

# Getting Started with Python Environment on HAL System

- [Open Cognitive Environment \(module names opence/1.0.0 to opence/1.6.1\)](#)
- [IBM Watson Machine Learning Community Edition \(module names wmlce/1.7.0, wmlce/1.6.2\)](#)

## Open Cognitive Environment (module names opence/1.0.0 to opence/1.6.1)

The project contains everything that is needed to build conda packages for a collection of machine learning and deep learning frameworks.

Environment	opence-v1.6.1	opence-v1.5.1	opence-v1.3.1	opence-v1.2.2	opence-v1.1.2	opence-v1.0.0
python	3.9.12	3.9.12	3.8.0	3.8.0	3.8.12	3.8.12
<b>cuda</b>	<b>11.2.2</b>	<b>11.2.2</b>	<b>11.2.2</b>	<b>11.0.221</b>	<b>10.2.89</b>	<b>10.2.89</b>
cuda	8.1.1	8.1.1	8.1.1	8.1.1	7.6.5	7.6.5
nccl	2.12.7	2.11.4	2.8.3	2.7.8	2.7.8	2.7.8
openmpi	4.1.1	4.1.1	4.1.1	3.1.3	3.1.3	3.1.3
apex	0.1	0.1	0.1	N/A	N/A	N/A
hdf5	1.10.6	1.10.6	1.10.4	1.10.6	1.10.4	1.10.4
<b>horovod</b>	<b>0.24.2</b>	<b>0.23.0</b>	<b>0.21.3</b>	<b>0.21.0</b>	<b>0.21.0</b>	<b>0.19.5</b>
ipython	7.32.0	7.32.0	7.27.0	7.29.0	7.29.0	7.28.0
matplotlib	3.5.2	3.4.3	3.4.3	3.4.3	3.4.3	3.4.2
mpi4py	3.1.3	3.1.3	3.1.1	N/A	N/A	N/A
numpy	1.22.3	1.20.3	1.21.2	1.19.5	1.19.5	1.19.2
onnx	1.11.0	1.10.2	1.7.0	1.6.0	1.6.0	1.6.0
opencv	4.5.5	4.5.3	3.4.14	4.5.0	3.4.10	3.4.10
pandas	1.4.2	1.4.2	1.3.2	1.3.4	1.3.4	1.2.4
pyarrow	7.0.0	5.0.0	N/A	N/A	N/A	N/A
<b>pytorch</b>	<b>1.10.2</b>	<b>1.10.1</b>	<b>1.8.1</b>	<b>1.7.1</b>	<b>1.7.1</b>	<b>1.6.0</b>
scikit-learn	1.0.2	1.0.2	0.24.2	1.0.1	1.0.1	1.0.1
scipy	1.7.3	1.7.3	1.7.1	1.7.1	1.4.1	1.4.1
ray	1.11.1	N/A	N/A	N/A	N/A	N/A
<b>tensorflow</b>	<b>2.8.1</b>	<b>2.7.0</b>	<b>2.5.1</b>	<b>2.4.1</b>	<b>2.4.1</b>	<b>2.3.1</b>
tensorboard	2.8.0	<b>2.7.0</b>	2.5.0	2.4.1	2.4.1	2.3.0
transformers	4.16.2	4.16.2	4.4.2	2.1.1	4.12.2	4.12.2

## IBM Watson Machine Learning Community Edition (module names wmlce/1.7.0, wmlce/1.6.2)

WMLCE is an enterprise software distribution that combines popular open-source deep learning frameworks, efficient AI development tools, and accelerated IBM Power Systems servers. It includes the following frameworks:

Environment	wmlce/1.7.0	wmlce/1.6.2
python	3.7.10	3.7.10
<b>cuda</b>	<b>10.2.89</b>	<b>10.1.243</b>
cuda	7.6.5	7.6.3
nccl	2.5.6	2.4.8
apex	0.1.0	0.1.0
<b>caffe</b>	<b>1.0</b>	<b>1.0</b>
<b>dask</b>	<b>2.9.2</b>	<b>2.3.0</b>

hdf5	1.10.2	1.10.2
horovod	0.19.0	N/A
ipython	7.26.0	7.26.0
matplotlib	3.3.4	3.3.4
numba	0.47.0	0.45.1
numpy	1.17.4	1.16.6
onnx	1.6.0	1.5.0
pandas	1.2.4	1.2.4
<b>pytorch</b>	<b>1.2.4</b>	<b>1.2.0</b>
scikit-learn	0.24.2	0.22.1
scipy	1.3.1	1.3.1
spectrum-mpi	10.03	10.03
tensorboard	2.1.1	1.15.0
<b>tensorflow</b>	<b>2.1.3</b>	<b>1.15.5</b>