

Madrid | 22 de mayo

**Break New Ground**

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CODE**

**EXPLORE**

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# WORKSHOP

-

## Lab 2

Creación de un microservicio y un  
servicio PDB

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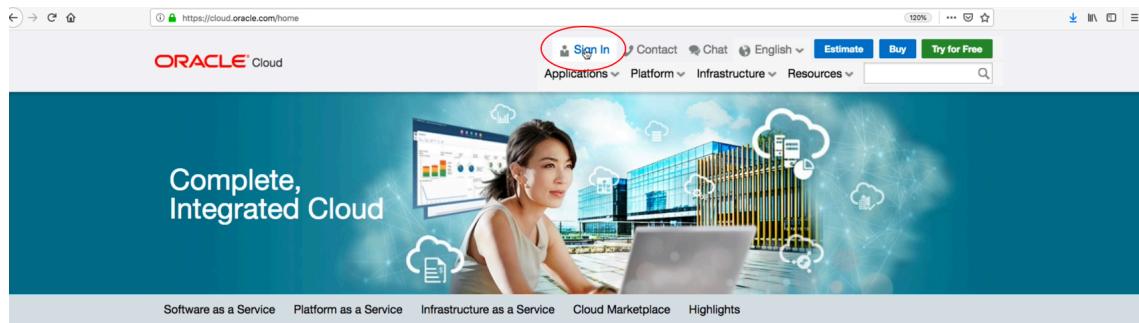
## Objetivo del taller

Construir un microservicio en Kubernetes para despliegue de datos de la aplicación SOE sobre una PDB Oracle Database Multitenant desde Oracle Developer Cloud.

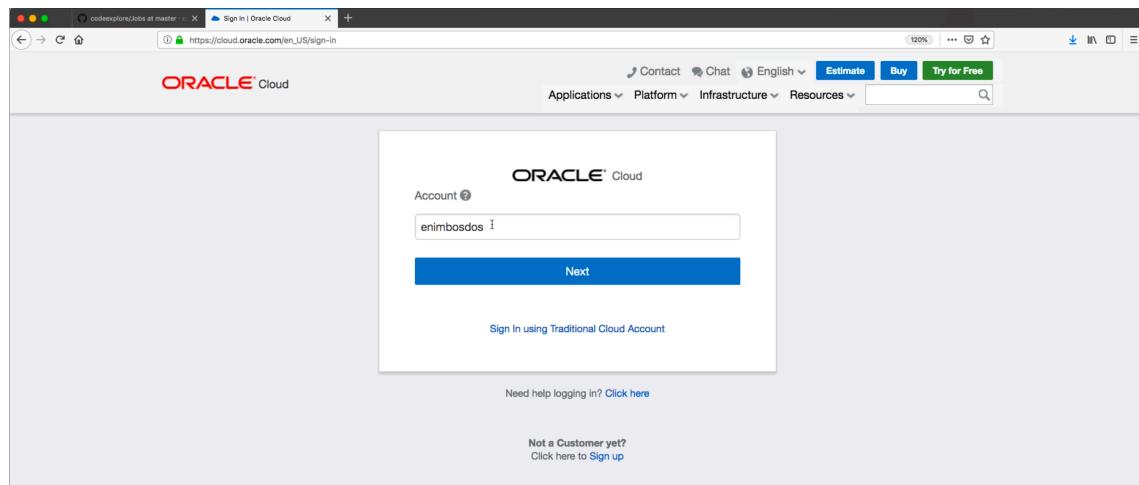
## Instrucciones

### Preparación del entorno

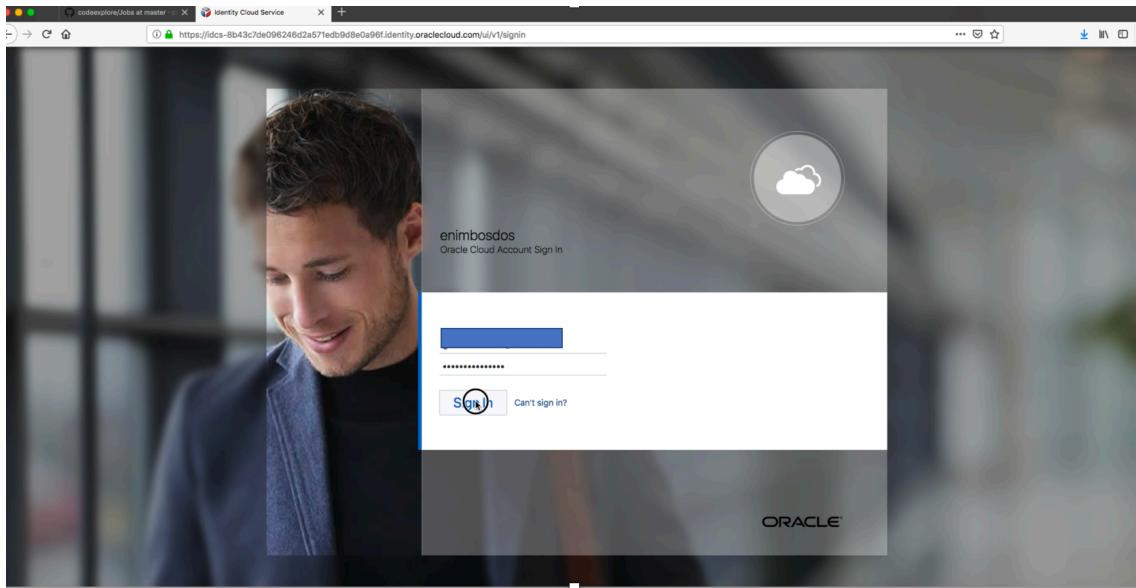
#### Acceder al entorno cloud del taller



#### Seleccionar la cuenta proporcionada en las credenciales



#### Acceder con las credenciales proporcionadas

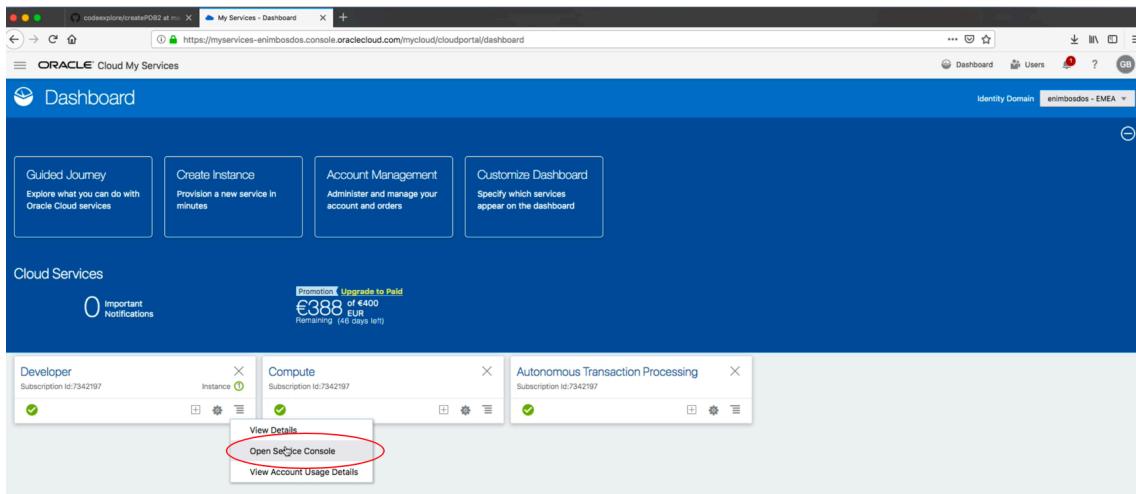


En el dashboard aparecerán los servicios creados en el Lab 0.

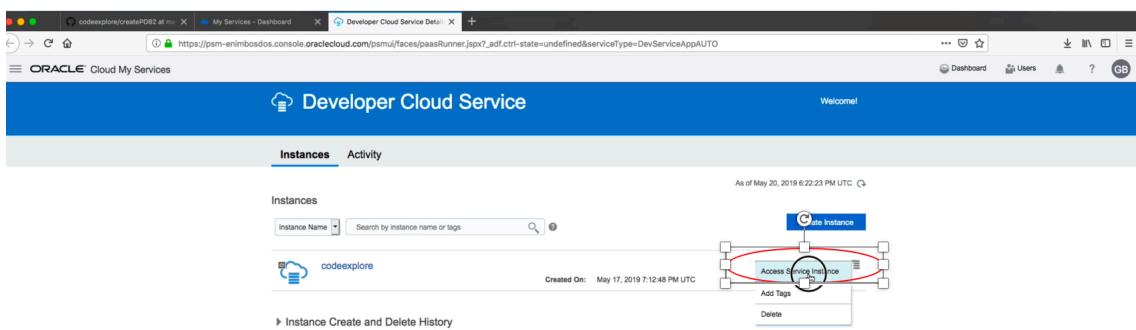
A screenshot of the Oracle Cloud My Services Dashboard. The URL is https://myservices-enimbosdos.console.oraclecloud.com/mycloud/cloudportal/dashboard. The dashboard has a blue header with the Oracle logo and 'Dashboard'. Below the header, there are four cards: 'Guided Journey', 'Create Instance', 'Account Management', and 'Customize Dashboard'. Under the 'Cloud Services' section, there are three service instances listed: 'Developer' (Subscription Id:7342197), 'Compute' (Subscription Id:7342197), and 'Autonomous Transaction Processing' (Subscription Id:7342197). The 'Developer' and 'Compute' instances are highlighted with a red box around them.

Configuración del job para la creación de la de PBD

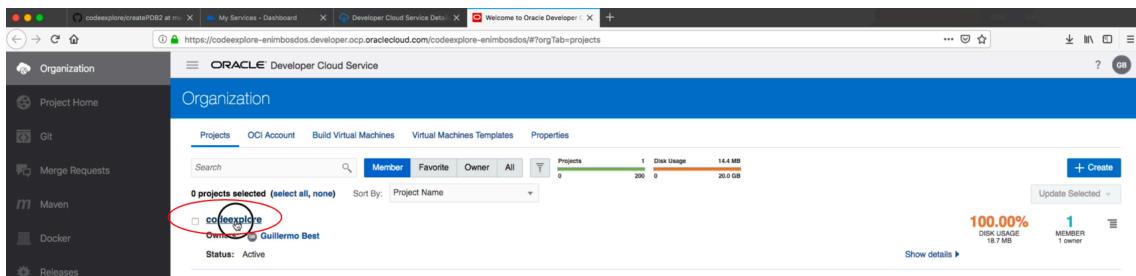
Acceder a la consola del servicio Developer CS creado en el Lab 0.



Acceder a la instancia del proyecto “codeexplore”



Abrir el proyecto.



Navegar a la sección “Git” y luego seleccionar la carpeta “Jobs”

The screenshot shows the Oracle Developer Cloud Service interface. On the left, a sidebar lists project management options like Organization, Project Home, Git, Merge Requests, Maven, Docker, Releases, Builds, Deployments, Environments, and Issues. The 'Git' option is highlighted with a red circle. The main area displays the 'codeexplore.git' repository. A commit for 'Jobs' is circled in red, showing the message 'Update swingbenchBuild | guillermo.best@oracle.com'. Other commits listed include 'ATP', 'DBCS', 'DevOps', 'KEYS', 'OKE', 'SOE', and 'VARS'.

En esta primera parte del taller trabajaremos sobre el Job “createPDB2”  
Posteriormente utilizaremos el “swinbenchBuild”

This screenshot shows the 'Jobs' section within the 'codeexplore.git' repository. It lists several jobs with their descriptions and last run times. Two specific jobs are circled in red: 'createPDB2' and 'swingbenchBuild'.

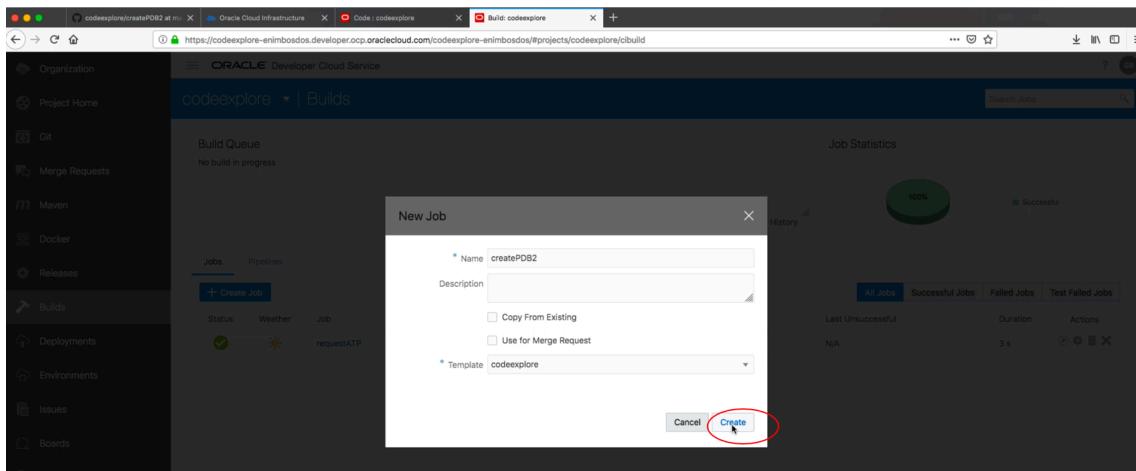
Job	Description	Last Run
createPDB2	Update createPDB2   guillermo.best@oracle.com	15 minutes ago
createDB1	Add Jobs   Willy Best	Saturday at 1:30 AM +0200
createPDB1	Add Jobs   Willy Best	Saturday at 1:30 AM +0200
deleteDB1	Add Jobs   Willy Best	Saturday at 1:30 AM +0200
NodejsKubernetesDeploymentBuild	Add Jobs   Willy Best	Saturday at 1:30 AM +0200
requestATP	Add Jobs   Willy Best	Saturday at 1:30 AM +0200
swingbenchBuild	Update swingbenchBuild   guillermo.best@oracle.com	11 minutes ago

Procedemos a la creación del “Job” Durante la creación del mismo iremos recuperando una serie de datos del entorno.

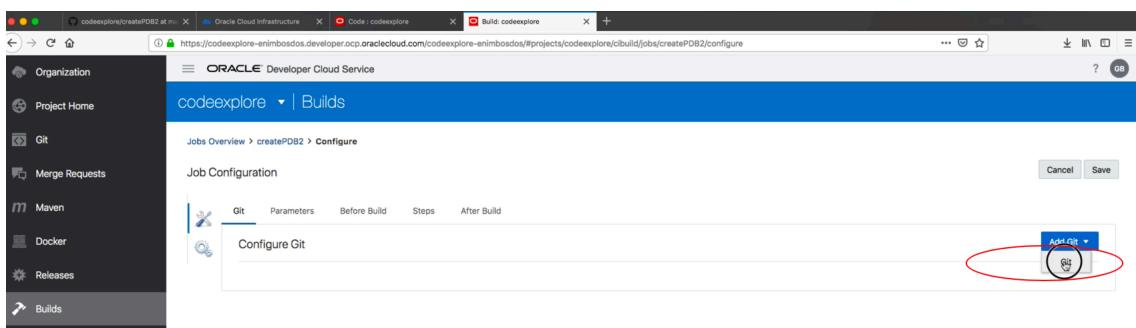
This screenshot shows the 'Builds' section of the Oracle Developer Cloud Service. The sidebar has a 'Builds' option highlighted with a red circle. In the main area, there's a 'Build Queue' section showing 'No build in progress'. Below it is a 'Jobs' table with a 'Create Job' button highlighted with a red circle. The table shows one job named 'requestATP' with its status as 'Last Successful'.

Status	Weather	Job	Last Successful	Last Unsuccessful	Duration	Actions
		requestATP	#1 Saturday at 1:43 AM +0200	N/A	3 s	

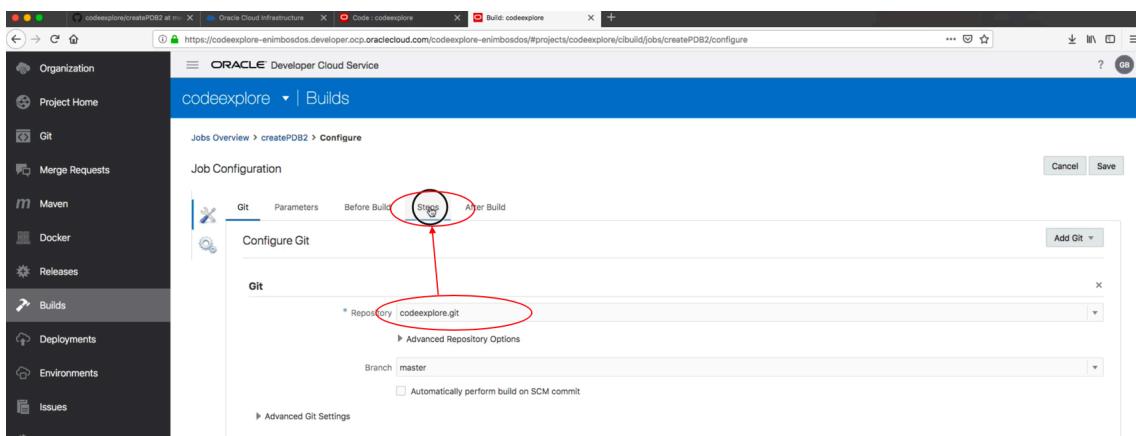
Le nombramos “createPDB2” y utilizamos el template creado en el Lab 0. Por último pulsar “Create”



La primera operación de configuración es añadir el repositorio “Git”



Seleccionar el repositorio “codeexplore.git” y acceder a la pestaña de “Steps”



Añadimos un paso de tipo “SQL.cl”

Aparecerá la pantalla de configuración del “Job” Las siguientes operaciones consisten en recuperar los datos necesarios para el “Job”

Varios de los datos los recuperaremos de la descripción del “Job” que tenemos en el repositorio “Git” tal como se muestra en la figura. El primero de ellos es el user name.

```

codeexplore.git
l/jobs/createPDB2
1 SQLcl
2 Username sys
3 Password zz0r_cle#1
4 Credentials File
5 Connect String 136.61.106.246:1521/CEDB_Fro1jg.sub@519014190.skynet.oraclevcn.com
6 Source
7 Inline SQL
8 Alter Statements
9 Alter pluggable database pdb2 close immediate;
10 drop pluggable database PDB2 including datafiles;
11 alter pluggable database PDB2 open;
12 alter pluggable database pdb2 open;
13 alter session set container=PDB2;
14 create tablespace TBS2 datafile size 1G autoextend on maxsize 10G;
15 select name from dba_services;
16 Role
17
18 Restriction Level
19 Default

```

Introducimos el parámetro username “sys”

The screenshot shows the Oracle Cloud Infrastructure Developer Cloud Service interface. On the left, there's a sidebar with various project management options like Organization, Project Home, Git, Merge Requests, Maven, Docker, Releases, Builds (which is selected), Deployments, Environments, Issues, Boards, Wiki, Snippets, and Project Administration. The main area is titled 'codeexplore' and shows a 'Builds' section. Under 'Jobs Overview > createPDB2 > Configure', it's under the 'Job Configuration' tab. The 'Steps' tab is active, showing a 'Configure Steps' dialog for 'SQLcl'. Inside, the 'Username' field is filled with 'sys' and is highlighted with a red circle. Other fields include 'Password' (empty), 'Credentials File' (empty), 'Connect String' (empty), 'Source' (set to 'SQL File'), 'SQL File Path' (empty), 'Role' (set to 'Default'), and 'Restriction Level' (set to 'Default').

Del mismo modo recuperamos la contraseña.

This screenshot shows the 'Git' repository page for 'codeexplore.git'. The commit history shows a single update from 'guillermo.bst@oracle.com' made 16 minutes ago. The commit message contains a SQL script for creating a pluggable database (PDB). Within this message, the password 'zz0r\_cle#1' is highlighted and circled in red. The commit message also includes other details like connect strings and role definitions.

This screenshot shows the 'Builds' configuration page again for the 'createPDB2' job. The 'Steps' tab is selected, and the 'SQLcl' step is configured. The 'Password' field now contains the value 'zz0r\_cle#1', which was previously circled in red in the previous screenshot. The rest of the configuration remains the same as in the first screenshot.

Para recuperar la cadena de conexión es necesario acceder al servicio de database de nuestro entorno.

The screenshot shows the Oracle Cloud My Services dashboard. On the left, there's a sidebar with a 'Dashboard' link circled in red. Below it, under 'Database', another 'Database' link is also circled in red. The main area displays a 'Cloud Services' section with a promotion for 'Upgrade to Paid' and a price of €388 of €400 EUR remaining (46 days left). It lists three services: 'Developer', 'Compute', and 'Autonomous Transaction Processing', each with a green checkmark.

Acceder a la configuración de la base de datos “DBCODEEXPL”

DB Systems in codeexplore Compartiment			
<a href="#">Launch DB System</a>	DB System Version: 18.6.0.0.190416 Oracle Database Software Edition: Enterprise Edition Extreme Performance Virtual Cloud Network: skynet Client Subnet: Public Subnet pwMV:EU-FRANKFURT-1-AD-1 Private IP: 10.0.0.3 Public IP: 130.61.106.246 Available Data Storage: 256 GB Total Storage Size: 712 GB	Launched: Sun, 19 May 2019 09:18:20 GMT	...
<a href="#">DBCODEEXPL</a>	Availability Domain: pwMV:EU-FRANKFURT-1-AD-1 OCID: ...o6dkga Show Copy	Virtual Cloud Network: skynet Client Subnet: Public Subnet pwMV:EU-FRANKFURT-1-AD-1 Private IP: 10.0.0.3 Public IP: 130.61.106.246 Available Data Storage: 256 GB Total Storage Size: 712 GB	Launched: Sun, 19 May 2019 09:16:48 GMT
<a href="#">dipcDBSYSTEM11G</a>	DB System Version: 18.6.0.0.190416 Oracle Database Software Edition: Enterprise Edition Shape: VM.Standard2.1	Virtual Cloud Network: skynet Client Subnet: Public Subnet pwMV:EU-FRANKFURT-1-AD-1 Private IP: 10.0.0.2 Public IP: 130.61.100.52 Available Data Storage: 256 GB Total Storage Size: 712 GB	Launched: Sun, 19 May 2019 09:16:48 GMT

Seleccionar la IP pública del nodo.

DB System Information	
Availability Domain: pwMV:EU-FRANKFURT-1-AD-1	OCID: ...o6dkga Show Copy
Shape: VM.Standard2.1	Created: Sun, 19 May 2019 09:18:20 GMT
Compartiment: enimbodos (root)/codeexplore	DB System Version: 18.6.0.0.190416
Oracle Database Software Edition: Enterprise Edition Extreme Performance	Virtual Cloud Network: skynet
Available Data Storage: 256 GB	Client Subnet: Public Subnet pwMV:EU-FRANKFURT-1-AD-1
Total Storage Size: 712 GB	Private IP: 10.0.0.3
Hostname Prefix: dbcn01	Public IP: 130.61.106.246
Scan DNS Name: dbcn01-scan... Show Copy	Available Data Storage: 256 GB
	Total Storage Size: 712 GB

Nodes	
Nodes (1)	Host Name: dbcn01 OCID: ...h6gwos Show Copy Fault Domain: FAULT-DOMAIN-3
Databases (1)	Private IP Address & DNS Name: 10.0.0.3 (dbcn01... Show Copy)
Patches (1)	Public IP Address: 130.61.106.246
Patch History (0)	...

Pegar el datos añadiendo la cadena “:1521/” (puerto de conexión)

Del mismo modo, en la pestaña de base de datos obtendremos el resto de la cadena de conexión con una operación de “Show” y “Copy”

**Importante:** solo recuperar la sección del contenedor tal como se muestra en la figura.

El aspecto de la cadena de conexión debe ser similar al que aparece en la figura.

Incluirémos a continuación un conjunto de sentencias SQL. Para ello seleccionamos la opción “inline SQL”

Seleccionar las sentencias SQL tal como se muestra en la imagen.

```

1 SQLcl
2 Username sys
3 Password Z20r_cle#1
4 Credentials FILE
5 Connect String 130.61.106.246:1521/CEDB_fra1g.sub05190914190.skynet.oraclevcn.com
6 Source
7 Inline SQL
8 SQL Statements
9 alter pluggable database pdb2 close immediate;
10 drop pluggable database PDB2 including datafiles;
11 create pluggable database PDB2 from clob keystore identified by "Z20r_cle#1";
12 alter pluggable database pdb2 open;
13 alter session set container=PDB2;
14 alter pluggable database pdb2 autoextend on maxsize 10G;
15 select name From dba_services;
16 Role
17 Z20r_cle#1
18 Restriction Level
19 Default

```

## Copiar las instrucciones.

The screenshot shows the Oracle Cloud Infrastructure Developer Cloud Service interface. On the left, there's a sidebar with various project management options like Organization, Project Home, Git, Merge Requests, Maven, Docker, Releases, Builds, Deployments, Environments, Issues, Boards, Wiki, Snippets, and Project Administration. The 'Builds' option is selected. In the main area, under 'Jobs Overview > createPDB2 > Configure', the 'Job Configuration' tab is active. Under 'Configure Steps', there's a step named 'SQLcl'. The 'Source' dropdown is set to 'Inline SQL'. The 'SQL Statements' text area contains the following PL/SQL code:

```
1 alter pluggable database pdb2 close immediate;
2 drop pluggable database PDB2 including datafiles;
3 create pluggable database PDB2 from cePDB keystore identified by "Z2Bm_cle#1";
4 alter pluggable database pdb2 open;
5 alter session set container=PDB2;
6 create tablespace TBS2 datafile size 1G autoextend on maxsize 10G;
7 select name from dba_services;
```

Seleccionar como rol “SYSDBA”.

This screenshot is similar to the previous one, showing the 'Configure Steps' section for the 'createPDB2' job. The 'Role' dropdown in the 'SQLcl' step is circled in red and is set to 'SYSDBA'. The rest of the configuration is identical to the first screenshot.

Salvar el “job” una vez configurado.

The screenshot shows the Oracle Cloud Infrastructure Jobs Overview page. A specific job named 'createPDB2' is selected. The 'Configure' tab is active, and the 'Steps' tab is selected. A modal window titled 'SQLcl' is open, showing SQL statements for creating a pluggable database. The 'Save' button at the top right of the modal is circled in red.

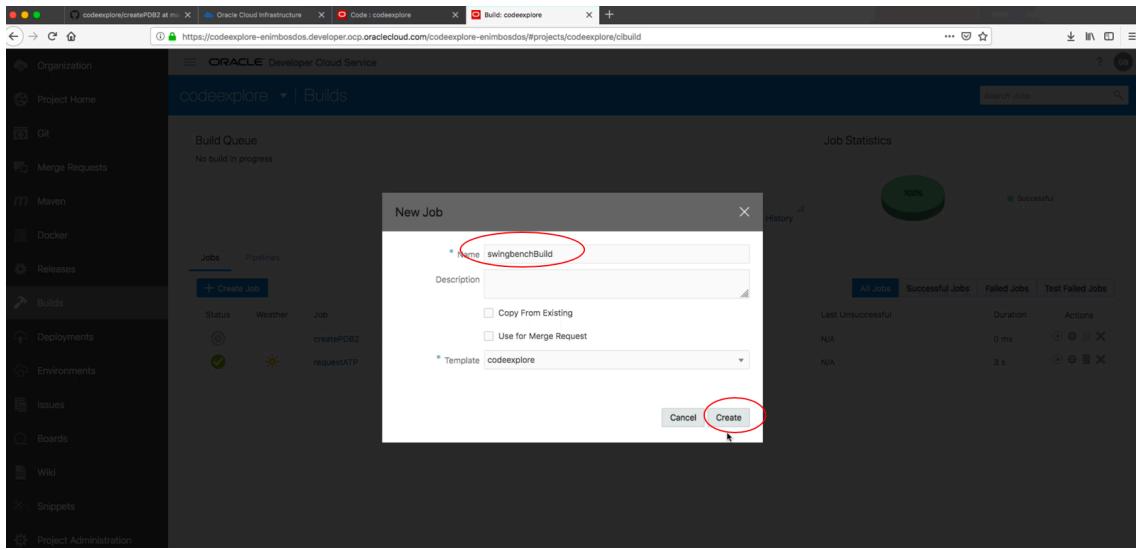
## Creación del Job a partir del “Swinbench”

Comenzamos la creación del segundo “Job”

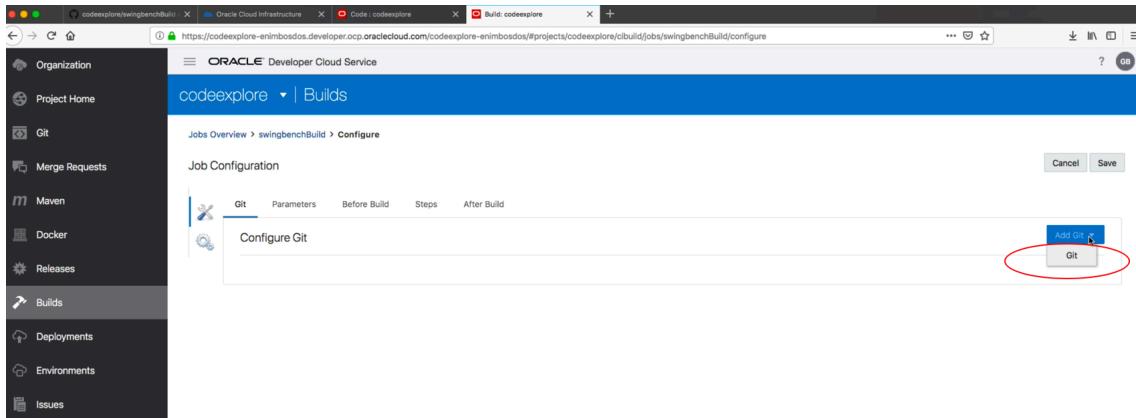
The screenshot shows the Oracle Cloud Infrastructure Builds page. The 'Builds' section is highlighted with a red circle around the '+ Create Job' button. The page displays a table of existing jobs, including 'createPDB2' and 'requestATP'. A summary section on the right shows '100%' successful builds.

Status	Create New Job	Weather	Job	Last Successful	Last Unsuccessful	Duration	Actions
	+ Create Job		createPDB2	N/A	N/A	0 ms	
			requestATP	#1 Saturday at 1:43 AM +0200	N/A	3 s	

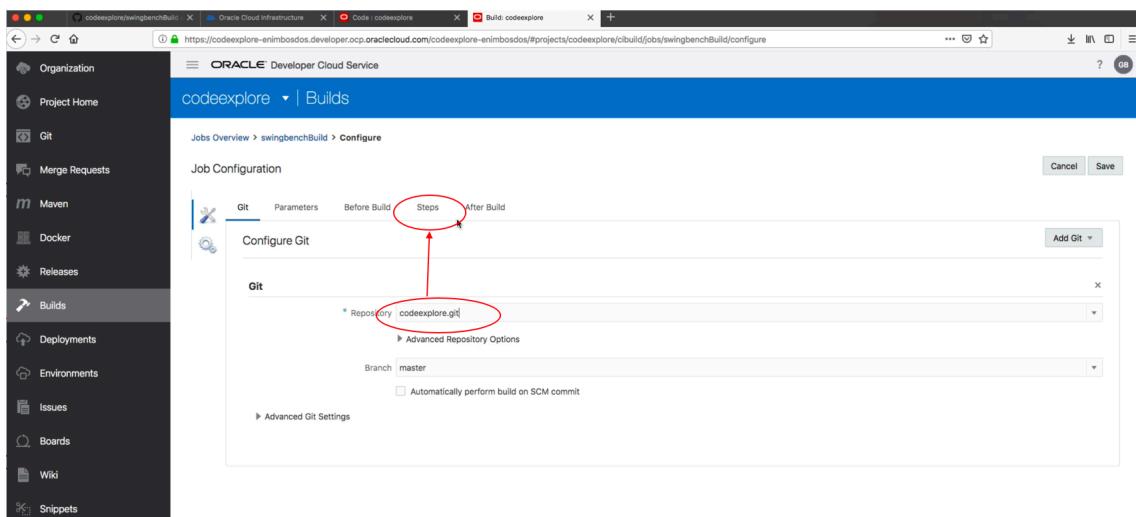
Seleccionar como nombre “swinbenchBuild” y pulsar “Create”



Configuramos el repositorio “Git” como hemos hecho en el paso anterior.



Seleccionamos el repositorio existente en nuestro entorno y pulsamos en la pestaña “Steps”



Debemos configurar 2 pasos en este “job” En primer lugar crearemos un step “OClcli”

The screenshot shows the Oracle Cloud Infrastructure Developer Cloud Service interface. On the left, there's a sidebar with options like Organization, Project Home, Git, Merge Requests, Maven, Docker, Releases, Builds, Deployments, Environments, Issues, Boards, Wiki, Snippets, and Project Administration. The 'Builds' option is selected. In the main area, under 'Jobs Overview > swingbenchBuild > Configure', the 'Job Configuration' tab is active. The 'Steps' tab is selected, showing a 'Configure Steps' section. To the right, there's a 'Add Step' dropdown menu with options like Unix Shell, Ant, Wercker, Maven, Gradle, Node.js, SQLcl, Oracle Deployment, RSMall, OCIDi (which is circled in red), Docker, and Fn.

Y procederemos a configurar los parámetros necesarios.

This screenshot continues from the previous one, showing the 'Configure Steps' section with the 'OCIDi' step selected. The 'OCIDi' configuration dialog is open, displaying fields for 'User OCID', 'Fingerprint', 'Tenancy', and 'Private Key'. Below these fields is a 'Region' dropdown set to 'US\_Phoenix\_1 ("us-phoenix-1")'. The 'Add Step' dropdown menu is also visible on the right side of the screen.

Para recuperar el “User OCID” accedemos a la configuración de nuestro perfil.

This screenshot shows the Oracle Cloud Infrastructure DB System Details page for a system named 'DBCODEEXPL'. The 'Profile' section on the right side of the screen displays the user's profile information, including the User OCID 'oracleidentitycloudservice/guillermo.best@oracle.com' (which is circled in red). Other details shown include the Terency 'enimbodos' and the 'Sign Out' link.

Recuperar el parámetro con una operación de “Show” y “Copy”

This user is created through IDCS federation. Manage [user profile details through IDCS federation here](#).

**oracleidentitycloudservice/**

Description: guillermo.best@oracle.com

[Edit User Capabilities](#) [Apply Tag\(s\)](#)

[User Information](#) [Tags](#)

OCID: [ocid1.user.oc1.aaaaaaaa7dpda7iq4oq3bfrqkaxf6ridwv4xu2gkmn4344h7vydjo6ima](#) [Hide](#) [Copy](#)

Created: Mon, 06 May 2019 09:53:18 GMT  
Identity Provider: OracleIdentityCloudService  
Email:

**Capabilities**

Local password: No      SMTP credentials: Yes  
API keys: Yes      Customer secret keys: Yes  
Auth tokens: Yes

Copiar el parámetro. Procedemos a recuperar el “fingerprint”

Organization

Project Home

Git

Merge Requests

Maven

Docker

Releases

**Builds**

Deployments

Environments

Issues

Boards

Wiki

Snippets

Project Administration

codeexplore | Builds

Jobs Overview > swingbenchBuild > Configure

Job Configuration

Git Parameters Before Build **Steps** After Build

Add Step

**Configure Steps**

OCICLI

\* Fingerprint

\* Tenancy

Private Key

Region: US\_Phoenix\_1 ("us-phoenix-1")

Recuperaremos el “fingerprint” en la misma pantalla de configuración de nuestro rol navegando un poco hacia abajo.

This user is created through IDCS federation. Manage [user profile details through IDCS federation here](#).

**oracleidentitycloudservice/**

Description: guillermo.best@oracle.com

[Edit User Capabilities](#) [Apply Tag\(s\)](#)

[User Information](#) [Tags](#)

OCID: [ocid1.user.oc1.aaaaaaaa7dpda7iq4oq3bfrqkaxf6ridwv4xu2gkmn4344h7vydjo6ima](#) [Hide](#) [Copy](#)

Created: Mon, 06 May 2019 09:53:18 GMT  
Identity Provider: OracleIdentityCloudService  
Email:

**Capabilities**

Local password: No      SMTP credentials: Yes  
API keys: Yes      Customer secret keys: Yes  
Auth tokens: Yes

## Navegar en la pantalla y recuperar el “fingerprint”

The screenshot shows the 'API Keys' section of the Oracle Cloud Infrastructure console. It displays two API keys:

- Key 1: Fingerprint: 77:36:b2:3b:6e:3b:45:0e:fa:e7:9c:ea:3d:0e:50:f0 (Time Created: Fri, 17 May 2019 19:21:04 GMT)
- Key 2: Fingerprint: 6e:38:48:e5:e6:04:c3:f5:73:d0:65:f9:b1:71:de:41 (Time Created: Sun, 19 May 2019 09:05:18 GMT)

Copiar en la pantalla de configuración del “Job” y proceder a la recuperación del “Tenancy”

The screenshot shows the 'Job Configuration' screen for a specific job. The 'Steps' tab is selected. In the 'Configure Steps' section, there is a step named 'Occli'. The 'Fingerprint' field contains the value '77:36:b2:3b:6e:3b:45:0e:fa:e7:9c:ea:3d:0e:50:f0', which is circled in red.

Navegar a la pantalla de configuración del “Tenancy”

The screenshot shows the 'User Information' screen for a specific user. The 'Tenancy' field contains the value 'enlimbosdos', which is circled in red.

Copiar el parámetro como en anteriores ocasiones (“Show” y “Copy”)

enimbosdos

ACTIVE

**Tenancy Information**

OCID: `ocid1.tenancy.oc1.aaaaaaafl5jkgrzztb7v4zonc7kvynba3zooyw3lzgta57dls2rca` Hide Copied

Name: enimbosdos

**Object Storage Settings**

Amazon S3 Compatibility API Designated Compartment: codeexplore

Object Storage Namespace: frxps3qnbtq

SWIFT API Designated Compartment: codeexplore

Home Region: eu-frankfurt-1

Audit Retention Period: 90 Days

If you recently updated the audit retention period, please allow several minutes for the value to take effect.

Copiar el parámetro.

Job Configuration

Steps

Configure Steps

OCICLI

- User OCID: `ocid1.user.oc1.aaaaaaa7dpda7lq4oq3bfroqaxf6ldw4xu2gkmln434h7vyydj06ima`
- Fingerprint: `77:36:b2:3b:6e:3b:45:0:f:a:e:7:9:c:ea:3:d:0:e:50:f0`
- Tenancy: `ocid1.tenancy.oc1.aaaaaaafl5jkgrzztb7v4zonc7kvynba3zooyw3lzgta57dls2rca`

Private Key: `1`

Region: US\_Phoenix\_1 ("us-phoenix-1")

Seleccionar como Region “Frankfurt”

Job Configuration

Steps

Configure Steps

OCICLI

- User OCID: `ocid1.user.oc1.aaaaaaa7dpda7lq4oq3bfroqaxf6ldw4xu2gkmln434h7vyydj06ima`
- Fingerprint: `77:36:b2:3b:6e:3b:45:0:f:a:e:7:9:c:ea:3:d:0:e:50:f0`
- Tenancy: `ocid1.tenancy.oc1.aaaaaaafl5jkgrzztb7v4zonc7kvynba3zooyw3lzgta57dls2rca`

Private Key: `1`

Region: EU\_Frankfurt\_1 ("eu-frankfurt-1")

Copiar y pegar el contenido del fichero “oci.key” en el campo “Private Key”

Con ello tendremos configurado el primer paso del “Job”. Procedemos a añadir el segundo paso de tipo “Unix shell”

Seleccionar las líneas del script del fichero “SwinbenchBuild” tal como se muestra en la imagen.

The screenshot shows the Oracle Cloud Infrastructure Developer Cloud Service interface. The left sidebar has a 'Git' section with a red circle around it. The main area shows a 'swingbenchBuild' job under the 'Jobs / swingbenchBuild' path. A red box highlights the command line interface (CLI) output, which contains several 'kubectl' commands for managing pods and configurations in a Kubernetes cluster.

## Pegar las instrucciones en la pantalla de configuración del “Job”

The screenshot shows the configuration screen for the 'swingbenchBuild' job. The 'Build' section is highlighted in the sidebar. In the main area, the 'Tenancy' section is expanded, showing the 'cluster-id' set to 'ocid1.cluster.oc1.eu-frankfurt-1'. Below it, the 'Script' section contains the CLI commands for creating a kubeconfig file and applying it to the pod. A red box highlights this script area.

## Será necesario comprobar el parámetro “cluster-id”

This screenshot is identical to the previous one, showing the configuration screen for the 'swingbenchBuild' job. It highlights the 'Build' section and the 'Tenancy' section where the 'cluster-id' is specified. The 'Script' section at the bottom also contains the same CLI commands as before.

Para obtener el valor de nuestro entorno cloud navegaremos tal como se muestra en la imagen.

The screenshot shows the Oracle Cloud Infrastructure console with the URL <https://console.eu-frankfurt-1.oraclecloud.com/a/tenancy>. The left sidebar lists various services under 'Core Infrastructure'. The main content area displays 'Tenancy Information' for compartment 'enimbosdos'. At the bottom, there is a section titled 'Regions' with a table showing one entry: 'Container Clusters (OKE) eu-frankfurt-1 (Home Region)'. A red circle highlights the 'Container Clusters (OKE)' link.

Seleccionar el “cluster1”

The screenshot shows the Oracle Cloud Infrastructure console with the URL <https://console.eu-frankfurt-1.oraclecloud.com/container/clusters>. The left sidebar shows 'Clusters' and 'Registry'. The main content area displays 'Clusters in codeexplore Compartment'. A table lists one cluster: 'cluster1' (Status: Active, Node Pools: 1, VCN: oke-von-quick-cluster1-20190519204121, Version: v1.12.7, Created: 19/5/2019). A red circle highlights the 'cluster1' row.

Y copiar el valor con una operación de “Show” y “Copy”

The screenshot shows the Oracle Cloud Infrastructure console with the URL <https://console.eu-frankfurt-1.oraclecloud.com/container/clusters/ocid1.cluster.oc1.eu-frankfurt-1.aaaaaaaaaa3wezrjgltsobwg43gylfmg2wgyjsgrwkjvgc3wnkbagayt>. The left sidebar shows 'Containers' and 'Clusters'. The main content area shows 'cluster1' details. Under 'Cluster Information', the 'Cluster ID' field is highlighted with a red circle, containing the value 'ocid1.cluster.oc1.eu-frankfurt-1.aaaaaaaaaa3wezrjgltsobwg43gylfmg2wgyjsgrwkjvgc3wnkbagayt'. Other fields shown include 'Cluster Status: Active', 'Node Pools: 1', 'Kubernetes Version: v1.12.7', 'Kubernetes Address: ...com:8443 Show Copy', 'Launched: Sun, 19 May 2019 20:43:03 GMT', and 'Created By: guillermo.beat@oracle.com'.

Reemplazar el valor existente con el nuevo parámetro.

The screenshot shows the Oracle Cloud Infrastructure Developer Cloud Service interface. On the left, there's a sidebar with various project management options like Organization, Project Home, Git, Merge Requests, Maven, Docker, Releases, Builds, Deployments, Environments, Issues, Boards, Wiki, Snippets, and Project Administration. The 'Builds' option is currently selected. In the main area, under 'Jobs Overview > swingbenchBuild > Configure', the 'Job Configuration' section is shown. The 'Steps' tab is active, and a 'Configure Steps' dialog is open. Inside this dialog, there's a 'Configure Step' section for 'ocicli' with fields for User OCID, Fingerprint, and Tenancy, all populated with specific values. Below this is a 'Private Key' field containing a very long RSA private key, which is highlighted with a red box. At the bottom right of the dialog, the 'Save' button is circled in red.

Finalizada la configuración, procedemos a su guardado.

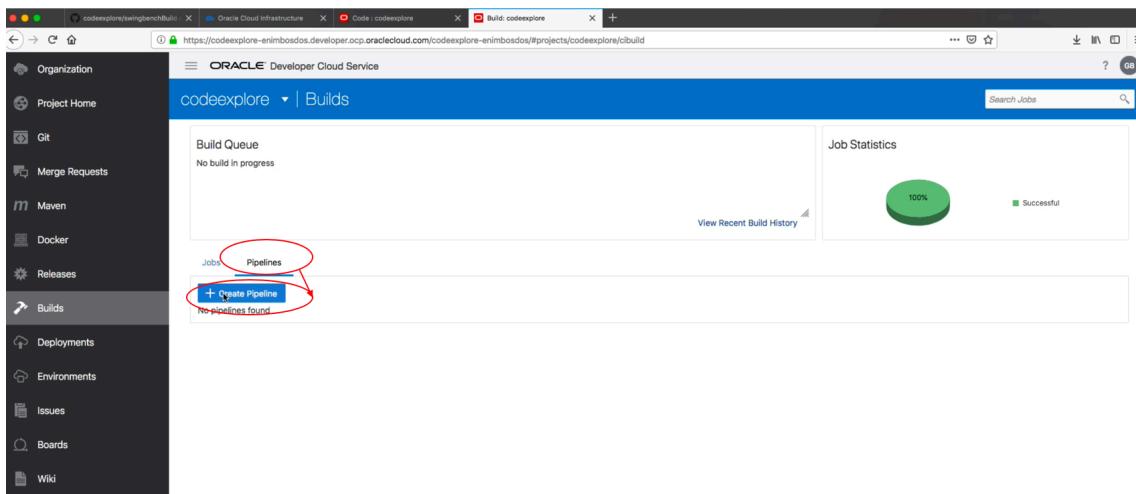
This screenshot is identical to the one above, showing the configuration of the 'swingbenchBuild' job. The 'Steps' tab is selected, and the 'Configure Steps' dialog for the 'ocicli' step is open. It shows the same configuration fields (User OCID, Fingerprint, Tenancy) and the same large RSA private key in the 'Private Key' field. The 'Save' button at the bottom right of the dialog is again circled in red.

Podemos comprobar que los dos “Jobs” están creados y listos para su ejecución en una “pipeline”

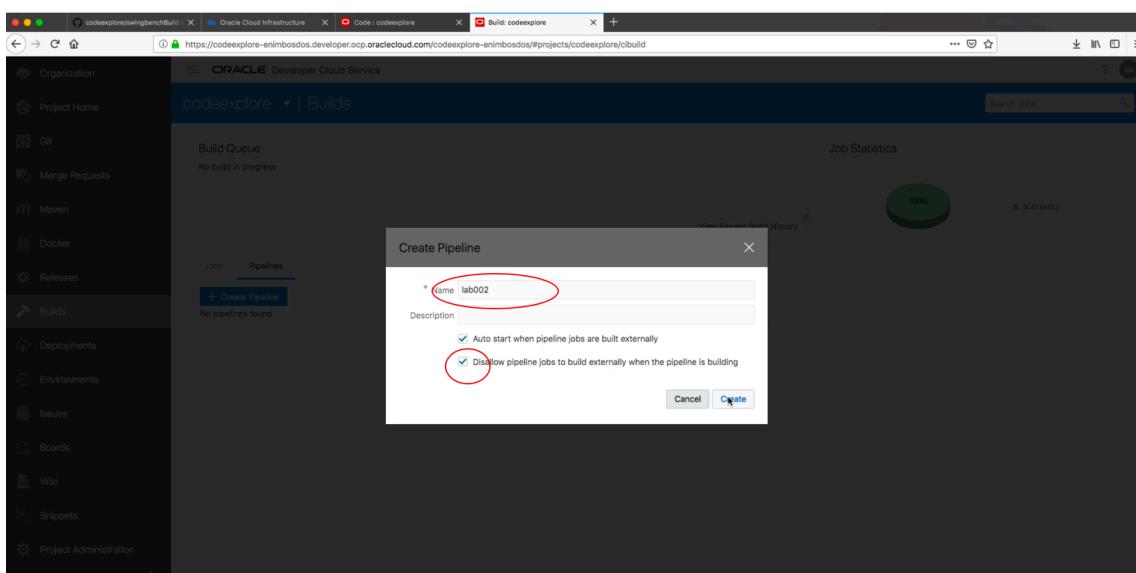
The screenshot shows the 'Builds' page in the Oracle Cloud Infrastructure Developer Cloud Service. The 'Builds' tab is selected in the sidebar. In the main area, the 'Jobs' section is displayed, showing a table with columns: Status, Weather, Job, Last Successful, Last Unsuccessful, Duration, and Actions. There are three entries: 'createPDB2' (Status: Success, Weather: Green), 'requestATP' (Status: Success, Weather: Yellow), and 'swingbenchBuild' (Status: Success, Weather: Green). The 'Actions' column for the 'swingbenchBuild' row contains a green 'Run Pipeline' button, which is circled in red.

Creación de una pipeline para la ejecución de los Jobs

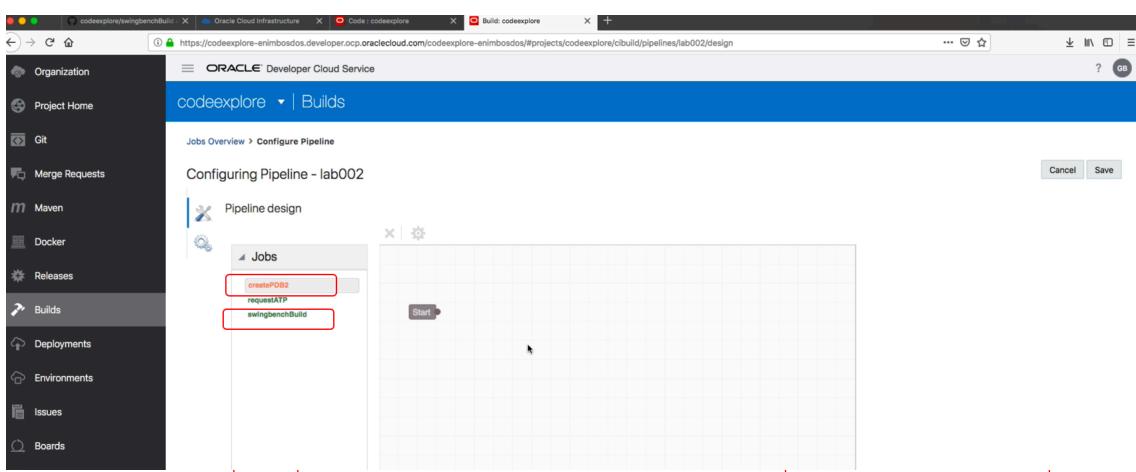
Acceder a la pestaña de “pipelines” y seleccionar la opción “Create pipeline”



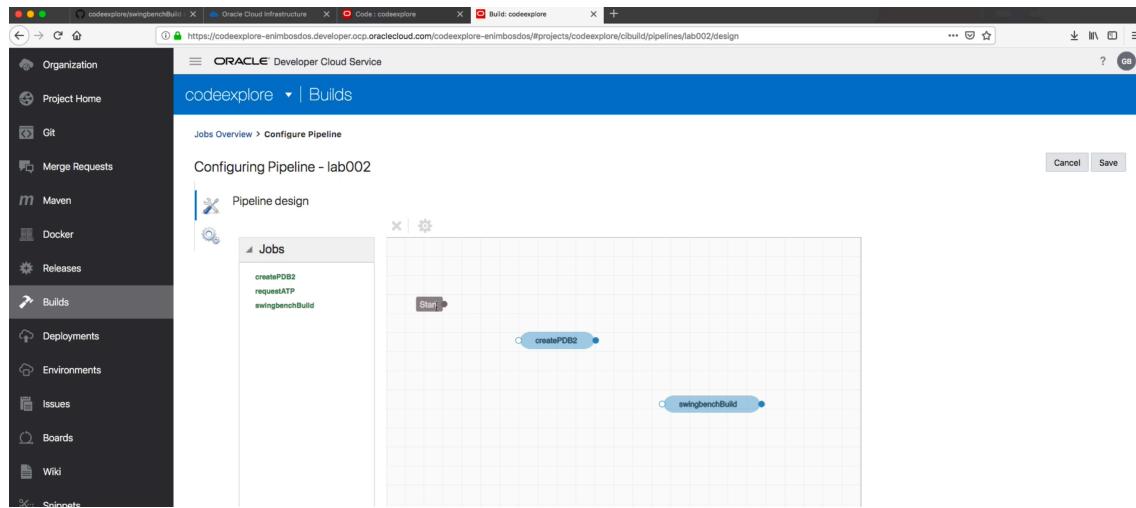
Seleccionar un nombre de “Pipeline” y marcar la opción “Disallow pipeline jobs to build externally when the pipeline is building” Luego pulsar “Create”



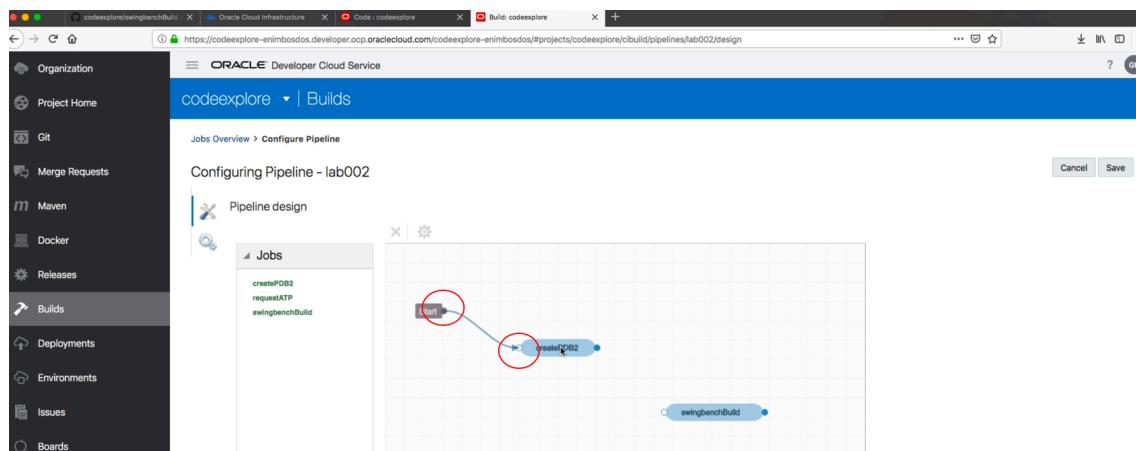
Sobre el canvas arrastrar los dos Jobs creados “createPDB” y “swinbenchBuild”



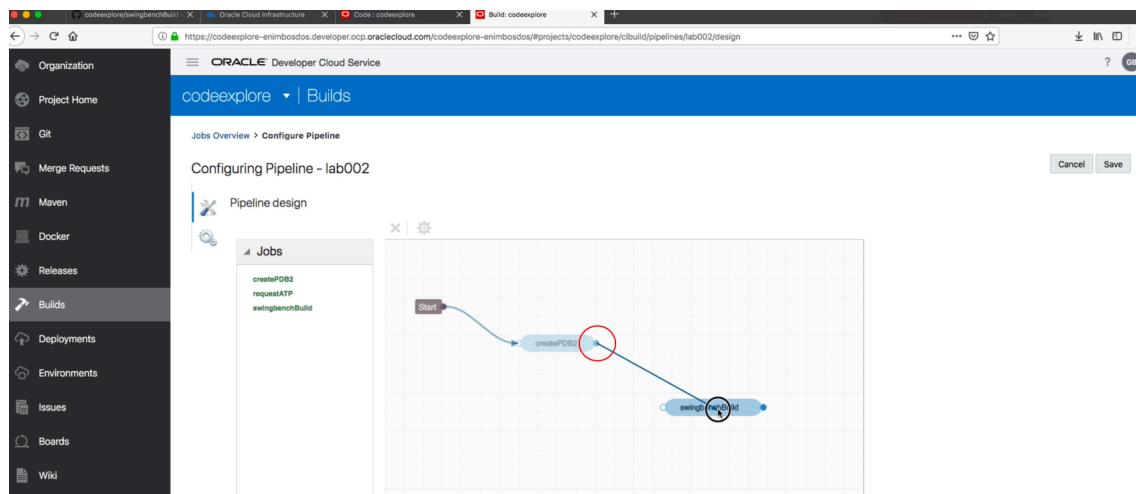
Una vez tengamos los dos “Jobs” incluidos los uniremos.



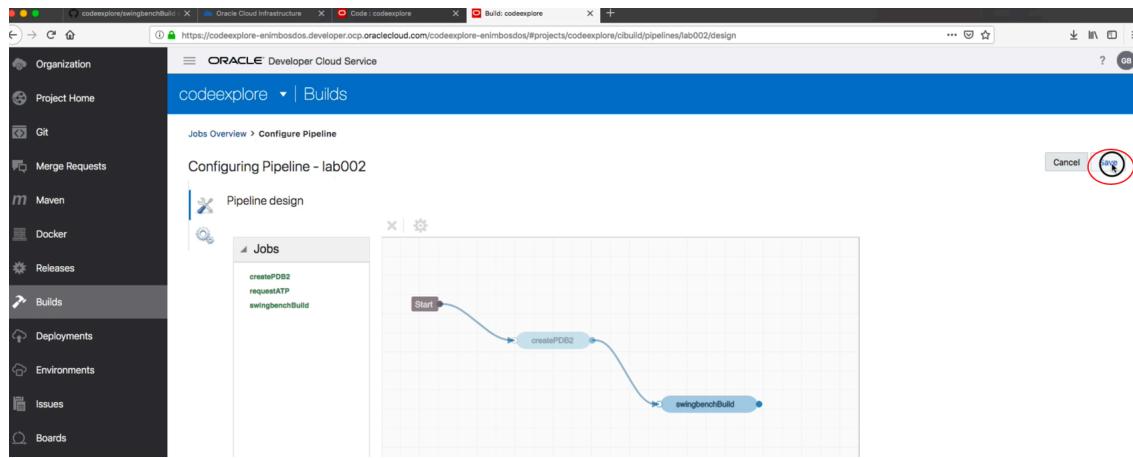
Seleccionar en primer lugar el nodo “Start” y con el botón izquierdo pulsado llevar la línea hasta el “Job” “createPDB2”



Repetir la operación entre los “Jobs” “CreatePDB2” y “swinbenchBuild”

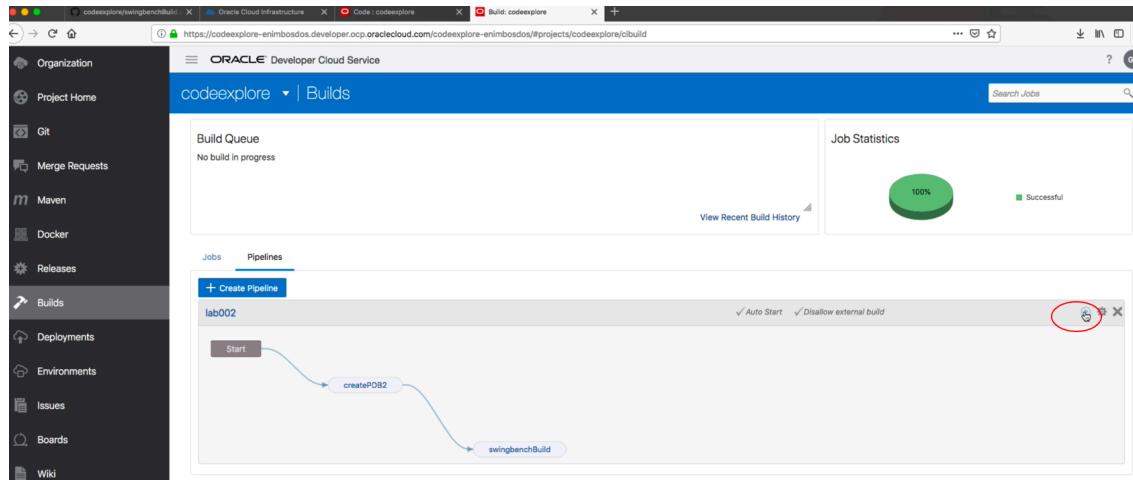


## Salvar la “pipeline”

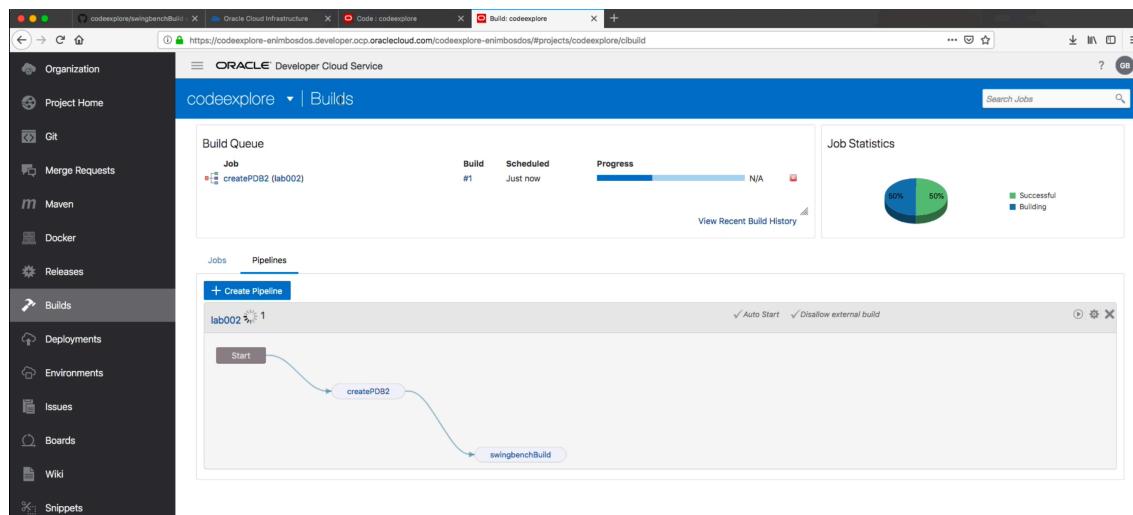


## Ejecución de la pipeline

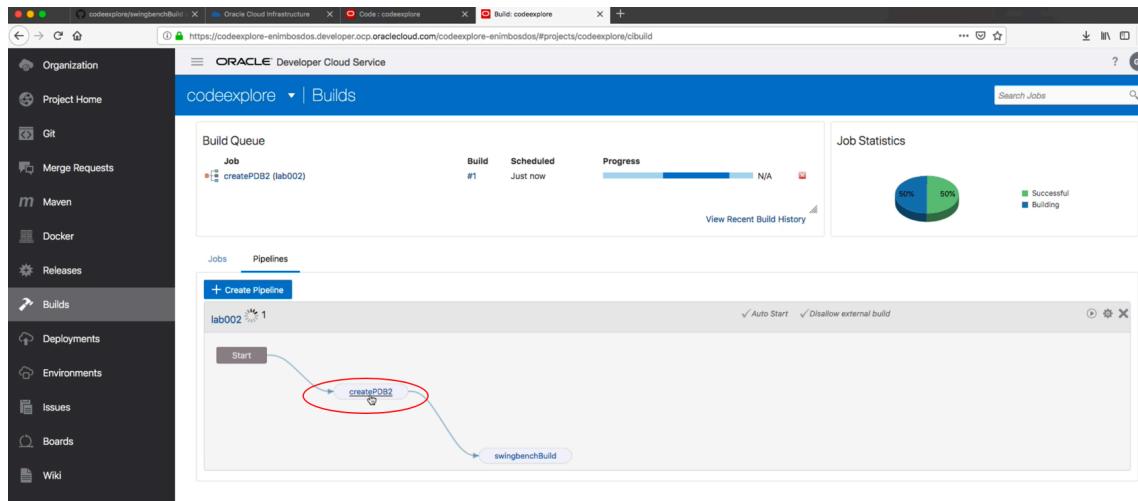
Pulsar el botón de ejecución tal como se muestra en la figura.



El sistema nos informa de que el “job” se está ejecutando.

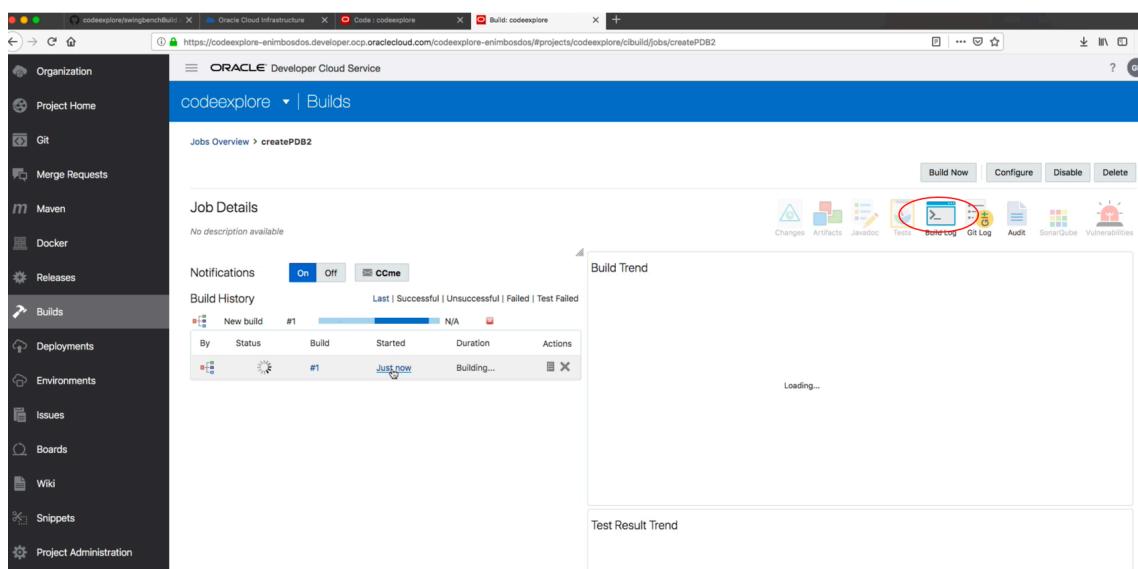


Podemos comprobar el estado de cada paso individual clickando sobre los mismos.



The screenshot shows the Oracle Developer Cloud Service interface. On the left, a sidebar menu includes options like Organization, Project Home, Git, Merge Requests, Maven, Docker, Releases, Builds (which is selected), Deployments, Environments, Issues, Boards, and Wiki. The main area displays a 'Build Queue' with one job: 'createPDB2 (lab002)'. To the right is a 'Job Statistics' section with a pie chart showing 50% successful and 50% building. Below this is a 'Jobs' tab showing a pipeline named 'lab002'. The pipeline has three steps: 'Start', 'createPDB2', and 'swingbenchBuild'. The 'createPDB2' step is highlighted with a red oval.

Y podemos comprobar el log del proceso.



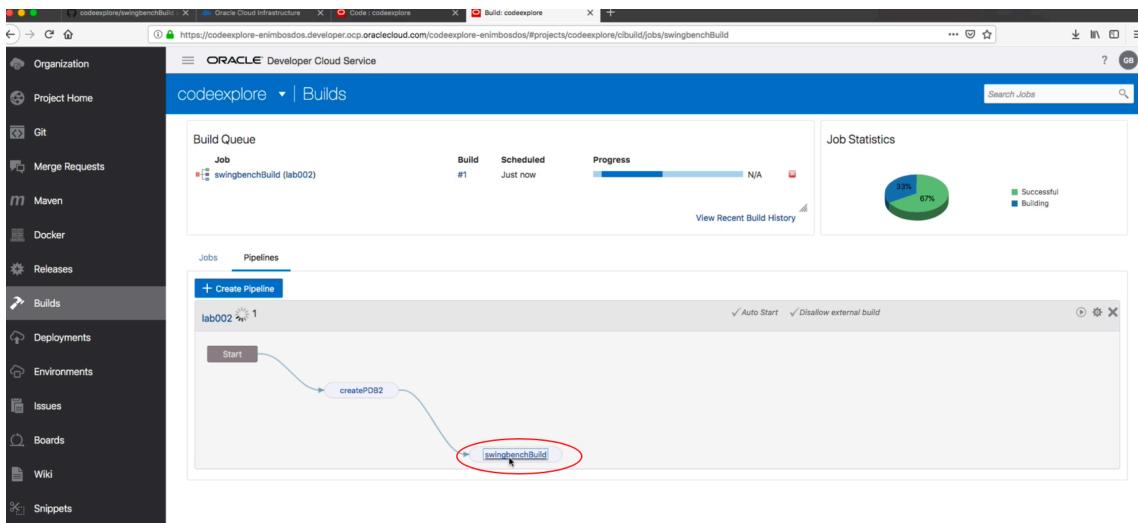
The screenshot shows the 'Jobs Overview > createPDB2' page. The left sidebar remains the same. The main area shows 'Job Details' with a note 'No description available'. It includes 'Notifications' (On), 'Build History' (with one entry: 'New build #1 Just now Building...'), and a 'Build Trend' section. At the top right are buttons for 'Build Now', 'Configure', 'Disable', and 'Delete'. Below these are tabs for Changes, Artifacts, Javadoc, Test, Build Log (which is circled in red), Git Log, Audit, SonarQube, and Vulnerabilities. The 'Build Log' tab is currently active, showing a 'Loading...' message.

```

[2019-05-20 18:32:34] Build scheduled. Build started by pipeline lab002
[2019-05-20 18:32:34] Build task #1: b2d317f4b75-4ba4-9710-ec591ec56f25
[2019-05-20 18:32:35] Build execution started
[2019-05-20 18:32:35] Building on slave codeexplore
[2019-05-20 18:32:35] Git: Checkout directory is the workspace root.
[2019-05-20 18:32:35] Git: git version 18.3.1
[2019-05-20 18:32:35] Git: Remote repository https://codeexplore-enimbosdos.developer.ocp.oraclecloud.com/codeexplore-enimbosdos/s/codeexplore_enimbosdos_codeexplore_3429/scm/codeexplore.git
[2019-05-20 18:32:36] Git: Checking out branch master
[2019-05-20 18:32:37] Git: Done
[2019-05-20 18:32:37] SQLcl: Release 18.4 Production on Mon May 20 18:32:37 2019
[2019-05-20 18:32:37] Copyright (c) 1982, 2019, Oracle. All rights reserved.
[2019-05-20 18:32:39] Oracle Database 18c EE Extreme Perf Release 18.0.0.0 - Production
[2019-05-20 18:32:39] Version 18.6.0.0
[2019-05-20 18:32:39] In command-line
[2019-05-20 18:32:39] alter pluggable database pdb2 close immediate
[2019-05-20 18:32:39] Error report -
[2019-05-20 18:32:39] ORA-65011: Pluggable database PDB2 does not exist.
[2019-05-20 18:32:39] 65011, 00000 - "Pluggable database '%s' does not exist."
[2019-05-20 18:32:39] *Cause: User attempted to specify a pluggable database
[2019-05-20 18:32:39] that does not exist.
[2019-05-20 18:32:39] *Action: Check DBA_PDBS to see if it exists.
[2019-05-20 18:32:39] In command-line
[2019-05-20 18:32:39] alter pluggable database PDB2 including datafiles
[2019-05-20 18:32:39] Error report -
[2019-05-20 18:32:39] ORA-65011: Pluggable database PDB2 does not exist.
[2019-05-20 18:32:39] 65011, 00000 - "Pluggable database '%s' does not exist."
[2019-05-20 18:32:39] *Cause: User attempted to specify a pluggable database
[2019-05-20 18:32:39] that does not exist.
[2019-05-20 18:32:39] *Action: Check DBA_PDBS to see if it exists.

```

Cuando la PDB esté creada podemos comprobar el estado del segundo paso del “Job”



A modo informativo podemos comprobar los procesos que se están lanzando como parte del “Job”

Build Log

Download Log

```
[2019-05-20 18:33:29] Build scheduled. Build started by pipeline lab002 [Upstream Job: createPDB2 Build: #1]
[2019-05-20 18:33:29] Build task id: 2cd3f15-f8fb-4c2f-8872-1cf2c2233e
[2019-05-20 18:33:29] Build execution started.
[2019-05-20 18:33:29] Building on slave codeexplorer
[2019-05-20 18:33:29] Git: Checkout directory is the workspace root.
[2019-05-20 18:33:29] Git: Fetching from remote repository https://codeexplore-enimbosdos.developer.ocp.oraclecloud.com/codeexplore-enimbosdos/s/codeexplore-enimbosdos_codeexplore_3429/scm/codeexplore.git
[2019-05-20 18:33:29] /bin/git fetch --no-tags https://codeexplore-enimbosdos.developer.ocp.oraclecloud.com/codeexplore-enimbosdos/s/codeexplore-enimbosdos_codeexplore_3429/scm/codeexplore.git +refs/heads/*:refs/remotes/origin/*
[2019-05-20 18:33:30] Git: Checking out branch master
[2019-05-20 18:33:30] Git: Checking out revision b7179de2d52ae733f0ae13793e715923e8f76d97
[2019-05-20 18:33:31] oci setup repair --oci-poll-interval=--file /home/builder/.oci/oci_config
[2019-05-20 18:33:31] oci setup repair --oci-poll-interval=--file /home/builder/.oci/oci_api_key.pem
[2019-05-20 18:33:32] BEPL shell script execution with /home/builder/kube/config
[2019-05-20 18:33:32] + mdkl -p /home/builder/kube
[2019-05-20 18:33:32] + oc get ns create-kubeconfig --cluster-id ocst cluster.oc1.eu-frankfurt-1.aaaaaaaaaa3wezzrgldsbwg43gjytfm2wgyjsgjzwkzjvgc3wnkbqgayt --file /home/builder/kube/config --region eu-frankfurt-1
[2019-05-20 18:33:32] + export KUBECONFIG=/home/builder/kube/config
[2019-05-20 18:33:34] + KUBECONFIG=/home/builder/kube/config
[2019-05-20 18:33:34] + kubectl config view
[2019-05-20 18:33:34] clusters:
[2019-05-20 18:33:34]   - cluster:
[2019-05-20 18:33:34]     certificate-authority-data: REDACTED
[2019-05-20 18:33:34]     endpoint: https://3wknbgayt.eu-frankfurt-1.clusters.oc1.oraclecloud.com:6443
[2019-05-20 18:33:34]     name: cluster-c3wknbgayt
[2019-05-20 18:33:34]   contexts:
[2019-05-20 18:33:34]     - context:
[2019-05-20 18:33:34]       cluster: cluster-c3wknbgayt
[2019-05-20 18:33:34]       user: user-c3wknbgayt
[2019-05-20 18:33:34]     name: context-c3wknbgayt
[2019-05-20 18:33:34]   kind: Config
[2019-05-20 18:33:34]   preferences: {}
[2019-05-20 18:33:34] users:
```

Podremos confirmar que los “Jobs” están ejecutados en el dashboards de “Builds”

Status	Weather	Job	Last Successful	Last Unsuccessful	Duration	Actions
<span style="color: green;">✓</span>	<span style="color: yellow;">☀️</span>	createPDB2	#1 6 minutes ago	N/A	53 s	<span style="color: green;">↻</span> <span style="color: green;">✖</span>
<span style="color: green;">✓</span>	<span style="color: yellow;">☀️</span>	requestATP	#1 Saturday at 1:43 AM +0200	N/A	3 s	<span style="color: green;">↻</span> <span style="color: green;">✖</span>
<span style="color: grey;">✗</span>	<span style="color: yellow;">☀️</span>	swingbenchBuild	#1 5 minutes ago	N/A	1 min 8 s	<span style="color: grey;">↻</span> <span style="color: grey;">✖</span>