

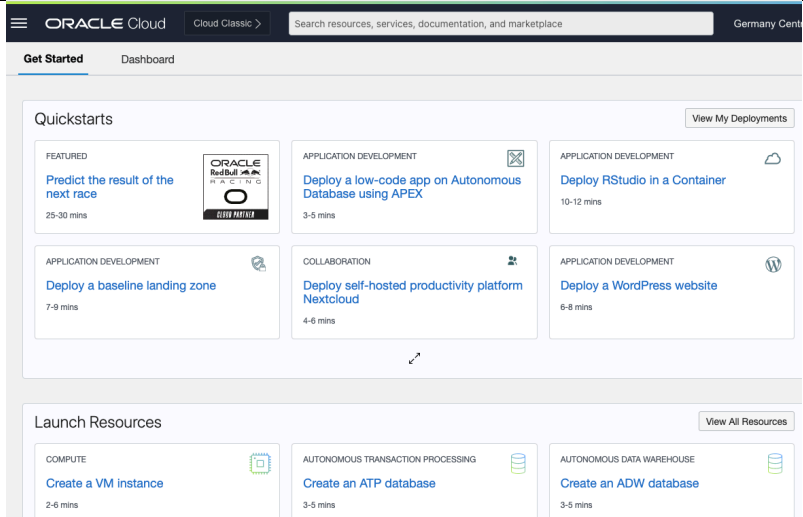
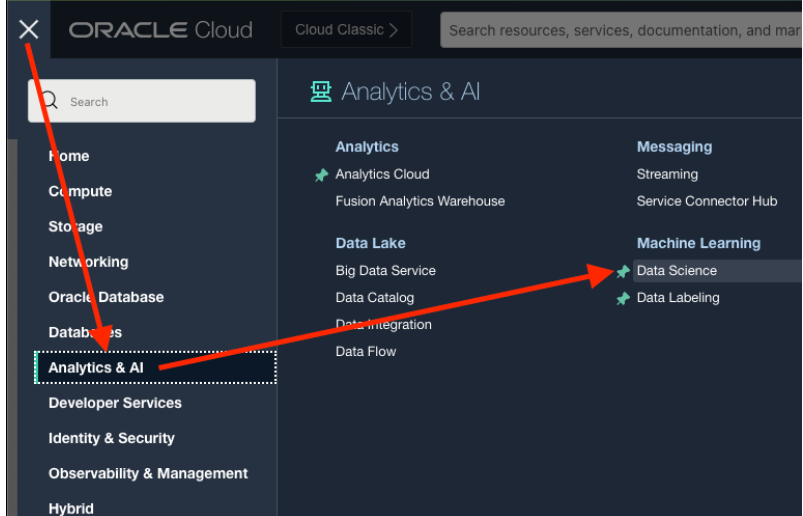
Install R Conda Environment within OCI Data Science

PLEASE NOTE – This is not supported and is a workaround to enable an R conda environment within OCI Data Science.

This documentation will take you through how to install an R Conda Package within OCI Data Science Service, install additional R packages and create a Jupyter Notebook based on the R Kernel.

Documentation References:

- <https://docs.anaconda.com/anaconda/user-guide/tasks/using-r-language/>
- <https://docs.conda.io/projects/conda/en/latest/commands/install.html>
- <https://repo.anaconda.com/pkg/r/>

Step	Screenshot
<p>Login to your Oracle Cloud Console via:</p> <p><i>cloud.oracle.com</i></p>	
<p>Navigate to your OCI Data Science Projects:</p> <p><i>Menu > Analytics & AI > Data Science.</i></p>	

Select your Compartment and then your Data Science Project.

Resources

Projects in **Compartment**

Data Science Prerequisites
[Show more information](#)

Create project

Name	Status
	Active
	Active
	Active
West_IS	Active
	Active

Filters

State: Any state

Tag Filters: [add](#) | [clear](#)

no tag filters applied

Open your desired Notebook Session.

ORACLE Cloud

Data Science » Projects » Project detail: Notebook sessions

West_IS

Edit Move resource Add Tags Delete

Project information Tags

Description

Created by:

Resources

Notebook sessions

Create notebook session

Name	Status
	Deleted
DSNS_ISYED	Active

List Scope

Click **'Open'** to launch your Notebook Session.

If prompted with your Cloud Account Name – Click **'Continue'**.

If prompted to sign in – Click **'Continue'**.

ORACLE Cloud

Data Science » Projects » Project detail: Notebook sessions » Notebook session details

DSNS_ISYED

Open Edit Deactivate Move resource

Notebook Session information Tags

OCID: ...

Created: ...

Block s...

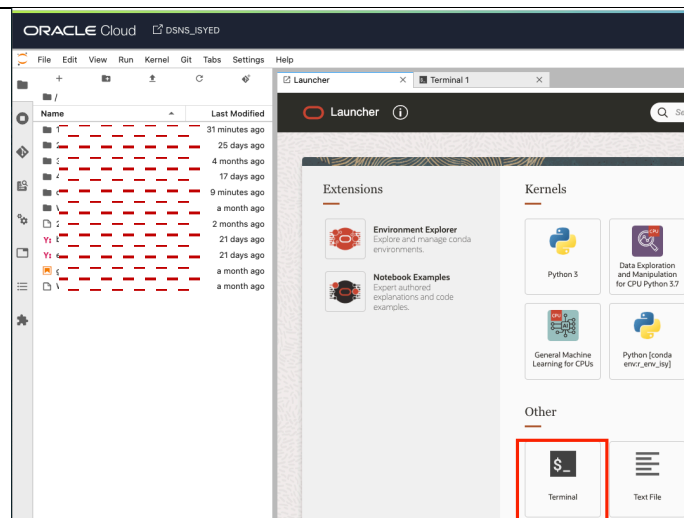
Subnet: ...

Amount: ...

Resources

Metrics

From your Launcher Home Page – Click '**Terminal**'.



We can use the following command to list our existing conda environments.

conda info --envs

```
(base) $ conda info --envs
# conda environments:
#
base                    * /opt/conda
                        /home/datascience/conda/dataexpl_p37_cpu_v3
                        /home/datascience/conda/generalml_p37_cpu_v1
                        /home/datascience/conda/isy-base-p37-condav1_0
                        /home/datascience/conda/mlcpuv1
```

We can create a new R Conda Environment using the following command:

conda create -p /home/datascience/conda/r_env_isy r-essentials r-base

Where **-p** determines the location of the Conda Environment and **r-essentials** and **r-base** are the packages to install.

This might take a minute or two to start installing packages.

When prompted to '**Proceed**' enter **y**.

```
(base) $ conda create -p /home/datascience/conda/r_env_isy r-essentials r-base
Collecting package metadata (current_repodata.json): done
Solving environment: failed with repodata from current_repodata.json, will retry with next repodata source.
Collecting package metadata (repodata.json): done
Solving environment: done

## Package Plan ##
  environment location: /home/datascience/conda/r_env_isy
  added / updated specs:
    - r-base
    - r-essentials

The following NEW packages will be INSTALLED:
  _libgcc_mutex      pkgs/main/linux-64::_libgcc_mutex-0.1-main
  _openmp_mutex      pkgs/main/linux-64::_openmp_mutex-4.5-1_gnu
  _r-mutex            pkgs/r/linux-64::_r-mutex-1.0.0-anaconda1

Proceed ([y]/n)? y

Preparing transaction: done
Verifying transaction: done
Executing transaction: done
#
# To activate this environment, use
#
#   $ conda activate /home/datascience/conda/r_env_isy
#
# To deactivate an active environment, use
#
#   $ conda deactivate

(base) bash-4.2$
```



As you can see in our conda install directory we see a new Conda Environment present.

We can activate the Conda using:

***conda activate
/home/datascience/conda/r_env_isy***

where we point to the installation directory of the Conda.

We can now list all the R packages installed by using:

conda list

We can now exit the Terminal:

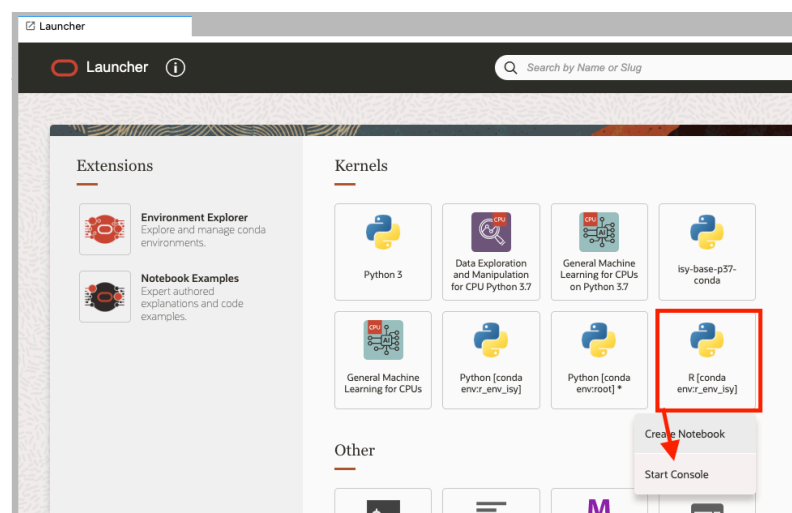
exit

The screenshot shows the Oracle Cloud interface. On the left, a file explorer displays the contents of the `/conda/` directory. The `r_env_isy` directory is highlighted with a red box. On the right, a terminal window shows the execution of the following commands:

```
$ conda activate /home/datascience/conda/r_env_isy
(/home/datascience/conda/r_env_isy) bash-4.2$
(/home/datascience/conda/r_env_isy) bash-4.2$
(/home/datascience/conda/r_env_isy) bash-4.2$ conda list
# packages in environment at /home/datascience/conda/r_env_isy:
#
# Name                    Version            Build    Channel
#-----
_libgcc_mutex             0.1                main
_openmp_mutex             4.5                1_gnu
_r-mutex                  1.0.0              anaconda
argon2-cffi               21.3.0             pyhd3eb1b0_0
argon2-cffi-bindings      21.2.0             pyhd3eb1b0_0
asttokens                  2.0.5              pyhd3eb1b0_0
attrs                      21.4.0             pyhd3eb1b0_0
backcall                   0.2.0              pyhd3eb1b0_0
beautifulsoup4             4.11.1             py310h06a4308_0
binutils_impl_linux-64     2.33.1             he6710b0_7
binutils_linux-64          2.33.1             h9595d00_15
bleach                     4.1.0              pyhd3eb1b0_0
bwidget                    1.9.11             1
bzip2                      1.0.8              h7b6447c_0
ca-certificates            2022.3.29          h06a4308_1
```

From the Launcher we can now see the new R Kernel based on the installed Conda Environment.

Click on it and Select ***'Start Console'***.



Within the R console we can see the Version of R Displayed at the top (**R Version 3.6.1**)

We can start installing additional packages using `install.packages('<name>')`

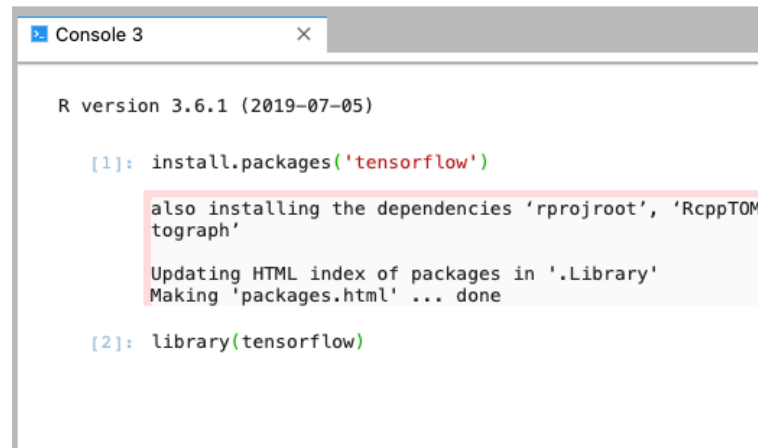
Here I installed tensorflow:

`install.packages('tensorflow')`

We can then check it is installed by trying to load in the library:

`library(tensorflow)`

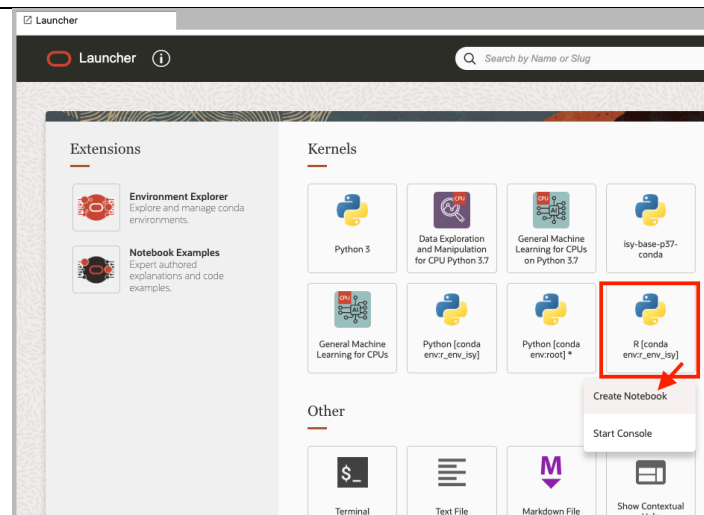
Once installed we can close the console.



```
Console 3  
  
R version 3.6.1 (2019-07-05)  
  
[1]: install.packages('tensorflow')  
      also installing the dependencies 'rprojroot', 'RcppTOM  
      tograph'  
      Updating HTML index of packages in '.Library'  
      Making 'packages.html' ... done  
  
[2]: library(tensorflow)
```

Next, we can create a Jupyter Notebook.

From the Launcher select the '**R Kernel**' and then '**Create Notebook**'.



Let's start writing sample code to load in some sample data and perform data manipulation.

OCI Data Science - Useful Tips

- ▶ Check for Public Internet Access
- ▶ Helpful Documentation
- ▶ Typical Cell Imports and Settings for ADS
- ▶ Useful Environment Variables

Code Tutorial: <https://towardsdatascience.com/a-guide-to-data-visualisation-in-r-for-beginners-ef6d41a34174>

```
[4]: # Load in sample data set
data(airquality)

[5]: # Check Type of Data
typeof(airquality)

'list'
```

See to the right the sample code used in the notebook.

Code Tutorial: <https://towardsdatascience.com/a-guide-to-data-visualisation-in-r-for-beginners-ef6d41a34174>

See to the right the output of the sample code.

