "callerName": null,
      "callerId": null,
      "tenantId": null,
      "ipAddress": null,

```

```

    "credentials": null,
    "userAgent": null,
    "consoleSessionId": null
  },
  "request": {
    "id": "d2030b31-16aa-4e71-9b06-dabc7545ad65",
    "path": null,
    "action": null,
    "parameters": null,
    "headers": null
  },
  "response": {
    "status": null,
    "responseTime": "2021-06-18T04:26:24.119Z",
    "headers": null,
    "payload": null,
    "message": "CreateDatabaseSoftwareImage"
  },
  "stateChange": {
    "previous": null,
    "current": {
      "displayName": "DBImage_19c",
      "lifecycleState": "AVAILABLE"
    }
  },
  "additionalDetails": {
    "dbVersion": "19.0.0.0",
    "displayName": "DBImage_19c",
    "lifecycleState": "AVAILABLE",
    "timeCreated": "2021-06-18T04:04:35.739Z"
  }
}

```

### This is a reference event for Delete Database Software Image – Start

```

{
  "eventType": "com.oraclecloud.DatabaseService.DeleteDatabaseSoftwareImage.begin",
  "cloudEventsVersion": "0.1",
  "eventTypeVersion": "2.0",
  "source": "DatabaseService",
  "eventId": "b789f327-ad93-45e1-a739-45fdb97c24d2",
  "eventTime": "2021-06-25T05:06:25.316Z",
  "contentType": "application/json",
  "data": {
    "eventGroupId": "csidd793a61a40689138814477fa5c6e/ffe9b65c8dcf425c9b30ae1a30ae5687/B7CA65C1DDBEDB55052051EF1113DB73",

```

```

    "eventName": "DeleteDatabaseSoftwareImage",
    "compartmentId": "ocidl.tenancy.region1..aaaaaaaae34gwbez3dbo7urtcf462wj3mnm
anbba5xqinczgm2z5d64cnl5q",
    "compartmentName": "sic-dbaas",
    "resourceName": "DBImage_202106152041",
    "resourceId": "ocidl.databasesoftwareimage.oc1.sea.abzwljrzqt4tr326jtdmyudc
ziz6h5uhce36jbndxojgeg5kpwjcupxelga",
    "availabilityDomain": "AD2",
    "freeformTags": null,
    "definedTags": null,
    "identity": {
      "principalName": "xxx",
      "principalId": "ocidl.user.region1..aaaaaaadlsln4welqy3upwixqrss3fnu6po
tqmds4xo3xld5sqyzwbveq",
      "authType": "natv",
      "callerName": null,
      "callerId": null,
      "tenantId": "ocidl.tenancy.region1..aaaaaaaae34gwbez3dbo7urtcf462wj3mnm
anbba5xqinczgm2z5d64cnl5q",
      "ipAddress": "160.34.124.245",
      "credentials": ""
    },
    "request": {
      "id": "csidd793a61a40689138814477fa5c6e/ffe9b65c8dcf425c9b30ae1a30ae5687/B
7CA65C1DDBEDB55052051EF1113DB73",
      "path": "/20160918/databaseSoftwareImages/ocidl.databasesoftwareimage.oc1.
sea.abzwljrzqt4tr326jtdmyudcziz6h5uhce36jbndxojgeg5kpwjcupxelga",
      "action": "DELETE",
      "parameters": {},
      "headers": {}
    },
    "response": {
      "status": "204",
      "responseTime": "2021-06-25T05:06:26.074Z",
      "headers": {},
      "payload": null,
      "message": "DeleteDatabaseSoftwareImage succeeded"
    },
    "stateChange": {
      "previous": null,
      "current": {
        "displayName": "DBImage_202106152041",
        "lifecycleState": "AVAILABLE"
      }
    },
    "additionalDetails": {
      "dbVersion": "19.0.0.0",
      "displayName": "DBImage_202106152041",
      "lifecycleState": "AVAILABLE",
      "timeCreated": "2021-06-15T15:11:53.672Z"
    }
  }

```



```

}
}

```

### This is a reference event for Delete Database Software Image – End

```

{
  "eventType": "com.oraclecloud.DatabaseService.DeleteDatabaseSoftwareImage.end",
  "cloudEventsVersion": "0.1",
  "eventTypeVersion": "2.0",
  "source": "DatabaseService",
  "eventId": "6a1a808f-f5dd-4fb5-9d77-3bad38591998",
  "eventTime": "2021-06-25T05:07:21.454Z",
  "contentType": "application/json",
  "data": {
    "eventGroupId": "csidd793a61a40689138814477fa5c6e/ffe9b65c8dcf425c9b30ae1a30ae5687/B7CA65C1DDBEDB55052051EF1113DB73",
    "eventName": "DeleteDatabaseSoftwareImage",
    "compartmentId": "ocidl.tenancy.region1..aaaaaaae34gwbez3dbo7urtcf462wj3mmnbbba5xqinczgm2z5d64cnl5q",
    "compartmentName": "sic-dbaas",
    "resourceName": "DBImage_202106152041",
    "resourceId": "ocidl.databasesoftwareimage.ocl.sea.abzwlkjrzt4tr326jtdmyudcziz6h5uhce36jbndxojgeg5kpwjcupxelga",
    "availabilityDomain": null,
    "freeformTags": null,
    "definedTags": null,
    "identity": {
      "principalName": null,
      "principalId": null,
      "authType": null,
      "callerName": null,
      "callerId": null,
      "tenantId": null,
      "ipAddress": null,
      "credentials": null,
      "userAgent": null,
      "consoleSessionId": null
    },
    "request": {
      "id": "676465d5-e066-43e4-bb21-77dc468celf9",
      "path": null,
      "action": null,
      "parameters": null,
      "headers": null
    },
    "response": {
      "status": null,
      "responseTime": "2021-06-25T05:07:21.454Z",

```

```

    "headers": null,
    "payload": null,
    "message": "DeleteDatabaseSoftwareImage"
  },
  "stateChange": {
    "previous": null,
    "current": {
      "displayName": "DBImage_202106152041",
      "lifecycleState": "TERMINATED"
    }
  },
  "additionalDetails": {
    "dbVersion": "19.0.0.0",
    "displayName": "DBImage_202106152041",
    "lifecycleState": "TERMINATED",
    "timeCreated": "2021-06-15T15:11:53.672Z"
  }
}

```

### This is a reference event for List Database Software Images

```

{
  "eventType": "com.oraclecloud.DatabaseService.ListDatabaseSoftwareImages",
  "cloudEventsVersion": "0.1",
  "eventTypeVersion": "2.0",
  "source": "DatabaseService",
  "eventId": "762072e3-52a0-437c-9956-334aad767db8",
  "eventTime": "2021-06-24T05:39:41.344Z",
  "contentType": "application/json",
  "data": {
    "eventGroupingId": null,
    "eventName": "ListDatabaseSoftwareImages",
    "compartmentId": "ocidl.tenancy.region1..aaaaaaae34gwbez3dbo7urctf462wj3mm
anbba5xqinczgm2z5d64cnl5q",
    "compartmentName": "sic-dbaas",
    "resourceName": "",
    "resourceId": null,
    "availabilityDomain": "AD2",
    "freeformTags": null,
    "definedTags": null,
    "identity": {
      "principalName": "xxx",
      "principalId": "ocidl.user.region1..aaaaaaaedlsln4welqy3upwixqrss3fnu6po
tqm4s4xo3xld5sqyzwbveq",
      "authType": "natv",
      "callerName": null,
      "callerId": null,

```

```

    "tenantId": "ocidl.tenancy.region1..aaaaaaaae34gwbez3dbo7urtcf462wj3mmanb
ba5xqinczgm2z5d64cnl5q",
    "ipAddress": "160.34.125.213",
    "credentials": "",
    "userAgent": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/
537.36 (KHTML, like Gecko) Chrome/91.0.4472.77 Safari/537.36",
    "consoleSessionId": "csidc25d57894f49986ae07157ab5e03"
  },
  "request": {
    "id": "csidc25d57894f49986ae07157ab5e03/dc74ad5a75d7494bb35408a33a99c0ad/0
84F718D53FBC66D46B573CF8D5D1A5A",
    "path": "/20160918/databaseSoftwareImages",
    "action": "GET",
    "parameters": {},
    "headers": {}
  },
  "response": {
    "status": "200",
    "responseTime": "2021-06-24T05:39:41.998Z",
    "headers": {},
    "payload": null,
    "message": "ListDatabaseSoftwareImages succeeded"
  },
  "stateChange": {
    "previous": null,
    "current": null
  },
  "additionalDetails": null
}
}

```

### This is a reference event for Get Database Software Image

```

{
  "eventType": "com.oraclecloud.DatabaseService.GetDatabaseSoftwareImage",
  "cloudEventsVersion": "0.1",
  "eventTypeVersion": "2.0",
  "source": "DatabaseService",
  "eventId": "179471f3-c628-4e55-98d0-959b0913b327",
  "eventTime": "2021-06-24T04:11:10.738Z",
  "contentType": "application/json",
  "data": {
    "eventGroupId": "csid31b4236f4flebc4ee66169d17b0a/1f2e5dbf57ca40c886b1116
16b02c33f/CA5B5AD4C8678E2C428DA9AF0C62A082",
    "eventName": "GetDatabaseSoftwareImage",
    "compartmentId": "ocidl.tenancy.region1..aaaaaaaae34gwbez3dbo7urtcf462wj3mnm
anbba5xqinczgm2z5d64cnl5q",
    "compartmentName": "sic-dbaas",

```

```

    "resourceName": "DBImage_19c",
    "resourceId": "ocidl.databasesoftwareimage.oc1.sea.abzwljlsbpu3kxb54loym5sgkn2z4briz4xbokhouxywkir764ht4ttx4nya",
    "availabilityDomain": "AD2",
    "freeformTags": null,
    "definedTags": null,
    "identity": {
      "principalName": "xxx",
      "principalId": "ocidl.user.region1..aaaaaaaalkib75hbawg6xh6rlys5ztumfx3cxf2ktwb0n5ryv6xjev7oectq",
      "authType": "natv",
      "callerName": null,
      "callerId": null,
      "tenantId": "ocidl.tenancy.region1..aaaaaaaee34gwbez3dbo7urctcf462wj3mnmanbba5xqinczgm2z5d64cnl5q",
      "ipAddress": "192.188.170.109",
      "credentials": "",
      "userAgent": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/91.0.4472.106 Safari/537.36",
      "consoleSessionId": "csid31b4236f4f1ebc4ee66169d17b0a"
    },
    "request": {
      "id": "csid31b4236f4f1ebc4ee66169d17b0a/1f2e5dbf57ca40c886b111616b02c33f/C A5B5AD4C8678E2C428DA9AFOC62A082",
      "path": "/20160918/databaseSoftwareImages/ ocidl.databasesoftwareimage.oc1.sea.abzwljlsbpu3kxb54loym5sgkn2z4briz4xbokhouxywkir764ht4ttx4nya",
      "action": "GET",
      "parameters": {},
      "headers": {}
    },
    "response": {
      "status": "200",
      "responseTime": "2021-06-24T04:11:10.966Z",
      "headers": {},
      "payload": null,
      "message": "GetDatabaseSoftwareImage succeeded"
    },
    "stateChange": {
      "previous": null,
      "current": {
        "displayName": "DBImage_19c",
        "lifecycleState": "AVAILABLE"
      }
    },
    "additionalDetails": {
      "dbVersion": "19.0.0.0",
      "displayName": "DBImage_19c",
      "lifecycleState": "AVAILABLE",
      "timeCreated": "2020-09-24T18:06:00.395Z"
    }
  }
}

```

```
}
```