

Technical Fast Start for Onboarding to the Oracle Container Native Application Development Platform (short version)

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Technical Fast Start for Onboarding to the Oracle Container Native Application Development Platform

Introduction

This document describes the basic technical steps for quickly onboarding a new user to the Oracle Container Native Application Development platform.

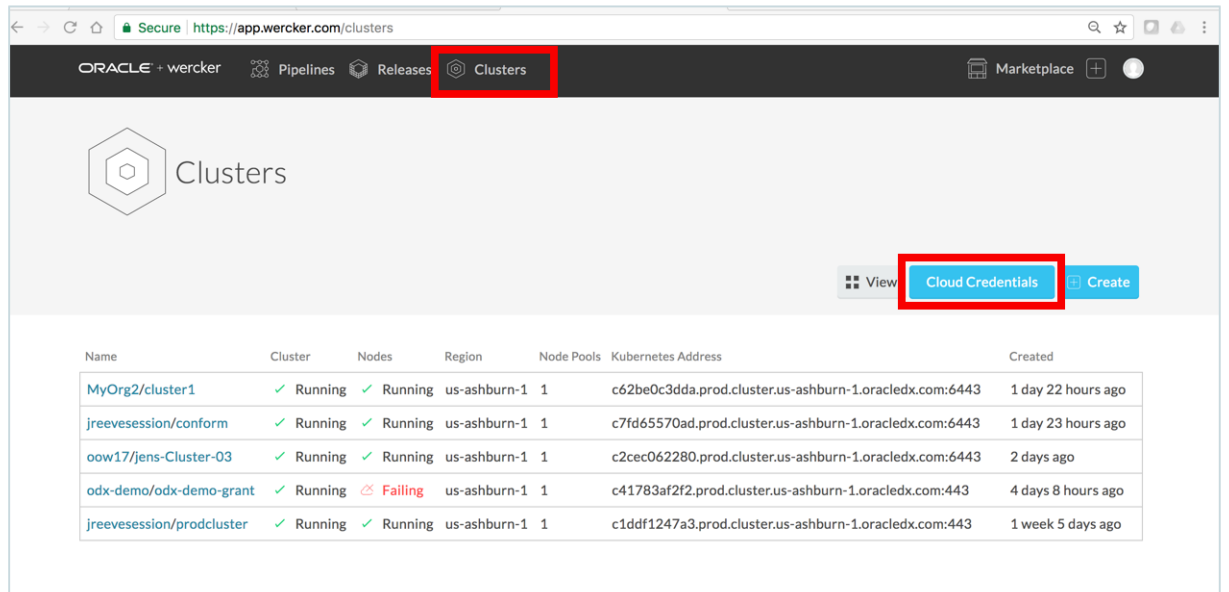
We assume that you have available:

- Account on github.com
- Account on wercker.com (associated with github)
- OCI account with required capacity

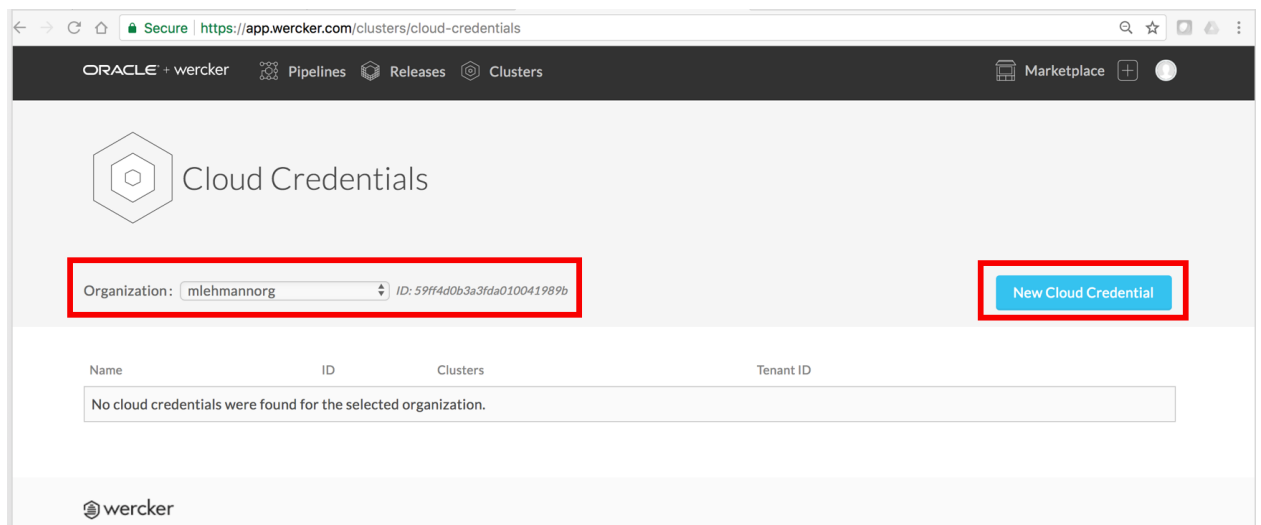
Connecting Wercker and Oracle Cloud Infrastructure to Enable Creation of Kubernetes Clusters

This section of the technical onboarding document focuses on connecting your Oracle Wercker environment to Oracle Cloud Infrastructure to enable you to create Kubernetes clusters.

1. Log into your Wercker account and go to the Clusters screen and from the Clusters screen click on the Cloud Credentials button:



2. Select the organization you created previously in the drop down list box of Organizations and then click on the Create Cloud Credentials button



3. You will then be on the create Cloud Credential page where you can enter a name of the credential you are creating (use your username as recommended value)

The screenshot shows the 'New Cloud Credential' page in the Wercker interface. The URL is <https://app.wercker.com/clusters/cloud-credentials/createAuthConfig?ownerId=59ff4d0b3a3fda010041989b>. The page displays the following fields:

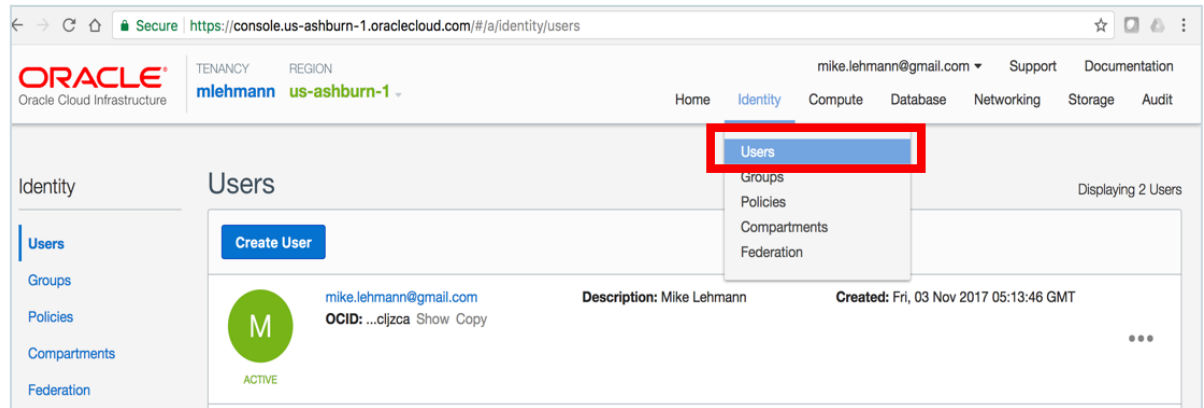
- Organization: **mlehmannorg** (ID: 59ff4d0b3a3fda010041989b)
- Region: **us-ashburn-1**
- Name: **mlehmann** (highlighted with a red box)
- User OCID: (Field with placeholder text: 'Provide the OCID for the user.')
- Tenancy OCID: (Field with placeholder text: 'Provide the OCID of your tenancy')
- Key Fingerprint: (Field with placeholder text: 'Provide the key fingerprint')
- API Private Key (PEM Format): (Large text area)

4. In order to get the User OCID and Tenancy OCID, in a different tab in your browser, log into your Oracle Cloud Infrastructure account

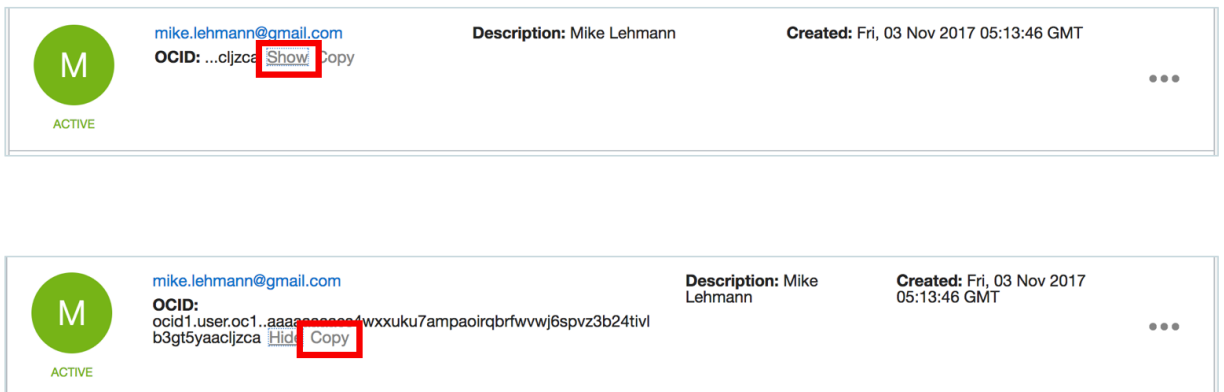
The screenshot shows the Oracle Cloud Infrastructure login page. The URL is https://login.us-ashburn-1.oraclecloud.com/v1/oauth2/authorize?action=login&client_id=iaas_console&redirect_uri=https%3A%2F%2Fconsole.... The page displays the following information:

- ORACLE Cloud Infrastructure
- SIGN IN
- Signing in to cloud tenant: **mlehmann** (with a [Change tenant](#) link)
- Sign in with your Oracle Cloud Infrastructure credentials
- User Name: **mike.lehmann@gmail.com**
- Password: (Masked with dots)
- Sign In button and [Forgot password?](#) link

5. Go to the User menu choice under Identity



- You should see your user account there and the ability to show and copy the User OCI on this page. Copy the OCID user key by clicking on the “Show” link and then selecting “Copy”. This will copy the User OCID into your clipboard.



- Switch back to the Wercker Cloud Credential page and paste the User OCID User into the Wercker Cloud Credential User OCID

Secure | <https://app.wercker.com/clusters/cloud-credentials/createAuthConfig?ownerId=59ff4d0b3a3fda010041989b>

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Cloud Credentials

New Cloud Credential

Organization: miehmannorg
ID: 59ff4d0b3a3fda010041989b
Region: us-ashburn-1

Name: miehmann

User OCID *
ocid1.user.oc1..aaaaaaes4wxuku7ampaoirgbrfwwj6spvz3l

Tenancy OCID *
Provide the OCID of your tenancy

Key Fingerprint *
Provide the key fingerprint

API Private Key (PEM Format) *

- Return to the Oracle Cloud Infrastructure page and scroll to the bottom of the page. From the bottom of the page you will be able to select and copy the OCID Tenancy ID into your clipboard.

Secure | <https://console.us-ashburn-1.oraclecloud.com/#/ja/identity/users>

ORACLE Oracle Cloud Infrastructure

TENANCY REGION
mlehmann us-ashburn-1

mike.lehmann@gmail.com Support Documentation



Home Identity Compute Database Networking Storage Audit

Identity

Users

Displaying 2 Users

[Create User](#)

 ACTIVE	mike.lehmann@gmail.com OCID: ...cljzca Show Copy	Description: Mike Lehmann	Created: Fri, 03 Nov 2017 05:13:46 GMT	...
 ACTIVE	oke-madmin-oke-ZVrjVk-c62be0c3dda OCID: ...u7fiqa Show Copy	Description: Managed admin account	Created: Fri, 03 Nov 2017 19:18:20 GMT	...

Tenancy OCID: ocid1.tenancy.oc1..aaaaaaaaz2gpvkfwymzxch6kpxuntsopbictf23dxu54qrktgh45yoj5ewa

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- Paste the OCID Tenancy ID into the Wercker OCID Tenancy ID

Organization: mlehmnnorg
ID: 59ff4d0b3a3fda010041989b
Region: us-ashburn-1
Name: mlehmnn
User OCID: ocid1.user.oc1.aaaaaaes4wxxku7ampaolqbrfwwj6sprz3l
Tenancy OCID: ocid1.tenancy.oc1.aaaaaaaz2gpkfwymzch6kpxuntsopbjctf
Key Fingerprint: Provide the key fingerprint
API Private Key (PEM Format):

10. In order to create the Key Fingerprint needed in the Wercker Cloud Credential screen you will be required to create a private/public PEM key. This is documented here - <https://docs.us-phoenix-1.oraclecloud.com/Content/API/Concepts/apisigningkey.htm> - and below is a simplified minimum number of steps.

- a. Open a shell window on your local computer (if you are having Windows machine we recommend to make these steps within VBox Linux image).



- b. Make a directory to store your key using this command:

```
mkdir ~/.oci
```

```
mlehmman -- -bash -- 80x13
mlehmman-mac:~ mlehmman$ mkdir ~/.oci
```

- c. Change into the .oci directory

`cd ~/.oci`

```
.oci -- -bash -- 80x13
mlehmman-mac:.oci mlehmman$ cd ~/.oci
mlehmman-mac:.oci mlehmman$ pwd
/Users/mlehmman/.oci
mlehmman-mac:.oci mlehmman$
```

- d. Generate a key with no passphrase using the openssl command line.

`openssl genrsa -out ~/.oci/oci_api_key.pem 2048`

```
.oci -- -bash -- 80x13
mlehmman-mac:.oci mlehmman$ pwd
/Users/mlehmman/.oci
mlehmman-mac:.oci mlehmman$ openssl genrsa -out ~/.oci/oci_api_key.pem 2048
Generating RSA private key, 2048 bit long modulus
.....+++
e is 65537 (0x10001)
mlehmman-mac:.oci mlehmman$ ls
oci_api_key.pem
mlehmman-mac:.oci mlehmman$
```

- e. Make sure only you can read the key by chmod'ing it with this command:

`chmod go-rwx ~/.oci/oci_api_key.pem`

```
.oci -- -bash -- 80x13
mlehmman-mac:.oci mlehmman$ chmod go-rwx ~/.oci/oci_api_key.pem
mlehmman-mac:.oci mlehmman$ ls -al
total 8
drwxr-xr-x  3 mlehmman  staff   102 Nov  5 12:17 .
drwxr-xr-x+ 48 mlehmman  staff  1632 Nov  5 12:11 ..
-rw-----  1 mlehmman  staff   1679 Nov  5 12:17 oci_api_key.pem
mlehmman-mac:.oci mlehmman$
```


- f. Generate the public key using this command:

```
openssl rsa -pubout -in ~/.oci/oci_api_key.pem -out  
~/.oci/oci_api_key_public.pem
```

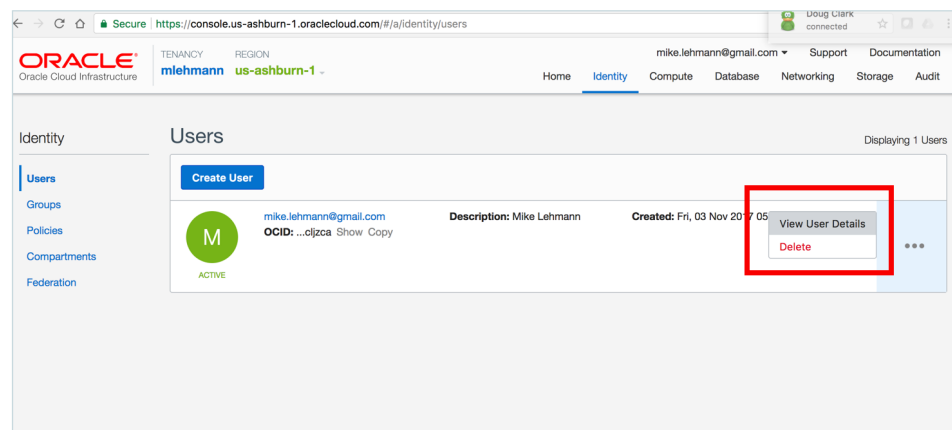
```
melehmman-mac:~$ openssl rsa -pubout -in ~/.oci/oci_api_key.pem -out  
~/.oci/oci_api_key_public.pem  
writing RSA key  
melehmman-mac:~$ ls -al  
total 16  
drwxr-xr-x  4 melehmman  staff   136 Nov  5 12:20 .  
drwxr-xr-x+ 48 melehmman  staff  1632 Nov  5 12:11 ..  
-rw-----  1 melehmman  staff   1679 Nov  5 12:17 oci_api_key.pem  
-rw-r--r--  1 melehmman  staff    451 Nov  5 12:20 oci_api_key_public.pem  
melehmman-mac:~$
```

- g. Copy the contents of the public key to the clipboard using pbcopy, xclip or a similar tool (you'll need to paste the value into the Console later). For example:

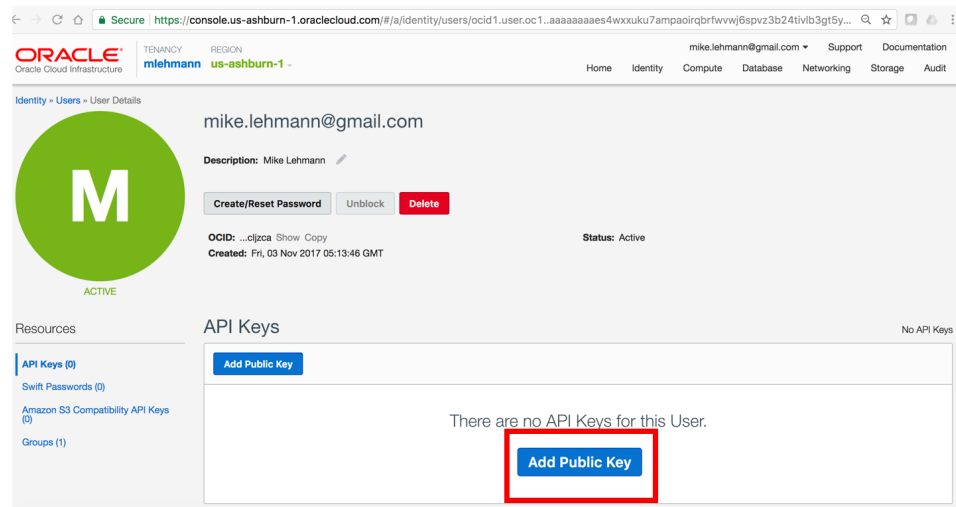
```
cat ~/.oci/oci_api_key_public.pem | pbcopy
```

```
melehmman-mac:~$ cat ~/.oci/oci_api_key_public.pem | pbcopy  
melehmman-mac:~$
```

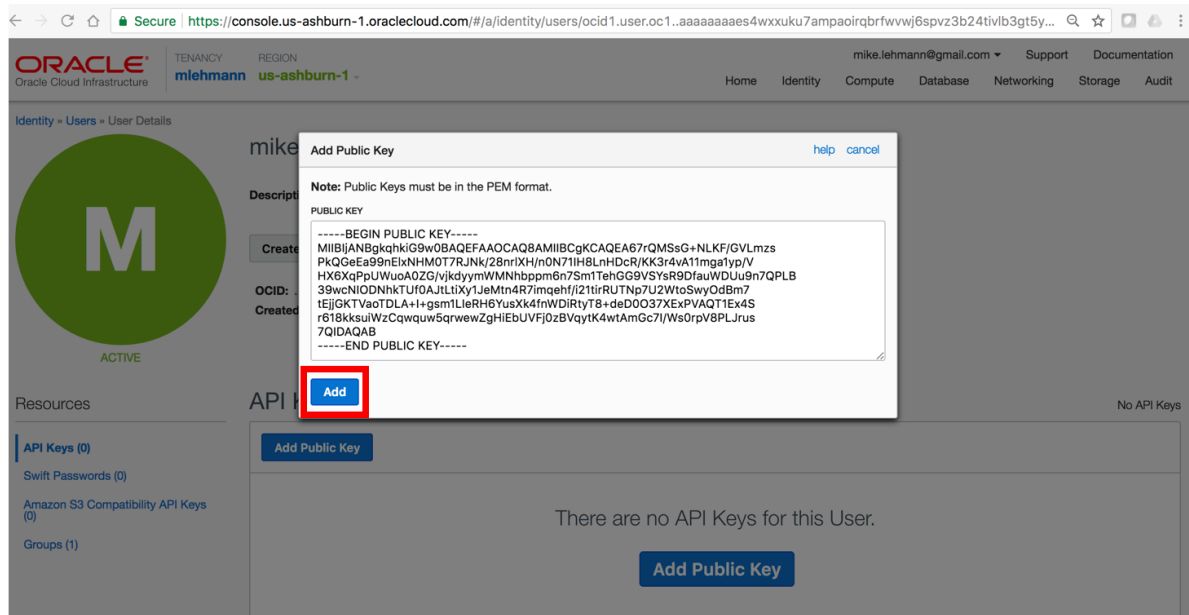
- h. Return to the Oracle Cloud Infrastructure console and click to the View User Details screen as seen below.



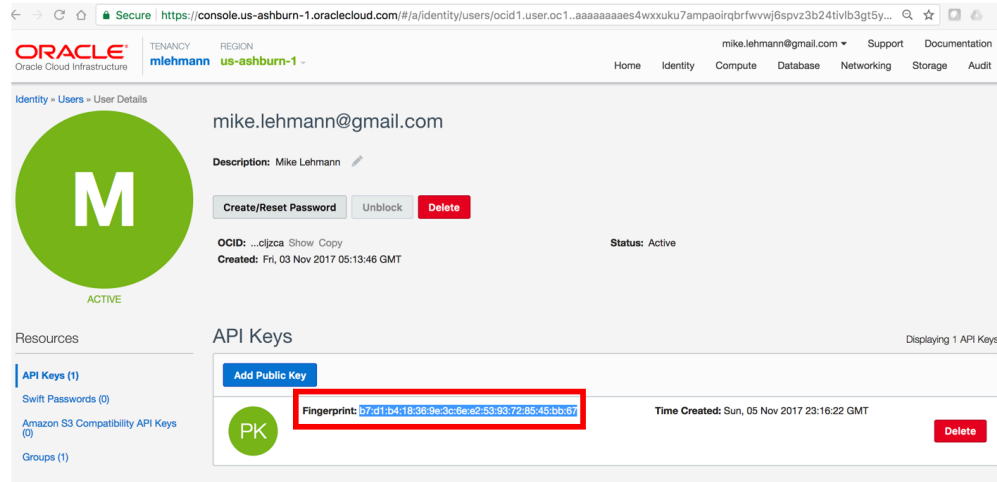
- i. In the View User Details screen click on Add Public Key.



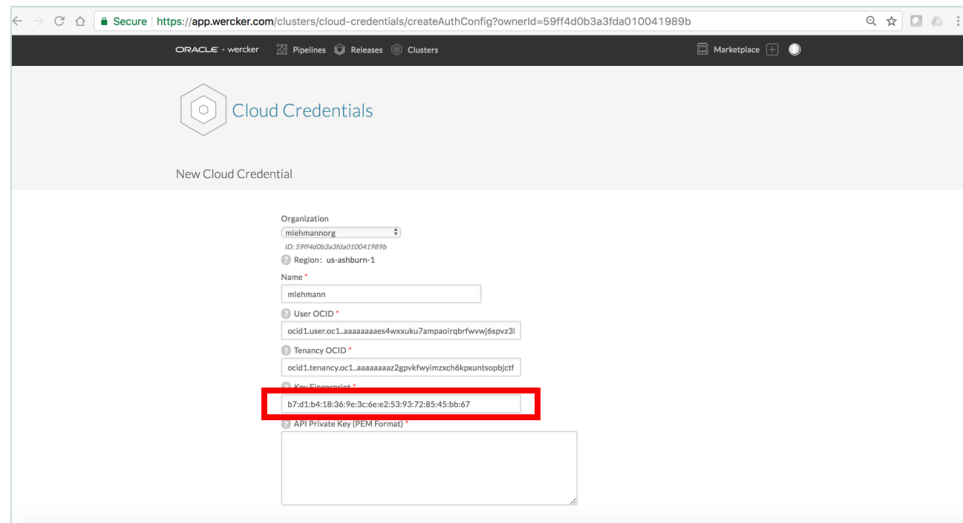
- j. In the popup dialog copy the public key from your clipboard and save it by clicking on Add.



- k. You can get the fingerprint you need for Wercker Cloud Credential field off the resulting screen by simply copying it to your clipboard.



- I. Return to the Wercker Cloud Credential screen and paste in the fingerprint you got either from the Oracle Cloud Infrastructure screen.



11. Next, we need to copy in the private key generated into the Wercker Cloud Credential field. This can be done back on your local machine from the same shell by copying it into clipboard using this command:

```
cat ~/.oci/oci_api_key.pem | pbcopy
```

```
.oci -- -bash -- 80x13
mlehmman-mac:.oci mlehmman$ cat ~/.oci/oci_api_key.pem | pbcopy
mlehmman-mac:.oci mlehmman$
```

12. Return to the Wercker Cloud Credential screen and paste in the private key into the field. At this point all the fields have been filled in and you can click on the Create button.

The screenshot shows the 'New Cloud Credential' form in the Wercker interface. The form is titled 'New Cloud Credential' and has a 'Cloud Credentials' header. The form fields are as follows:

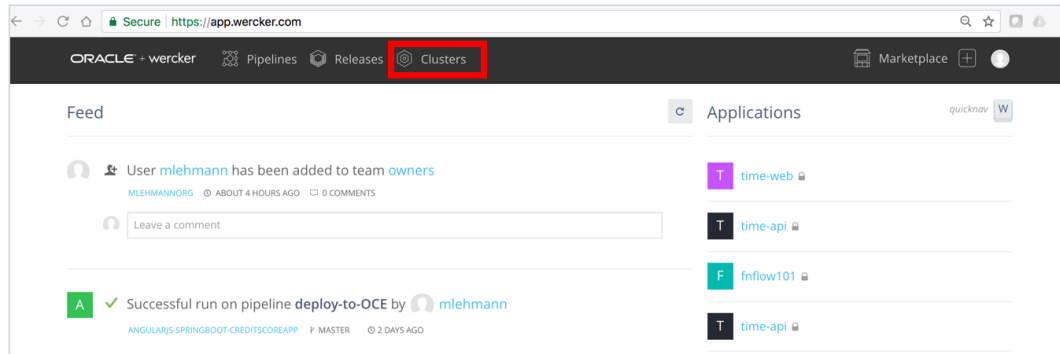
- Organization: mlehmmanorg
- ID: 59ff4d0b3a3fda010041989b
- Region: us-ashburn-1
- Name: mlehmman
- User OCID: ocid1.user.oc1..aaaaaaasfweuuku7ampaotqtrfrrvwy6spv3l
- Tenancy OCID: ocid1.tenancy.oc1..aaaaaaaz2gpkvheymzchd6pountsoplyctf
- Key Fingerprint: b7d1b418369e3c6ea25393728545ba67
- API Private Key (PEM Format): VC... (The entire content of this field is highlighted with a red box)

At the bottom right of the form, there is a green 'Create' button and a grey 'Cancel' button. The 'Create' button is also highlighted with a red box.

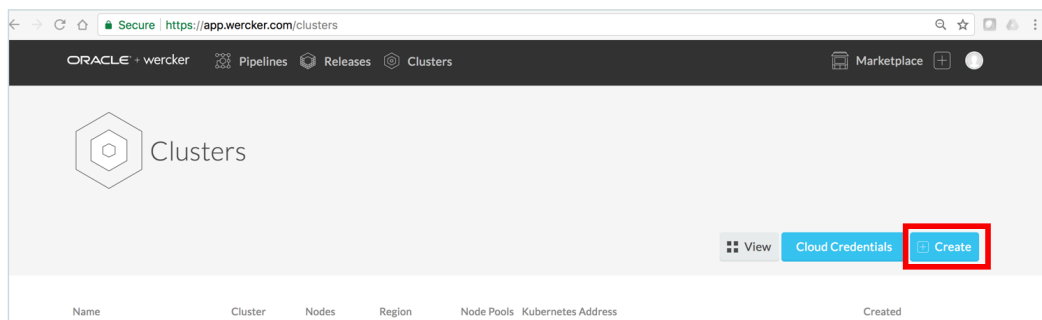
Creating Your First Kubernetes Cluster

At this point you are now ready to create your first Kubernetes cluster.

1. Go to Wercker.com and log into your account. Then click on Clusters at the top of the page.



2. In the Clusters page, click on the Create cluster button to start the process of creating your Kubernetes cluster.



3. In the first step of the screen wizard, enter your cluster name and select your organization previously created in the named fields. Leave the defaults for the other fields. Click on Next to move ahead in the wizard.

The screenshot shows the 'Configure Cluster' step of the Oracle Cloud Clusters wizard. The breadcrumb trail at the top indicates the steps: 1. Configure cluster (active), 2. Cloud credentials, 3. Cluster size, and 4. Configure nodes. The 'Configure Cluster' section contains the following fields:

- Cluster Name ***: A text input field containing 'mlehmanncluster1'.
- Organization**: A dropdown menu showing 'mlehmannorg'.
- Master Kubernetes Version**: A dropdown menu showing '1.7.4'.

At the bottom right, there are two buttons: 'Next' (highlighted with a red box) and 'Cancel'.

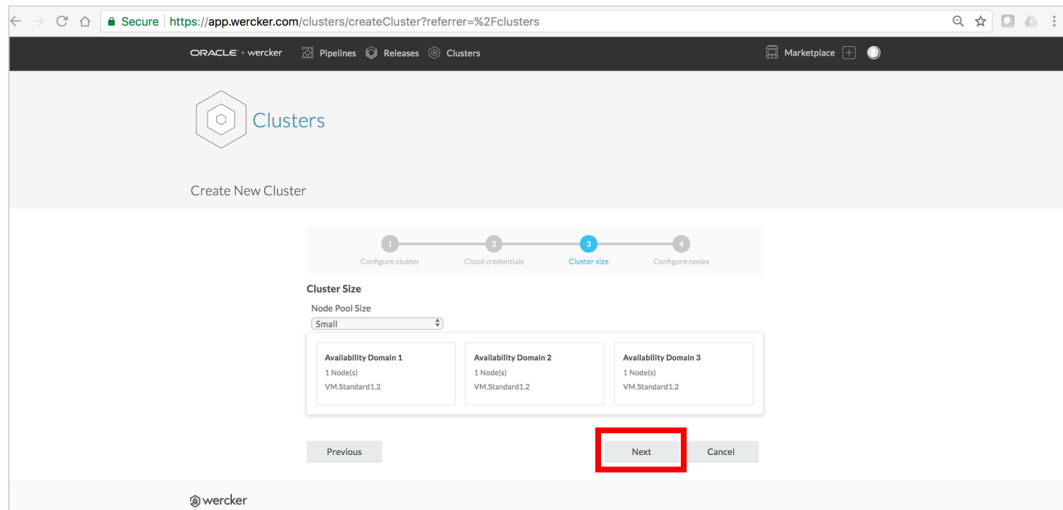
4. On the second step, if the Cloud Credential selected earlier was the only one for your Organization, it will default in this screen. Otherwise select the one you created.

The screenshot shows the 'Provide Cloud Credentials' step of the Oracle Cloud Clusters wizard. The breadcrumb trail at the top indicates the steps: 1. Configure cluster, 2. Cloud credentials (active), 3. Cluster size, and 4. Configure nodes. The 'Provide Cloud Credentials' section contains the following fields:

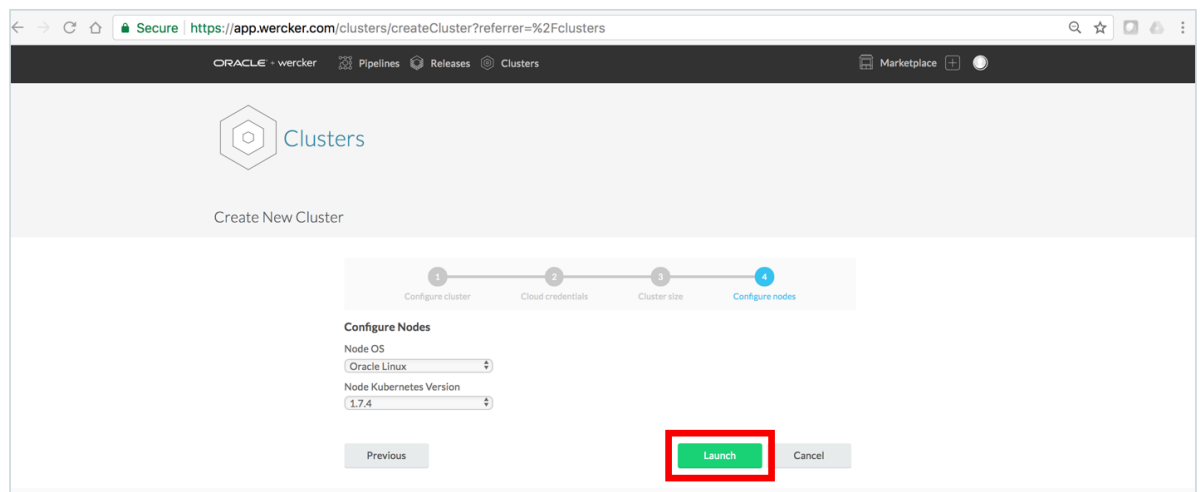
- Organization**: A dropdown menu showing 'mlehmannorg'.
- Cloud Credential**: A dropdown menu showing 'mlehmann (.40084b)'.
- Compartment OCID**: An optional text input field with the placeholder 'Provide the OCID of your compartment'.
- Public SSH Key for Cluster Nodes**: An optional text area with the placeholder 'Public SSH Key for Cluster Nodes'.

At the bottom, there are three buttons: 'Previous', 'Next', and 'Cancel'.

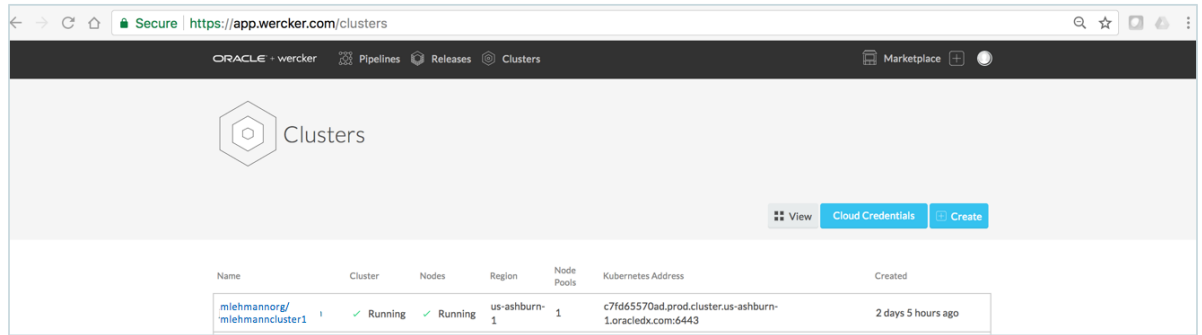
5. Leave Compartment OCID and SSH textboxes empty and click "Next"
6. On the third step of the Cluster wizard, enter your cluster size. We recommend for your first cluster selecting a Small VM size.



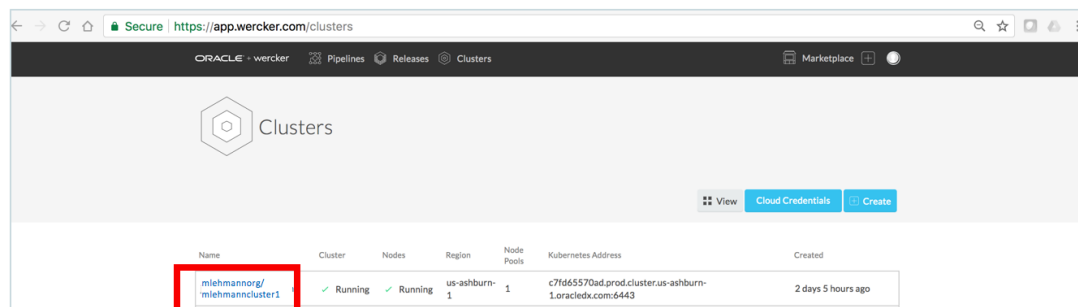
7. Finally, on the fourth step of the Cluster wizard, take the defaults on the final screen and click on Launch.



8. After pressing Launch you will be taken to the Cluster summary screen where you will see your cluster being created. After creation you will see a cluster summary screen such as the following.



9. When your cluster is completed you can explore it by clicking on the cluster name link on the Cluster summary page.



10. From the resulting Summary tab you can click on the Getting Started tab to find out more information about the cluster.

Secure | <https://app.wercker.com/clusters/clusterDetails?id=c51a079b640&ownerId=58ed5237e8ba0f0100e14c6b>

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mlehmannyorg/mlehmannycluster1

Summary **Get Started** Configuration

Cluster Details

Cluster Status: ✓ Running
 Nodes Status: ✓ Running
 Cluster ID: c51a079b640
 Region: us-ashburn-1

Kubernetes Address: c51a079b640.prod.cluster.us-ashburn-1.oraclecx.com:6443
 Kubernetes Version: v1.7.4
 etcd Address: 129.213.14.179:2377

Launch Date: 11/5/2017, 3:49:07 PM
 Created By: mlehmanny
 Cloud Credential: zvrjvk.authconfig.4ba5423f-7151-40da-9134-cb9b6db1da0

Node Pools

DEFAULT

Kubernetes Version: v1.7.4 Image: Oracle-Linux-7.4 Nodes Per Availability Domain: 1
 Shape: VM.Standard1.2 Total Worker Nodes: 3

Name	State	Shape	Availability Domain	Public IP	Kubernetes Version
oke-tkw-oke-c51a079b640-DEFAULT-ad1-0	✓ Running	VM.Standard1.2	IGIM:US-ASHBURN-AD-1	129.213.49.187	v1.7.4
oke-tkw-oke-c51a079b640-DEFAULT-ad2-0	✓ Running	VM.Standard1.2	IGIM:US-ASHBURN-AD-2	129.213.26.193	v1.7.4
oke-tkw-oke-c51a079b640-DEFAULT-ad3-0	✓ Running	VM.Standard1.2	IGIM:US-ASHBURN-AD-3	129.213.35.51	v1.7.4

11. From the Getting started page you can see the necessary details to get the standard Kubernetes dashboard running in your browser. Finally, to see the Configuration page click on the Configuration tab.

Secure | <https://app.wercker.com/clusters/clusterDetails?id=c51a079b640&ownerId=58ed5237e8ba0f0100e14c6b>

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mlehmannyorg/mlehmannycluster1

Summary **Get Started** Configuration

Cluster Details

Cluster Status: ✓ Running
 Nodes Status: ✓ Running
 Cluster ID: c51a079b640
 Region: us-ashburn-1

Kubernetes Address: c51a079b640.prod.cluster.us-ashburn-1.oraclecx.com:6443
 Kubernetes Version: v1.7.4
 etcd Address: 129.213.14.179:2377

Launch Date: 11/5/2017, 3:49:07 PM
 Created By: mlehmanny
 Cloud Credential: zvrjvk.authconfig.4ba5423f-7151-40da-9134-cb9b6db1da0

Node Pools

DEFAULT


Kubernetes Version: v1.7.4 Image: Oracle-Linux-7.4 Nodes Per Availability Domain: 1
 Shape: VM.Standard1.2 Total Worker Nodes: 3

Name	State	Shape	Availability Domain	Public IP	Kubernetes Version
oke-tkw-oke-c51a079b640-DEFAULT-ad1-0	✓ Running	VM.Standard1.2	IGIM:US-ASHBURN-AD-1	129.213.49.187	v1.7.4
oke-tkw-oke-c51a079b640-DEFAULT-ad2-0	✓ Running	VM.Standard1.2	IGIM:US-ASHBURN-AD-2	129.213.26.193	v1.7.4
oke-tkw-oke-c51a079b640-DEFAULT-ad3-0	✓ Running	VM.Standard1.2	IGIM:US-ASHBURN-AD-3	129.213.35.51	v1.7.4

12. Here is the Configuration page where you can delete clusters or add more node pools to an existing cluster.

Secure | <https://app.wercker.com/clusters/clusterDetails?id=c51a079b640&ownerId=58ed5237e8ba0f0100e14c6b&tab=config>

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 mehmamnorg/mehmanncluster1

Summary | Get Started | Configuration

Node Pools

DEFAULT

Kubernetes Version: v1.7.4

Shape: VM.Standard1.2

Image: Oracle Linux 7.4

Total Nodes: 3

Nodes Per Availability Domain: 1

+

Add New Node Pool

Delete Cluster