

Machine Learning 1.5.2

## ML Runtimes Pre-installed Packages

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## ML Runtimes 2024.02.1

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2024.02.1



**Note:** Nvidia GPU Editions with a Workbench Editor come with CUDA 11.4.1 preinstalled.  
All other Nvidia GPU Edition Runtimes come with CUDA 11.8.0 preinstalled.

### Python 3.10 Libraries for Conda

This section lists the packages in Python 3.10 Conda Runtimes that ship with ML Runtimes 2024.02.1.

**Table 1: Packages in Python 3.10 Conda Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1

Library	Version
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5

Library	Version
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0

Library	Version
six	1.16.0
smap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.11 Libraries for Workbench

This section lists the packages in Python 3.11 Workbench Runtimes that ship with ML Runtimes 2024.02.1.

**Table 2: Packages in Python 3.11.6 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	4.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0



Library	Version
certifi	2023.7.22
cfi	1.16.0
charset-normalizer	3.3.2
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.2
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.5.0
jupyter_server	2.10.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.5
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0

Library	Version
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
Pillow	10.1.0
platformdirs	4.0.0
prometheus-client	0.18.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.16.1
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	24.0.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5

Library	Version
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.13.0
types-python-dateutil	2.8.19.14
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

**Table 3: Packages in Python 3.11.6 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	4.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
certifi	2023.7.22
cffi	1.16.0
charset-normalizer	3.3.2
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1

Library	Version
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.2
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.5.0
jupyter_server	2.10.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.5
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0

Library	Version
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
Pillow	10.1.0
platformdirs	4.0.0
prometheus-client	0.18.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.16.1
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	24.0.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.13.0
types-python-dateutil	2.8.19.14

Library	Version
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

## Python 3.10 Libraries for Workbench

This section lists the packages in Python 3.10 Workbench Runtimes that ship with ML Runtimes 2024.02.1.

**Table 4: Packages in Python 3.10.9 Workbench Runtimes - Standard**

Library	Version
asttokens	2.2.1
backcall	0.2.0
bitarray	2.7.3
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5

Library	Version
numpy	1.25.2
packaging	23.1
pandas	2.1.4
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5

**Table 5: Packages in Python 3.10.9 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0

Library	Version
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cff	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5



Library	Version
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2

Library	Version
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

**Table 6: Packages in Python 3.10.9 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4

Library	Version
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1

Library	Version
websocket-client	1.5.1

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2024.02.1.

**Table 7: Packages in Python 3.9.11 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.1
pandas	2.1.4

Library	Version
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 8: Packages in Python 3.9.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6

Library	Version
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.1
pandas	2.1.4
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2

Library	Version
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 9: Packages in Python 3.9.11 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3



Library	Version
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0

Library	Version
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 10: Packages in Python 3.9.11 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0

Library	Version
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3

Library	Version
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1

Library	Version
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2024.02.1.

**Table 11: Packages in Python 3.8.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0

Library	Version
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.1
pandas	2.0.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 12: Packages in Python 3.8.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.1
pandas	2.0.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0

Library	Version
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 13: Packages in Python 3.8.16 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7



Library	Version
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1

Library	Version
pandas	2.0.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 14: Packages in Python 3.8.16 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2

Library	Version
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandas	2.0.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pytz	2023.3.post1
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0

Library	Version
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
tzdata	2023.3
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2024.02.1.

**Table 15: Packages in Python 3.7.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2

Library	Version
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
yparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.8.0

**Table 16: Packages in Python 3.7.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22

Library	Version
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18

Library	Version
wcwidth	0.2.5
zipp	3.8.0

**Table 17: Packages in Python 3.7.16 PBJ Workbench - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1



Library	Version
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1

Library	Version
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

**Table 18: Packages in Python 3.7.16 PBJ Workbench - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1

Library	Version
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2

Library	Version
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2024.02.1.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

## Python 3.11 Libraries for JupyterLab

This section lists the packages in Python 3.11 JupyterLab Runtimes that ship with ML Runtimes 2024.02.1.

**Table 19: Packages in Python 3.11.6 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0

Library	Version
aiosqlite	0.19.0
anyio	4.1.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
Babel	2.13.1
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
cattr	23.2.2
certifi	2023.11.17
cffi	1.16.0
charset-normalizer	3.3.2
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
docstring-to-markdown	0.13
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
gitdb	4.0.11
GitPython	3.1.40
idna	3.6
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.2

Library	Version
json5	0.9.14
jsonpointer	2.4
jjsonschema	4.20.0
jjsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-lsp	2.2.1
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.5
jupyter_client	8.6.0
jupyter_core	5.5.0
jupyter_server	2.11.1
jupyter_server_fileid	0.9.0
jupyter_server_terminals	0.4.4
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.25.2
kerberos	1.3.1
kiwisolver	1.4.5
lsprotocol	2023.0.0
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbcClassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbdime	3.2.1
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0

Library	Version
parso	0.8.3
pexpect	4.9.0
pickleshare	0.7.5
Pillow	10.1.0
platformdirs	4.0.0
prometheus-client	0.19.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pygls	1.2.0
Pygments	2.17.2
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	25.1.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.1
Send2Trash	1.8.2
six	1.16.0
smmap	5.0.1
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.0
types-python-dateutil	2.8.19.14

Library	Version
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.12
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4
y-py	0.6.2
ypy-websocket	0.8.4

**Table 20: Packages in Python 3.11.6 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	4.1.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
Babel	2.13.1
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
cattr	23.2.2
certifi	2023.11.17
cffi	1.16.0
charset-normalizer	3.3.2
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1



Library	Version
defusedxml	0.7.1
docstring-to-markdown	0.13
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
gitdb	4.0.11
GitPython	3.1.40
idna	3.6
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.2
json5	0.9.14
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-lsp	2.2.1
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.5
jupyter_client	8.6.0
jupyter_core	5.5.0
jupyter_server	2.11.1
jupyter_server_fileid	0.9.0
jupyter_server_terminals	0.4.4
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.25.2
kerberos	1.3.1
kiwisolver	1.4.5
lsprotocol	2023.0.0

Library	Version
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbdime	3.2.1
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.9.0
pickleshare	0.7.5
Pillow	10.1.0
platformdirs	4.0.0
prometheus-client	0.19.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pygls	1.2.0
Pygments	2.17.2
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0.1
pyzmq	25.1.1
referencing	0.31.0

Library	Version
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.1
Send2Trash	1.8.2
six	1.16.0
smmap	5.0.1
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.0
types-python-dateutil	2.8.19.14
tzdata	2023.3
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.12
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4
y-py	0.6.2
ypy-websocket	0.8.4

## Python 3.10 Libraries for JupyterLab

This section lists the packages in Python 3.10 JupyterLab Runtimes that ship with ML Runtimes 2024.02.1.

**Table 21: Packages in Python 3.10.9 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3

Library	Version
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22
cfffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3

Library	Version
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbcClassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.16.0

Library	Version
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5

Library	Version
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

**Table 22: Packages in Python 3.10.9 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1

Library	Version
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5



Library	Version
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0

Library	Version
six	1.16.0
smap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.9 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2024.02.1.

**Table 23: Packages in Python 3.9.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0

Library	Version
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattr	22.2.0
certifi	2023.7.22
cff	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3

Library	Version
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbcClassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.9.0

Library	Version
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5

Library	Version
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 24: Packages in Python 3.9.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12

Library	Version
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1

Library	Version
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandas	2.1.4
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3.post1
PyYAML	6.0
pyzmq	22.3.0



Library	Version
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2024.02.1.

**Table 25: Packages in Python 3.8.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0

Library	Version
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2

Library	Version
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbcClassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandas	2.0.3
pandocfilters	1.4.3
parso	0.8.3

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0

Library	Version
typeguard	2.13.3
typing_extensions	4.3.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 26: Packages in Python 3.8.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattr	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3

Library	Version
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0

Library	Version
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandas	2.0.3
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1

Library	Version
pparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pymq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
tzdata	2023.3
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2024.02.1.



**Table 27: Packages in Python 3.7.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1

Library	Version
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10

Library	Version
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

**Table 28: Packages in Python 3.7.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.37
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0

Library	Version
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jjsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbcClassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0

Library	Version
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.15.1
pparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1

Library	Version
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

## R 4.3 Libraries

This section lists the R 4.3 libraries that ship with ML Runtimes 2024.02.1.

**Table 29: PBJ R 4.3.1 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0

Library	Version
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.15.1
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.18



Library	Version
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 30: R 4.3.1 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.3.1
bitops	1.0-7
boot	1.3-28.1
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-22
cli	3.6.1
cluster	2.1.4
codetools	0.2-19
colorspace	2.1-0
compiler	4.3.1
curl	5.0.1
datasets	4.3.1
fansi	1.0.4
farver	2.1.1
foreign	0.8-84
ggplot2	3.4.2
glue	1.6.2
graphics	4.3.1
grDevices	4.3.1
grid	4.3.1
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.7
KernSmooth	2.23-21
labeling	0.4.2
lattice	0.21-8
lifecycle	1.0.3

Library	Version
magrittr	2.0.3
MASS	7.3-60
Matrix	1.5-4.1
methods	4.3.1
mgcv	1.8-42
mime	0.12
munsell	0.5.0
nlme	3.1-162
nnet	7.3-19
openssl	2.0.6
parallel	4.3.1
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2
rpart	4.1.19
Rserve	1.7-0
scales	1.2.1
spatial	7.3-16
splines	4.3.1
stats	4.3.1
stats4	4.3.1
survival	3.5-5
sys	3.4.2
tcltk	4.3.1
tibble	3.2.1
tools	4.3.1
utf8	1.2.3
utils	4.3.1
vctrs	0.6.3
viridisLite	0.4.2
withr	2.5.0

## ML Runtimes 2023.12.1

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2023.12.1



**Note:** Nvidia GPU Editions with a Workbench Editor come with CUDA 11.4.1 preinstalled.  
All other Nvidia GPU Edition Runtimes come with CUDA 11.8.0 preinstalled.

### Python 3.10 Libraries for Conda

This section lists the packages in Python 3.10 Conda Runtimes that ship with ML Runtimes 2023.12.1.

**Table 31: Packages in Python 3.10 Conda Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1

Library	Version
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5

Library	Version
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0

Library	Version
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.11 Libraries for Workbench

This section lists the packages in Python 3.11 Workbench Runtimes that ship with ML Runtimes 2023.12.1.

**Table 32: Packages in Python 3.11.6 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	4.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
certifi	2023.7.22
cffi	1.16.0
charset-normalizer	3.3.2

Library	Version
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.2
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.5.0
jupyter_server	2.10.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.5
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2

Library	Version
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
Pillow	10.1.0
platformdirs	4.0.0
prometheus-client	0.18.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.16.1
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0.1
pyzmq	24.0.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1



Library	Version
tornado	6.3.3
traitlets	5.13.0
types-python-dateutil	2.8.19.14
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

**Table 33: Packages in Python 3.11.6 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	4.0.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
certifi	2023.7.22
cffi	1.16.0
charset-normalizer	3.3.2
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1

Library	Version
idna	3.4
impyla	0.18.0
ipykernel	6.26.0
ipython	8.17.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
Jinja2	3.1.2
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.5.0
jupyter_server	2.10.1
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.5
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.6
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
Pillow	10.1.0
platformdirs	4.0.0

Library	Version
prometheus-client	0.18.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.16.1
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0.1
pyzmq	24.0.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.0
Send2Trash	1.8.2
six	1.16.0
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.13.0
types-python-dateutil	2.8.19.14
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.10
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

## Python 3.10 Libraries for Workbench

This section lists the packages in Python 3.10 Workbench Runtimes that ship with ML Runtimes 2023.12.1.

**Table 34: Packages in Python 3.10.9 Workbench Runtimes - Standard**

Library	Version
asttokens	2.2.1
backcall	0.2.0
bitarray	2.7.3
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5

Library	Version
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
urllib3	1.26.18
wcwidth	0.2.5

**Table 35: Packages in Python 3.10.9 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4

Library	Version
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0

Library	Version
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

**Table 36: Packages in Python 3.10.9 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3



Library	Version
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7

Library	Version
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
uri-template	1.2.0
urllib3	1.26.18
wewidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2023.12.1.

**Table 37: Packages in Python 3.9.11 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7

Library	Version
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0

Library	Version
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 38: Packages in Python 3.9.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3

Library	Version
nest-asyncio	1.5.5
numpy	1.25.2
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 39: Packages in Python 3.9.11 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2

Library	Version
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cfffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0

Library	Version
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1

Library	Version
websocket-client	1.5.2
zipp	3.15.0

**Table 40: Packages in Python 3.9.11 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1



Library	Version
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0

Library	Version
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2023.12.1.

**Table 41: Packages in Python 3.8.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3

Library	Version
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0

Library	Version
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 42: Packages in Python 3.8.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.4
packaging	23.1
parso	0.8.3

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.15.0

**Table 43: Packages in Python 3.8.16 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0

Library	Version
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3

Library	Version
numpy	1.24.4
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 44: Packages in Python 3.8.16 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2



Library	Version
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0

Library	Version
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2023.12.1.

**Table 45: Packages in Python 3.7.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1

Library	Version
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.8.0

**Table 46: Packages in Python 3.7.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-4	11.4.1-1
libcudnn8	8.2.2.26-1+cuda11.4
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0

Library	Version
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
zipp	3.8.0

**Table 47: Packages in Python 3.7.16 PBJ Workbench - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3

Library	Version
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18

Library	Version
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

**Table 48: Packages in Python 3.7.16 PBJ Workbench - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0

Library	Version
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbcClassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0



Library	Version
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.18
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2023.12.1.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

## Python 3.11 Libraries for JupyterLab

This section lists the packages in Python 3.11 JupyterLab Runtimes that ship with ML Runtimes 2023.12.1.

**Table 49: Packages in Python 3.11.6 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	4.1.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0

Library	Version
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
Babel	2.13.1
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
cattrs	23.2.2
certifi	2023.11.17
cff	1.16.0
charset-normalizer	3.3.2
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
docstring-to-markdown	0.13
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
gitdb	4.0.11
GitPython	3.1.40
idna	3.6
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.2
json5	0.9.14
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1

Library	Version
jupyter-events	0.9.0
jupyter-lsp	2.2.1
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.5
jupyter_client	8.6.0
jupyter_core	5.5.0
jupyter_server	2.11.1
jupyter_server_fileid	0.9.0
jupyter_server_terminals	0.4.4
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.25.2
kerberos	1.3.1
kiwisolver	1.4.5
lsprotocol	2023.0.0
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0
nbdime	3.2.1
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.9.0
pickleshare	0.7.5
Pillow	10.1.0
platformdirs	4.0.0

Library	Version
prometheus-client	0.19.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pygls	1.2.0
Pygments	2.17.2
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0.1
pymzq	25.1.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.1
Send2Trash	1.8.2
six	1.16.0
smap	5.0.1
sniffio	1.3.0
soupsieve	2.5
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.0
types-python-dateutil	2.8.19.14
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.12
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4

Library	Version
y-py	0.6.2
ypy-websocket	0.8.4

**Table 50: Packages in Python 3.11.6 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	4.1.0
argon2-cffi	23.1.0
argon2-cffi-bindings	21.2.0
arrow	1.3.0
asttokens	2.4.1
attrs	23.1.0
Babel	2.13.1
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.8.3
bleach	6.1.0
cattrs	23.2.2
certifi	2023.11.17
cffi	1.16.0
charset-normalizer	3.3.2
colorama	0.4.6
comm	0.2.0
contourpy	1.2.0
cycler	0.12.1
debugpy	1.8.0
decorator	5.1.1
defusedxml	0.7.1
docstring-to-markdown	0.13
executing	2.0.1
fastjsonschema	2.19.0
fonttools	4.44.3
fqdn	1.5.1
gitdb	4.0.11

Library	Version
GitPython	3.1.40
idna	3.6
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.19.1
jedi-language-server	0.41.2
Jinja2	3.1.2
json5	0.9.14
jsonpointer	2.4
jsonschema	4.20.0
jsonschema-specifications	2023.11.1
jupyter-events	0.9.0
jupyter-lsp	2.2.1
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.5
jupyter_client	8.6.0
jupyter_core	5.5.0
jupyter_server	2.11.1
jupyter_server_fileid	0.9.0
jupyter_server_terminals	0.4.4
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab_pygments	0.3.0
jupyterlab_server	2.25.2
kerberos	1.3.1
kiwisolver	1.4.5
lsprotocol	2023.0.0
MarkupSafe	2.1.3
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	3.0.2
nbclassic	1.0.0
nbclient	0.9.0
nbconvert	7.11.0

Library	Version
nbdime	3.2.1
nbformat	5.9.2
nest-asyncio	1.5.8
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
overrides	7.4.0
packaging	23.2
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.9.0
pickleshare	0.7.5
Pillow	10.1.0
platformdirs	4.0.0
prometheus-client	0.19.0
prompt-toolkit	3.0.41
psutil	5.9.6
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pygls	1.2.0
Pygments	2.17.2
pyparsing	3.1.1
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0.1
pyzmq	25.1.1
referencing	0.31.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rpds-py	0.13.1
Send2Trash	1.8.2
six	1.16.0
smmap	5.0.1
sniffio	1.3.0
soupsieve	2.5

Library	Version
stack-data	0.6.3
terminado	0.18.0
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.3
traitlets	5.14.0
types-python-dateutil	2.8.19.14
uri-template	1.3.0
urllib3	2.1.0
wcwidth	0.2.12
webcolors	1.13
webencodings	0.5.1
websocket-client	1.6.4
y-py	0.6.2
ypy-websocket	0.8.4

## Python 3.10 Libraries for JupyterLab

This section lists the packages in Python 3.10 JupyterLab Runtimes that ship with ML Runtimes 2023.12.1.

**Table 51: Packages in Python 3.10.9 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22
cffi	1.15.1



Library	Version
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0

Library	Version
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9

Library	Version
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

**Table 52: Packages in Python 3.10.9 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0

Library	Version
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2

Library	Version
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbcClassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.25.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0

Library	Version
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0

Library	Version
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.9 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2023.12.1.

**Table 53: Packages in Python 3.9.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0

Library	Version
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschemata	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4



Library	Version
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0

Library	Version
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 54: Packages in Python 3.9.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3

Library	Version
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cff	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1

Library	Version
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.25.2
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1

Library	Version
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5

Library	Version
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2023.12.1.

**Table 55: Packages in Python 3.8.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12

Library	Version
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1

Library	Version
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0



Library	Version
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 56: Packages in Python 3.8.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0

Library	Version
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cff	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0

Library	Version
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschemata	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5

Library	Version
Pillow	10.0.1
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0

Library	Version
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2023.12.1.

**Table 57: Packages in Python 3.7.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4

Library	Version
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1

Library	Version
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3

Library	Version
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

**Table 58: Packages in Python 3.7.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
cuda-libraries-11-8	11.8.0-1
cuda-libraries-dev-11-8	11.8.0-1
libcudnn8	8.7.0.84-1+cuda11.8
libcudnn8-dev	8.7.0.84-1+cuda11.8
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0



Library	Version
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.35
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1

Library	Version
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.24.4
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	10.0.1
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
pydantic	1.10.7
pygls	1.0.1

Library	Version
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.18
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## R 4.3 Libraries

This section lists the R 4.3 libraries that ship with ML Runtimes 2023.12.1.

**Table 59: PBJ R 4.3.1 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10

Library	Version
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.15.1
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.18
wewidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 60: R 4.3.1 Libraries for Workbench**

Library	Version
askpass	1.1

Library	Version
base	4.3.1
bitops	1.0-7
boot	1.3-28.1
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cds	2.1
class	7.3-22
cli	3.6.1
cluster	2.1.4
codetools	0.2-19
colorspace	2.1-0
compiler	4.3.1
curl	5.0.1
datasets	4.3.1
fansi	1.0.4
farver	2.1.1
foreign	0.8-84
ggplot2	3.4.2
glue	1.6.2
graphics	4.3.1
grDevices	4.3.1
grid	4.3.1
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.7
KernSmooth	2.23-21
labeling	0.4.2
lattice	0.21-8
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-60
Matrix	1.5-4.1
methods	4.3.1
mgcv	1.8-42
mime	0.12
munsell	0.5.0
nlme	3.1-162

Library	Version
nnet	7.3-19
openssl	2.0.6
parallel	4.3.1
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2
rpart	4.1.19
Rserve	1.7-0
scales	1.2.1
spatial	7.3-16
splines	4.3.1
stats	4.3.1
stats4	4.3.1
survival	3.5-5
sys	3.4.2
tcltk	4.3.1
tibble	3.2.1
tools	4.3.1
utf8	1.2.3
utils	4.3.1
vctrs	0.6.3
viridisLite	0.4.2
withr	2.5.0

## ML Runtimes 2023.08.2

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2023.08.2



**Note:** Nvidia GPU Edition comes with CUDA 11.4.1 preinstalled.

## Python 3.10 Libraries for Conda

This section lists the packages in Python 3.10 Conda Runtimes that ship with ML Runtimes 2023.08.2.

**Table 61: Packages in Python 3.10 Conda Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattr	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0



Library	Version
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1

Library	Version
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0

Library	Version
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.14
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.10 Libraries for Workbench

This section lists the packages in Python 3.10 Workbench Runtimes that ship with ML Runtimes 2023.08.2.

**Table 62: Packages in Python 3.10.9 Workbench Runtimes - Standard**

Library	Version
asttokens	2.2.1
backcall	0.2.0
bitarray	2.7.3
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4

Library	Version
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.24.2
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
urllib3	1.26.6
wcwidth	0.2.5

**Table 63: Packages in Python 3.10.9 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0

Library	Version
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cff	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5

Library	Version
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0

Library	Version
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
uri-template	1.2.0
urllib3	1.26.15
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

**Table 64: Packages in Python 3.10.9 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	22.2.0
backcall	0.2.0
beautifulsoup4	4.12.0
bitarray	2.7.3
bleach	6.0.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.6
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
idna	3.4
impyla	0.18.0
ipykernel	6.9.0

Library	Version
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
jsonpointer	2.3
jsonschema	4.17.3
jupyter-events	0.6.3
jupyter-kernel-gateway	2.5.2
jupyter_client	7.4.9
jupyter_core	5.3.0
jupyter_server	2.5.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	0.5.5
nbclient	0.7.3
nbconvert	7.3.0
nbformat	5.8.0
nest-asyncio	1.5.6
notebook	6.5.3
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.2.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2



Library	Version
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	25.0.2
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.9.0
uri-template	1.2.0
urllib3	1.26.15
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2023.08.2.

**Table 65: Packages in Python 3.9.11 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1

Library	Version
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.22.0
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1

Library	Version
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 66: Packages in Python 3.9.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2

Library	Version
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.22.0
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 67: Packages in Python 3.9.11 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0

Library	Version
argon2-ffi	21.3.0
argon2-ffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
ffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1

Library	Version
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1

Library	Version
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 68: Packages in Python 3.9.11 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0

Library	Version
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1



Library	Version
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2023.08.2.

**Table 69: Packages in Python 3.8.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4

Library	Version
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.22.0
packaging	23.1
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2

Library	Version
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 70: Packages in Python 3.8.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
argcomplete	2.0.0
asttokens	2.2.1
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
entrypoints	0.4
executing	1.2.0
fonttools	4.39.3
idna	3.2
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
jedi	0.18.2
jupyter-client	7.2.2
jupyter_core	5.3.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.7.0
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.22.0
packaging	23.1
parso	0.8.3

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
stack-data	0.6.2
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.15.0

**Table 71: Packages in Python 3.8.16 PBJ Workbench Runtimes - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0

Library	Version
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3

Library	Version
numpy	1.22.0
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 72: Packages in Python 3.8.16 PBJ Workbench Runtimes - Nvidia GPU Edition**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
contourpy	1.0.7
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
fonttools	4.39.3
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1

Library	Version
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
yparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
thrift	0.16.0



Library	Version
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2023.08.2.

**Table 73: Packages in Python 3.7.16 Workbench Runtimes - Standard**

Library	Version
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5

Library	Version
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 74: Packages in Python 3.7.16 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2023.7.22
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.18.0
ipykernel	6.5.0

Library	Version
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter_core	4.12.0
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.15.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
six	1.16.0
thrift	0.16.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 75: Packages in Python 3.7.16 PBJ Workbench - Standard**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0

Library	Version
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
ffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0

Library	Version
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

**Table 76: Packages in Python 3.7.16 PBJ Workbench - Nvidia GPU Edition**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bitarray	2.6.0
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.18.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyter_core	4.12.0
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3

Library	Version
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.8.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
terminado	0.13.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
urllib3	1.26.8

Library	Version
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.7.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2023.08.2.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

## Python 3.10 Libraries for JupyterLab

This section lists the packages in Python 3.10 JupyterLab Runtimes that ship with ML Runtimes 2023.08.2.

**Table 77: Packages in Python 3.10.9 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattrs	22.2.0
certifi	2023.7.22



Library	Version
cff	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1

Library	Version
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1

Library	Version
pparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
s mmap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.14
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

**Table 78: Packages in Python 3.10.9 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.6.2
argon2-cffi	21.3.0

Library	Version
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.2
bitarray	2.7.3
bleach	6.0.0
cattr	22.2.0
certifi	2023.7.22
cffi	1.15.1
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.7.1
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.16.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	3.4
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.2
json5	0.9.11

Library	Version
jsonpointer	2.3
jsonschemata	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.23.4
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.2.2
jupyterlab_server	2.20.0
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.2
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	0.5.3
nbclient	0.6.3
nbconvert	7.2.9
nbdime	3.2.0
nbformat	5.7.3
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.2
numpy	1.24.2
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
platformdirs	3.5.0

Library	Version
prometheus-client	0.16.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smap	5.0.0
sniffio	1.3.0
soupsieve	2.4
stack-data	0.6.2
terminado	0.17.1
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.2.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.5.0
uri-template	1.2.0
urllib3	1.26.14
wcwidth	0.2.5
webcolors	1.13

Library	Version
webencodings	0.5.1
websocket-client	1.5.1
y-py	0.5.9
ypy-websocket	0.8.2

## Python 3.9 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2023.08.2.

**Table 79: Packages in Python 3.9.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1

Library	Version
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0



Library	Version
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0

Library	Version
six	1.16.0
smap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 80: Packages in Python 3.9.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0

Library	Version
bleach	3.3.1
cattr	22.2.0
certifi	2023.7.22
cff	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0

Library	Version
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2

Library	Version
py4j	0.10.9.1
pyparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wewidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2023.08.2.

**Table 81: Packages in Python 3.8.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattr	22.2.0
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32

Library	Version
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschemata	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0

Library	Version
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
pydantic	1.10.7
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2



Library	Version
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

**Table 82: Packages in Python 3.8.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
asttokens	2.2.1
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cattrs	22.2.0
certifi	2023.7.22
cffi	1.14.4

Library	Version
charset-normalizer	3.1.0
colorama	0.4.6
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	4.4.2
defusedxml	0.6.0
docstring-to-markdown	0.12
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.15.3
fonttools	4.39.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.22.0
ipython	8.10.0
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
jedi-language-server	0.40.0
Jinja2	3.1.1
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.6.3
jupyter-lsp	2.1.0
jupyter-server	1.24.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	5.3.0
jupyter_server_fileid	0.9.0

Library	Version
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	4.1.0
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
lsprotocol	2023.0.0a1
MarkupSafe	2.1.1
matplotlib	3.7.0
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.0
packaging	23.1
pandocfilters	1.4.3
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
platformdirs	3.5.0
prometheus-client	0.9.0
prompt-toolkit	3.0.38
psutil	5.9.5
ptyprocess	0.6.0
pure-eval	0.2.2
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
pydantic	1.10.7

Library	Version
pygls	1.0.1
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
stack-data	0.6.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.3.2
traitlets	5.9.0
typeguard	2.13.3
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.15.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2023.08.2.

**Table 83: Packages in Python 3.7.16 JupyterLab Runtimes - Standard**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1

Library	Version
json5	0.9.5
jsonpointer	2.3
jsonschema	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdtm	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10

Library	Version
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wcwidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

**Table 84: Packages in Python 3.7.16 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
aiofiles	22.1.0
aiosqlite	0.19.0
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
arrow	1.2.3
async-generator	1.10
attrs	23.1.0
Babel	2.12.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
cached-property	1.5.2
certifi	2023.7.22
cffi	1.14.4
charset-normalizer	3.1.0
colorama	0.4.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
fqdn	1.5.1
gitdb	4.0.10
GitPython	3.1.32
idna	2.10
importlib-metadata	4.11.3
importlib-resources	5.12.0
impyla	0.18.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5



Library	Version
jsonpointer	2.3
jsonschemata	4.17.3
jupyter-client	7.2.2
jupyter-events	0.5.0
jupyter-lsp	1.5.1
jupyter-server	1.21.0
jupyter-server-mathjax	0.2.6
jupyter-ydoc	0.2.4
jupyter_core	4.12.0
jupyter_server_fileid	0.9.0
jupyter_server_ydoc	0.6.1
jupyterlab	3.6.0
jupyterlab-git	0.41.0
jupyterlab-lsp	3.10.2
jupyterlab-pygments	0.1.2
jupyterlab_server	2.22.1
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.1
nbconvert	7.4.0
nbdime	3.2.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.21.6
packaging	23.1
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.3.0
pkgutil_resolve_name	1.3.10
prometheus-client	0.9.0

Library	Version
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.15.1
pyparsing	3.0.9
pyrsistent	0.17.3
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2021.1
PyYAML	6.0
pyzmq	22.3.0
requests	2.31.0
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
Send2Trash	1.8.0
six	1.16.0
smmap	5.0.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.16.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tomli	2.0.1
tornado	6.1
traitlets	5.1.1
typing_extensions	4.3.0
uri-template	1.2.0
urllib3	1.26.6
wewidth	0.2.5
webcolors	1.13
webencodings	0.5.1
websocket-client	1.2.1
y-py	0.5.9
ypy-websocket	0.8.2
zipp	3.8.0

## R 4.3 Libraries

This section lists the R 4.3 libraries that ship with ML Runtimes 2023.08.2.

**Table 85: PBJ R 4.3.1 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3

Library	Version
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.15.1
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 86: R 4.1.3 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.3.1
bitops	1.0-7
boot	1.3-28.1
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cds	2.1
class	7.3-22
cli	3.6.1
cluster	2.1.4
codetools	0.2-19
colorspace	2.1-0
compiler	4.3.1
curl	5.0.0
datasets	4.3.1
fansi	1.0.4
farver	2.1.1
foreign	0.8-84
ggplot2	3.4.2
glue	1.6.2
graphics	4.3.1
grDevices	4.3.1
grid	4.3.1
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-21
labeling	0.4.2
lattice	0.21-8
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-60
Matrix	1.5-4.1
methods	4.3.1
mgcv	1.8-42
mime	0.12

Library	Version
munsell	0.5.0
nlme	3.1-162
nnet	7.3-19
openssl	2.0.6
parallel	4.3.1
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2
rpart	4.1.19
Rserve	1.7-0
scales	1.2.1
spatial	7.3-16
splines	4.3.1
stats	4.3.1
stats4	4.3.1
survival	3.5-5
sys	3.4.1
tcltk	4.3.1
tibble	3.2.1
tools	4.3.1
utf8	1.2.3
utils	4.3.1
vctrs	0.6.2
viridisLite	0.4.2
withr	2.5.0

## R 4.1 Libraries

This section lists the R 4.1 libraries that ship with ML Runtimes 2023.08.2.

**Table 87: PBJ R 4.1.1 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0

Library	Version
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4

Library	Version
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.15.1
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 88: R 4.1.1 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.1.1
bitops	1.0-7
boot	1.3-28
brew	1.0-8



Library	Version
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-19
cli	3.6.1
cluster	2.1.2
codetools	0.2-18
colorspace	2.1-0
compiler	4.1.1
curl	5.0.0
datasets	4.1.1
fansi	1.0.4
farver	2.1.1
foreign	0.8-81
ggplot2	3.4.2
glue	1.6.2
graphics	4.1.1
grDevices	4.1.1
grid	4.1.1
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-20
labeling	0.4.2
lattice	0.20-44
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-54
Matrix	1.3-4
methods	4.1.1
mgcv	1.8-36
mime	0.12
munsell	0.5.0
nlme	3.1-152
nnet	7.3-16
openssl	2.0.6
parallel	4.1.1
pillar	1.9.0

Library	Version
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2
rpart	4.1-15
Rserve	1.7-0
scales	1.2.1
spatial	7.3-14
splines	4.1.1
stats	4.1.1
stats4	4.1.1
survival	3.2-11
sys	3.4.1
tcltk	4.1.1
tibble	3.2.1
tools	4.1.1
utf8	1.2.3
utils	4.1.1
vctrs	0.6.2
viridisLite	0.4.2
withr	2.5.0

## R 4.0 Libraries

This section lists the R 4.0 libraries that ship with ML Runtimes 2023.08.2.

**Table 89: PBJ R 4.0.5 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0

Library	Version
certifi	2023.7.22
cff	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5

Library	Version
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pycparser	2.21
Pygments	2.15.1
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 90: R 4.0.5 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.0.5
bitops	1.0-7
boot	1.3-27
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-18
cli	3.6.1
cluster	2.1.1

Library	Version
codetools	0.2-18
colorspace	2.1-0
compiler	4.0.5
curl	5.0.0
datasets	4.0.5
fansi	1.0.4
farver	2.1.1
foreign	0.8-81
ggplot2	3.4.2
glue	1.6.2
graphics	4.0.5
grDevices	4.0.5
grid	4.0.5
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-18
labeling	0.4.2
lattice	0.20-41
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-53.1
Matrix	1.3-2
methods	4.0.5
mgcv	1.8-34
mime	0.12
munsell	0.5.0
nlme	3.1-152
nnet	7.3-15
openssl	2.0.6
parallel	4.0.5
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1

Library	Version
Rook	1.2
rpart	4.1-15
Rserve	1.7-0
scales	1.2.1
spatial	7.3-13
splines	4.0.5
stats	4.0.5
stats4	4.0.5
survival	3.2-10
sys	3.4.1
tcltk	4.0.5
tibble	3.2.1
tools	4.0.5
utf8	1.2.3
utils	4.0.5
vctrs	0.6.2
viridisLite	0.4.2
withr	2.5.0

## R 3.6 Libraries

This section lists the R 3.6 libraries that ship with ML Runtimes 2023.08.2.

**Table 91: PBJ R 3.6.3 Libraries for Workbench**

Library	Version
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
asttokens	2.2.1
attrs	21.4.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	4.1.0
certifi	2023.7.22
cffi	1.15.0
charset-normalizer	2.0.11
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1

Library	Version
entrypoints	0.4
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.12.0
ipykernel	6.9.0
ipython	8.10.0
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.12.0
jupyter-kernel-gateway	2.5.2
jupyter-server	1.24.0
jupyterlab-pygments	0.1.2
MarkupSafe	2.0.1
matplotlib-inline	0.1.3
mistune	2.0.5
nbcClassic	1.0.0
nbclient	0.5.10
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.4
notebook	6.5.4
notebook-shim	0.2.3
packaging	23.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
prometheus-client	0.13.1
prompt-toolkit	3.0.38
ptyprocess	0.7.0
pure-eval	0.2.2
pyparser	2.21
Pygments	2.15.1

Library	Version
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.31.0
Send2Trash	1.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
terminado	0.13.1
tinycss2	1.2.1
tornado	6.3.2
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.5.2
zipp	3.15.0

**Table 92: R 3.6.3 Libraries for Workbench**

Library	Version
askpass	1.1
base	3.6.3
bitops	1.0-7
boot	1.3-24
brew	1.0-8
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-15
cli	3.6.1
cluster	2.1.0
codetools	0.2-16
colorspace	2.1-0
compiler	3.6.3
curl	5.0.0
datasets	3.6.3
fansi	1.0.4



Library	Version
farver	2.1.1
foreign	0.8-75
ggplot2	3.4.2
glue	1.6.2
graphics	3.6.3
grDevices	3.6.3
grid	3.6.3
gtable	0.3.3
httr	1.4.6
isoband	0.2.7
jsonlite	1.8.4
KernSmooth	2.23-16
labeling	0.4.2
lattice	0.20-38
lifecycle	1.0.3
magrittr	2.0.3
MASS	7.3-51.5
Matrix	1.2-18
methods	3.6.3
mgcv	1.8-31
mime	0.12
munsell	0.5.0
nlme	3.1-144
nnet	7.3-12
openssl	2.0.6
parallel	3.6.3
pillar	1.9.0
pkgconfig	2.0.3
png	0.1-8
R6	2.5.1
RColorBrewer	1.1-3
RJSONIO	1.3-1.8
rlang	1.1.1
Rook	1.2
rpart	4.1-15
Rserve	1.7-0
scales	1.2.1
spatial	7.3-11
splines	3.6.3

Library	Version
stats	3.6.3
stats4	3.6.3
survival	3.1-8
sys	3.4.1
tcltk	3.6.3
tibble	3.2.1
tools	3.6.3
utf8	1.2.3
utils	3.6.3
vctrs	0.6.2
viridisLite	0.4.2
withr	2.5.0

## ML Runtimes 2022.11

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2022.11.



**Note:** Nvidia GPU Edition comes with CUDA 11.4.1 preinstalled.

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2022.11.

**Table 93: Packages in Python 3.9.11 Workbench Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3

Library	Version
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 94: Packages in Python 3.9.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3

Library	Version
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0

Library	Version
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 95: Packages in Python 3.9.11 PBJ Workbench Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1

Library	Version
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
yparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1

Library	Version
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2022.11.

**Table 96: Packages in Python 3.8.13 Workbench Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 97: Packages in Python 3.8.13 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3



Library	Version
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 98: Packages in Python 3.8.13 PBJ Workbench Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8

Library	Version
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2022.11.

**Table 99: Packages in Python 3.7.13 Workbench Runtimes - Standard**

Library	Version
python	3.7.13
pip	21.1.3
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0

Library	Version
requests	2.26.0
six	1.16.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 100: Packages in Python 3.7.13 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.13
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.6.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.4.4
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5

Library	Version
numpy	1.21.6
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	3.0.9
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.16.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 101: Packages in Python 3.7.13 PBJ Workbench - Standard**

Library	Version
python	3.7.13
pip	21.1.3
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1

Library	Version
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2

Library	Version
py4j	0.10.9.1
pyparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wewidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2022.11.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

## Python 3.9.6 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2022.11.



**Table 102: Packages in Python 3.9.11 JupyterLab Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2

Library	Version
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.21.6
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0

Library	Version
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

**Table 103: Packages in Python 3.9.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3

Library	Version
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.21.6
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20

Library	Version
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2022.11.

**Table 104: Packages in Python 3.8.13 JupyterLab Runtimes - Standard**

Library	Version
python	3.8.13
pip	21.1.3
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0

Library	Version
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
certifi	2020.11.8
cff	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0

Library	Version
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.21.6
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

**Table 105: Packages in Python 3.8.13 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.13
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8



Library	Version
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.21.6
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2

Library	Version
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.3.0
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2022.11.

**Table 106: Packages in Python 3.7.13 JupyterLab Runtimes - Standard**

Library	Version
python	3.7.13
pip	21.1.3
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4

Library	Version
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.21.6
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0

Library	Version
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

**Table 107: Packages in Python 3.7.13 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.13
pip	21.1.3
cuda	11.4.1-1
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0

Library	Version
beautifulsoup4	4.11.1
bitarray	2.6.0
bleach	3.3.1
certifi	2020.11.8
cff	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.11.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.4.4
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0

Library	Version
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.21.6
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.2.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## R 4.1 Libraries

This section lists the R 4.1 libraries that ship with ML Runtimes 2022.11.

**Table 108: PBJ R 4.1.1 Libraries for Workbench**

Library	Version
argon2-ffi	21.3.0
argon2-ffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
ffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4

Library	Version
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0



**Table 109: R 4.1.1 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.1.1
bitops	1.0-7
boot	1.3-28
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cds	2.1
class	7.3-19
cli	3.0.1
cluster	2.1.2
codetools	0.2-18
colorspace	2.0-2
compiler	4.1.1
crayon	1.4.1
curl	4.3.2
datasets	4.1.1
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-81
ggplot2	3.3.5
glue	1.4.2
graphics	4.1.1
grDevices	4.1.1
grid	4.1.1
gtable	0.3.0
httr	1.4.2
isoband	0.2.5
jsonlite	1.7.2
KernSmooth	2.23-20
labeling	0.4.2
lattice	0.20-44
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-54
Matrix	1.3-4

Library	Version
methods	4.1.1
mgcv	1.8-36
mime	0.11
munsell	0.5.0
nlme	3.1-152
nnet	7.3-16
openssl	1.4.4
parallel	4.1.1
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-14
splines	4.1.1
stats	4.1.1
stats4	4.1.1
survival	3.2-11
sys	3.4
tcltk	4.1.1
tibble	3.1.4
tools	4.1.1
utf8	1.2.2
utils	4.1.1
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## R 4.0 Libraries

This section lists the R 4.0 libraries that ship with ML Runtimes 2022.11.

**Table 110: PBJ R 4.0.5 Libraries for Workbench**

Library	Version
argon2-ffi	21.3.0
argon2-ffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
ffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbcclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3

Library	Version
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wewidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

**Table 111: R 4.0.5 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.0.5

Library	Version
bitops	1.0-7
boot	1.3-27
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cds	2.1
class	7.3-18
cli	3.0.1
cluster	2.1.1
codetools	0.2-18
colorspace	2.0-2
compiler	4.0.5
crayon	1.4.1
curl	4.3.2
datasets	4.0.5
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-81
ggplot2	3.3.5
glue	1.4.2
graphics	4.0.5
grDevices	4.0.5
grid	4.0.5
gtable	0.3.0
httr	1.4.2
isoband	0.2.5
jsonlite	1.7.2
KernSmooth	2.23-18
labeling	0.4.2
lattice	0.20-41
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-53.1
Matrix	1.3-2
methods	4.0.5
mgcv	1.8-34
mime	0.11

Library	Version
munsell	0.5.0
nlme	3.1-152
nnet	7.3-15
openssl	1.4.4
parallel	4.0.5
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-13
splines	4.0.5
stats	4.0.5
stats4	4.0.5
survival	3.2-10
sys	3.4
tcltk	4.0.5
tibble	3.1.4
tools	4.0.5
utf8	1.2.2
utils	4.0.5
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## R 3.6 Libraries

This section lists the R 3.6 libraries that ship with ML Runtimes 2022.11.

**Table 112: PBJ R 3.6.3 Libraries for Workbench**

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0

Library	Version
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cff	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3

Library	Version
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

**Table 113: R 3.6.3 Libraries for Workbench**

Library	Version
askpass	1.1
base	3.6.3
bitops	1.0-7
boot	1.3-24
brew	1.0-6
Cairo	1.2-0



Library	Version
caTools	1.18.2
cdsw	2.1
class	7.3-15
cli	3.0.1
cluster	2.1.0
codetools	0.2-16
colorspace	2.0-2
compiler	3.6.3
crayon	1.4.1
curl	4.3.2
datasets	3.6.3
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-75
ggplot2	3.3.5
glue	1.4.2
graphics	3.6.3
grDevices	3.6.3
grid	3.6.3
gtable	0.3.0
httr	1.4.2
isoband	0.2.5
jsonlite	1.7.2
KernSmooth	2.23-16
labeling	0.4.2
lattice	0.20-38
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-51.5
Matrix	1.2-18
methods	3.6.3
mgcv	1.8-31
mime	0.11
munsell	0.5.0
nlme	3.1-144
nnet	7.3-12
openssl	1.4.4

Library	Version
parallel	3.6.3
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-11
splines	3.6.3
stats	3.6.3
stats4	3.6.3
survival	3.1-8
sys	3.4
tcltk	3.6.3
tibble	3.1.4
tools	3.6.3
utf8	1.2.2
utils	3.6.3
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## Python 3.9 Libraries for PBJ Workbench

This section lists the packages in Python 3.9 PBJ Workbench Runtimes that ship with ML Runtimes 2022.11.

**Table 114: Packages in Python 3.9.11 PBJ Workbench Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0

Library	Version
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cfffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## Python 3.8 Libraries for PBJ Workbench

This section lists the packages in Python 3.8 PBJ Workbench Runtimes that ship with ML Runtimes 2022.11.

**Table 115: Packages in Python 3.8.13 PBJ Workbench Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0

Library	Version
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cff	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3

Library	Version
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## Python 3.7 Libraries for PBJ Workbench

This section lists the packages in Python 3.7 PBJ Workbench Runtimes that ship with ML Runtimes 2022.11.

**Table 116: Packages in Python 3.7.13 PBJ Workbench Runtimes - Standard**

Library	Version
python	3.7.13
pip	21.1.3

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3
nest-asyncio	1.5.4
notebook	6.4.8

Library	Version
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## PBJ R 4.1 Libraries

This section lists the PBJ R 4.1 libraries that ship with ML Runtimes 2022.11.



**Table 117: PBJ R 4.1.1 Libraries for Workbench**

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbcclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3

Library	Version
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## PBJ R 4.0 Libraries

This section lists the PBJ R 4.0 libraries that ship with ML Runtimes 2022.11.

**Table 118: PBJ R 4.0.5 Libraries for Workbench**

Library	Version
argon2-ffi	21.3.0
argon2-ffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
ffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbcclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3

Library	Version
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## PBJ R 3.6 Libraries

This section lists the PBJ R 3.6 libraries that ship with ML Runtimes 2022.11.

**Table 119: PBJ R 3.6.3 Libraries for Workbench**

Library	Version
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
attrs	21.4.0
backcall	0.2.0
bitarray	2.3.6
bleach	4.1.0
certifi	2021.10.8
cffi	1.15.0
charset-normalizer	2.0.11
cycler	0.11.0
debugpy	1.5.1
decorator	5.1.1
defusedxml	0.7.1
entrypoints	0.4
idna	3.3
importlib-metadata	4.11.0
importlib-resources	5.4.0
impyla	0.17.0
ipykernel	6.9.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.18.1
Jinja2	3.0.3
jsonschema	4.4.0
jupyter-client	7.1.2
jupyter-core	4.9.1
jupyter-kernel-gateway	2.5.1
jupyterlab-pygments	0.1.2
kerberos	1.3.1
kiwisolver	1.3.2
MarkupSafe	2.0.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbcclient	0.5.10
nbconvert	6.4.2
nbformat	5.1.3

Library	Version
nest-asyncio	1.5.4
notebook	6.4.8
numpy	1.21.5
packaging	21.3
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.13.1
prompt-toolkit	3.0.27
ptyprocess	0.7.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.21
Pygments	2.11.2
pyparsing	3.0.7
pyrsistent	0.18.1
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.27.1
Send2Trash	1.8.0
six	1.16.0
terminado	0.13.1
testpath	0.5.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.0.1
urllib3	1.26.8
wcwidth	0.2.5
webencodings	0.5.1
zipp	3.7.0

## ML Runtimes 2022.04

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2022.04.



**Note:** Nvidia GPU Edition comes with CUDA 11.4.1 preinstalled.

## Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2022.04.

**Table 120: Packages in Python 3.9.11 Workbench Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0

Library	Version
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 121: Packages in Python 3.9.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2



Library	Version
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2022.04.

**Table 122: Packages in Python 3.8.13 Workbench Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
argcomplete	2.0.0

Library	Version
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1

Library	Version
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 123: Packages in Python 3.8.13 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1

Library	Version
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

## Python 3.7 Libraries for Workbench

This section lists the packages in Python 3.7 Workbench Runtimes that ship with ML Runtimes 2022.04.

**Table 124: Packages in Python 3.7.13 Workbench Runtimes - Standard**

Library	Version
python	3.7.11
pip	21.1.3
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0

Library	Version
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 125: Packages in Python 3.7.13 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.11
pip	21.1.3
cuda	11.4.1-1

Library	Version
libcudnn8	8.2.2.26-1
argcomplete	2.0.0
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
entrypoints	0.4
idna	3.2
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
jedi	0.17.2
jupyter-client	7.2.2
jupyter-core	4.9.2
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
nest-asyncio	1.5.5
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.2
pyzmq	22.3.0
requests	2.26.0
six	1.15.0
thrift	0.11.0

Library	Version
thrift-sasl	0.4.3
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
zipp	3.8.0

**Table 126: Packages in Python 3.7.13 PBJ Workbench - Standard**

Library	Version
python	3.7.11
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1

Library	Version
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3



Library	Version
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2022.04.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-reflect	2.11.12
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0

## Python 3.9.6 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2022.04.

**Table 127: Packages in Python 3.9.11 JupyterLab Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2

Library	Version
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
yparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0

Library	Version
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

**Table 128: Packages in Python 3.9.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3

Library	Version
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20

Library	Version
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2022.04.

**Table 129: Packages in Python 3.8.13 JupyterLab Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0

Library	Version
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cff	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0

Library	Version
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0



**Table 130: Packages in Python 3.8.13 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8

Library	Version
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2

Library	Version
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## Python 3.7 Libraries for JupyterLab

This section lists the packages in Python 3.7 JupyterLab Runtimes that ship with ML Runtimes 2022.04.

**Table 131: Packages in Python 3.7.13 JupyterLab Runtimes - Standard**

Library	Version
python	3.7.11
pip	21.1.3
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4

Library	Version
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0

Library	Version
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

**Table 132: Packages in Python 3.7.13 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.11
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argcomplete	2.0.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1

Library	Version
backcall	0.2.0
beautifulsoup4	4.11.1
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cff	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
debugpy	1.6.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.4
fastjsonschema	2.15.3
idna	2.10
importlib-metadata	4.11.3
impyla	0.17.0
ipykernel	6.5.0
ipython	7.31.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	3.1.1
json5	0.9.5
jsonschema	3.2.0
jupyter-client	7.2.2
jupyter-core	4.9.2
jupyter-server	1.16.0
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	2.1.1
matplotlib	3.3.4
matplotlib-inline	0.1.3
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.5.0

Library	Version
nbformat	5.3.0
nest-asyncio	1.5.5
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.0.1
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.2
pytz	2021.1
pyzmq	22.3.0
requests	2.25.1
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
soupsieve	2.3.2
terminado	0.9.2
thrift	0.11.0
thrift-sasl	0.4.3
tinycss2	1.1.1
tornado	6.1
traitlets	5.1.1
typing-extensions	4.1.1
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.8.0

## R 4.0 Libraries

This section lists the R 4.0 libraries that ship with ML Runtimes 2022.04.

**Table 133: R 4.0.5 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.0.5
bitops	1.0-7
boot	1.3-27
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-18
cli	3.0.1
cluster	2.1.1
codetools	0.2-18
colorspace	2.0-2
compiler	4.0.5
crayon	1.4.1
curl	4.3.2
datasets	4.0.5
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-81
ggplot2	3.3.5
glue	1.4.2
graphics	4.0.5
grDevices	4.0.5
grid	4.0.5
gtable	0.3.0
httr	1.4.2
isoband	0.2.5
jsonlite	1.7.2
KernSmooth	2.23-18
labeling	0.4.2
lattice	0.20-41



Library	Version
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-53.1
Matrix	1.3-2
methods	4.0.5
mgcv	1.8-34
mime	0.11
munsell	0.5.0
nlme	3.1-152
nnet	7.3-15
openssl	1.4.4
parallel	4.0.5
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-13
splines	4.0.5
stats	4.0.5
stats4	4.0.5
survival	3.2-10
sys	3.4
tcltk	4.0.5
tibble	3.1.4
tools	4.0.5
utf8	1.2.2
utils	4.0.5
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## R 4.1 Libraries

This section lists the R 4.1 libraries that ship with ML Runtimes 2022.04.

**Table 134: R 4.1.1 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.1.1
bitops	1.0-7
boot	1.3-28
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-19
cli	3.0.1
cluster	2.1.2
codetools	0.2-18
colorspace	2.0-2
compiler	4.1.1
crayon	1.4.1
curl	4.3.2
datasets	4.1.1
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-81
ggplot2	3.3.5
glue	1.4.2
graphics	4.1.1
grDevices	4.1.1
grid	4.1.1
gtable	0.3.0
httr	1.4.2
isoband	0.2.5
jsonlite	1.7.2
KernSmooth	2.23-20
labeling	0.4.2
lattice	0.20-44

Library	Version
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-54
Matrix	1.3-4
methods	4.1.1
mgcv	1.8-36
mime	0.11
munsell	0.5.0
nlme	3.1-152
nnet	7.3-16
openssl	1.4.4
parallel	4.1.1
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-14
splines	4.1.1
stats	4.1.1
stats4	4.1.1
survival	3.2-11
sys	3.4
tcltk	4.1.1
tibble	3.1.4
tools	4.1.1
utf8	1.2.2
utils	4.1.1
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## R 3.6 Libraries

This section lists the R 3.6 libraries that ship with ML Runtimes 2022.04.

**Table 135: R 3.6.3 Libraries for Workbench**

Library	Version
askpass	1.1
base	3.6.3
bitops	1.0-7
boot	1.3-24
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cdsw	2.1
class	7.3-15
cli	3.0.1
cluster	2.1.0
codetools	0.2-16
colorspace	2.0-2
compiler	3.6.3
crayon	1.4.1
curl	4.3.2
datasets	3.6.3
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-75
ggplot2	3.3.5
glue	1.4.2
graphics	3.6.3
grDevices	3.6.3
grid	3.6.3
gtable	0.3.0
httr	1.4.2
isoband	0.2.5
jsonlite	1.7.2
KernSmooth	2.23-16
labeling	0.4.2
lattice	0.20-38

Library	Version
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-51.5
Matrix	1.2-18
methods	3.6.3
mgcv	1.8-31
mime	0.11
munsell	0.5.0
nlme	3.1-144
nnet	7.3-12
openssl	1.4.4
parallel	3.6.3
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-11
splines	3.6.3
stats	3.6.3
stats4	3.6.3
survival	3.1-8
sys	3.4
tcltk	3.6.3
tibble	3.1.4
tools	3.6.3
utf8	1.2.2
utils	3.6.3
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## ML Runtimes 2021.12

This section lists the Python, R, and Scala libraries that ship with ML Runtimes 2021.12.



**Note:** Nvidia GPU Edition comes with CUDA 11.4.1 preinstalled.

### Python 3.9 Libraries for Workbench

This section lists the packages in Python 3.9 Workbench Runtimes that ship with ML Runtimes 2021.12.

**Table 136: Packages in Python 3.9.7 Workbench Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
idna	3.2
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2

Library	Version
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 137: Packages in Python 3.9.7 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
idna	3.2
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1

Library	Version
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

## Python 3.8 Libraries for Workbench

This section lists the packages in Python 3.8 Workbench Runtimes that ship with ML Runtimes 2021.12.

**Table 138: Packages in Python 3.8.6 Workbench Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
idna	3.2
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0



Library	Version
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 139: Packages in Python 3.8.6 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6
cycler	0.10.0

Library	Version
decorator	4.4.2
idna	3.2
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 140: Packages in Python 3.8.6 Workbench Runtimes - RAPIDS**

Library	Version
python	3.8.6
pip	21.1.3
_libgcc_mutex	0.1

Library	Version
_openmp_mutex	4.5
abseil-cpp	20210324.2
aiohttp	3.8.1
aiosignal	1.2.0
anyio	3.4.0
appdirs	1.4.4
argon2-cffi	21.1.0
arrow-cpp	5.0.0
arrow-cpp-proc	3.0.0
async-timeout	4.0.1
async_generator	1.10
attrs	21.2.0
aws-c-auth	0.6.7
aws-c-cal	0.5.12
aws-c-common	0.6.17
aws-c-compression	0.2.14
aws-c-event-stream	0.2.7
aws-c-http	0.6.10
aws-c-io	0.10.13
aws-c-mqtt	0.7.9
aws-c-s3	0.1.27
aws-c-sdkutils	0.1.1
aws-checksums	0.1.12
aws-crt-cpp	0.17.8
aws-sdk-cpp	1.9.145
backcall	0.2.0
backports	1.0
backports.functools_lru_cache	1.6.4
bleach	4.1.0
blosc	1.21.0
bokeh	2.4.0
boost	1.74.0
boost-cpp	1.74.0
brotli	1.0.9
brotli-bin	1.0.9
brotlipy	0.7.0
brunli	0.1
bzip2	1.0.8
c-ares	1.18.1

Library	Version
c-blosc2	2.0.4
ca-certificates	2021.10.8
cachetools	4.2.4
cairo	1.16.0
cds	1.1.0
certifi	2021.5.30
effi	1.15.0
cfitsio	3.470
charls	2.2.0
charset-normalizer	2.0.6
click	8.0.3
click-plugins	1.1.1
cligj	0.7.2
cloudpickle	2.0.0
colorama	0.4.4
colorcet	3.0.0
cryptography	36.0.1
cucim	21.12.00
cuda-toolkit	11.0.221
cudf	21.12.02
cudf_kafka	21.12.02
cudnn	8.2.1.32
cugraph	21.12.00
cuml	21.12.00
cupy	9.6.0
curl	7.80.0
cusignal	21.12.00
cuspatial	21.12.00
custreamz	21.12.02
cuxfilter	21.12.00
cycler	0.11.0
cyrus-sasl	2.1.27
cytoolz	0.11.2
dask	2021.11.2
dask-core	2021.11.2
dask-cuda	21.12.00
dask-cudf	21.12.02
datashader	0.11.1
datashape	0.5.4

Library	Version
debugpy	1.5.1
decorator	5.1.0
defusedxml	0.7.1
distributed	2021.11.2
dlpack	0.5
entrypoints	0.3
expat	2.4.1
faiss-proc	1.0.0
fastavro	1.4.7
fastrlock	0.8
fiona	1.8.20
font-ttf-dejavu-sans-mono	2.37
font-ttf-inconsolata	3.000
font-ttf-source-code-pro	2.038
font-ttf-ubuntu	0.83
fontconfig	2.13.1
fonts-conda-ecosystem	1
fonts-conda-forge	1
fonttools	4.28.4
freetype	2.10.4
freexl	1.0.6
frozenset	1.2.0
fsspec	2021.11.1
gdal	3.3.2
geopandas	0.9.0
geopandas-base	0.9.0
geos	3.9.1
geotiff	1.7.0
gettext	0.19.8.1
gflags	2.2.2
giflib	5.2.1
git	2.34.1
glog	0.5.0
gpuci-tools	0.3.1
grpc-cpp	1.41.1
hdf4	4.2.15
hdf5	1.12.1
heapdict	1.0.1
icu	68.2

Library	Version
idna	3.2
imagecodecs	2021.8.26
imageio	2.13.3
importlib-metadata	4.8.3
importlib_metadata	4.8.3
importlib_resources	5.4.0
ipykernel	6.6.0
ipython	7.30.1
ipython_genutils	0.2.0
ipywidgets	7.6.5
jbig	2.1
jedi	0.18.1
jinja2	3.0.3
joblib	1.1.0
jpeg	9d
json-c	0.15
jsonschema	4.3.1
jupyter-server-proxy	3.2.0
jupyter_client	7.1.0
jupyter_core	4.9.1
jupyter_server	1.13.1
jupyterlab_pygments	0.1.2
jupyterlab_widgets	1.0.2
jxrlib	1.1
kealib	1.4.14
kiwisolver	1.3.2
krb5	1.19.2
lcms2	2.12
ld_impl_linux-64	2.36.1
lerc	3.0
libaec	1.0.6
libblas	3.9.0
libbrotlicommon	1.0.9
libbrotlidec	1.0.9
libbrotlienc	1.0.9
libcblas	3.9.0
libcucim	21.12.00
libcudf	21.12.02
libcudf_kafka	21.12.02

Library	Version
libcgraph	21.12.00
libcuml	21.12.00
libcumlprims	21.12.00
libcurl	7.80.0
libcusolver	11.3.2.107
libcuspatial	21.12.00
libdap4	3.20.6
libdeflate	1.8
libedit	3.1.20191231
libev	4.33
libevent	2.1.10
libfaiss	1.7.0
libffi	3.4.2
libgcc-ng	9.4.0
libgcrypt	1.9.4
libgdal	3.3.2
libgfortran-ng	11.2.0
libgfortran5	11.2.0
libglib	2.70.2
libgpg-error	1.42
libgsasl	1.10.0
libhwloc	2.3.0
libiconv	1.16
libkml	1.3.0
liblapack	3.9.0
libllvm11	11.1.0
libnetcdf	4.8.1
libnghttp2	1.43.0
libnsl	2.0.0
libntlm	1.4
libopenblas	0.3.18
libpng	1.6.37
libpq	13.5
libprotobuf	3.18.1
librdkafka	1.6.1
librmm	21.12.00
librttopo	1.1.0
libsodium	1.0.18
libspatialindex	1.9.3

Library	Version
libspatialite	5.0.1
libssh2	1.10.0
libstdcxx-ng	9.4.0
libthrift	0.15.0
libtiff	4.3.0
libutf8proc	2.7.0
libuuid	2.32.1
libuv	1.42.0
libwebp	1.2.1
libwebp-base	1.2.1
libxcb	1.13
libxgboost	1.5.0dev.rapidsai21.12
libxml2	2.9.12
libzip	1.8.0
libzlib	1.2.11
libzopfli	1.0.3
llvm-openmp	12.0.1
llvmlite	0.37.0
locket	0.2.0
lz4-c	1.9.3
mapclassify	2.4.3
markdown	3.3.6
markupsafe	2.0.1
matplotlib-base	3.5.1
matplotlib-inline	0.1.3
mistune	0.8.4
msgpack-python	1.0.3
multidict	5.2.0
multipledispatch	0.6.0
munch	2.5.0
munkres	1.1.4
nbclient	0.5.9
nbconvert	6.3.0
nbformat	5.1.3
nccl	2.11.4.1
ncurses	6.2
nest-asyncio	1.5.4
networkx	2.6.3
nodejs	14.17.4



Library	Version
notebook	6.4.6
nspr	4.32
nss	3.73
numba	0.54.1
numpy	1.20.3
nvtx	0.2.3
olefile	0.46
openjpeg	2.4.0
openssl	1.1.11
orc	1.7.1
packaging	21.3
pandas	1.3.5
pandoc	2.16.2
pandocfilters	1.5.0
panel	0.12.4
param	1.12.0
parquet-cpp	1.5.1
parso	0.8.3
partd	1.2.0
pcre	8.45
pcre2	10.37
perl	5.32.1
pexpect	4.8.0
pickleshare	0.7.5
pillow	8.4.0
pip	21.3.1
pixman	0.40.0
pooch	1.5.2
poppler	21.09.0
poppler-data	0.4.11
postgresql	13.5
proj	8.1.0
prometheus_client	0.12.0
prompt-toolkit	3.0.24
protobuf	3.18.1
psutil	5.8.0
pthread-stubs	0.4
ptxcompiler	0.2.0
ptyprocess	0.7.0

Library	Version
py-xgboost	1.5.0dev.rapidsai21.12
py4j	0.10.9
pyarrow	5.0.0
pyparser	2.21
pyct	0.4.6
pyct-core	0.4.6
pydeck	0.5.0
pyee	8.1.0
pygments	2.10.0
pynvml	11.4.1
pyopenssl	21.0.0
pyparsing	3.0.6
pyppeteer	0.2.6
pyproj	3.1.0
pyrsistent	0.18.0
pysocks	1.7.1
python	3.8.12
python-confluent-kafka	1.6.0
python-dateutil	2.8.2
python_abi	3.8
pytz	2021.3
pyviz_comms	2.1.0
pywavelets	1.2.0
pyyaml	6.0
pyzmq	22.3.0
rapids	21.12.00
rapids-xgboost	21.12.00
re2	2021.11.01
readline	8.1
requests	2.26.0
rmm	21.12.00
rtree	0.9.7
s2n	1.3.0
scikit-image	0.18.1
scikit-learn	1.0.1
scipy	1.7.3
send2trash	1.8.0
setuptools	59.6.0
shapely	1.8.0

Library	Version
simpervisor	0.4
six	1.16.0
snappy	1.1.8
sniffio	1.2.0
sortedcontainers	2.4.0
spdlog	1.8.5
sqlite	3.37.0
streamz	0.6.3
tblib	1.7.0
terminado	0.12.1
testpath	0.5.0
threadpoolctl	3.0.0
tiffio	2021.11.2
tiledb	2.3.4
tk	8.6.11
toolz	0.11.2
tornado	6.1
tqdm	4.62.3
traitlets	5.1.1
treelite	2.1.0
treelite-runtime	2.1.0
typing-extensions	4.0.1
typing_extensions	4.0.1
tzcode	2021e
tzdata	2021e
ucx	1.11.2+gef2bbcf
ucx-proc	1.0.0
ucx-py	0.23.0
unicodedata2	13.0.0.post2
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.3
websockets	9.1
wheel	0.37.0
widetsnbextension	3.5.2
xarray	0.20.2
xerces-c	3.2.3
xgboost	1.5.0dev.rapidsai21.12



Library	Version
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 142: Packages in Python 3.7.11 Workbench Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.11
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
backcall	0.2.0
bitarray	2.1.0
certifi	2021.5.30
charset-normalizer	2.0.6

Library	Version
cycler	0.10.0
decorator	4.4.2
idna	3.2
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
jupyter-client	6.1.7
jupyter-core	4.6.3
kerberos	1.3.1
kiwisolver	1.3.1
matplotlib	3.3.4
numpy	1.19.4
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
Pygments	2.8.1
pyparsing	2.4.7
python-dateutil	2.8.1
pyzmq	19.0.2
requests	2.26.0
six	1.15.0
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5

**Table 143: Packages in Python 3.7.11 Workbench Runtimes - RAPIDS**

Library	Version
python	3.7.11
pip	21.1.3

Library	Version
cuda	11.4.1-1
_libgcc_mutex	0.1
_openmp_mutex	4.5
abseil-cpp	20210324.2
aiohttp	3.8.1
aiosignal	1.2.0
anyio	3.4.0
appdirs	1.4.4
argcomplete	1.12.3
argon2-cffi	21.1.0
arrow-cpp	5.0.0
arrow-cpp-proc	3.0.0
async-timeout	4.0.1
async_generator	1.10
asynctest	0.13.0
attrs	21.2.0
aws-c-auth	0.6.7
aws-c-cal	0.5.12
aws-c-common	0.6.17
aws-c-compression	0.2.14
aws-c-event-stream	0.2.7
aws-c-http	0.6.10
aws-c-io	0.10.13
aws-c-mqtt	0.7.9
aws-c-s3	0.1.27
aws-c-sdkutils	0.1.1
aws-checksums	0.1.12
aws-crt-cpp	0.17.8
aws-sdk-cpp	1.9.145
backcall	0.2.0
backports	1.0
backports.functools_lru_cache	1.6.4
bleach	4.1.0
blosc	1.21.0
bokeh	2.4.0
boost	1.74.0
boost-cpp	1.74.0
brotli	1.0.9
brotli-bin	1.0.9

Library	Version
brotlipy	0.7.0
brunli	0.1
bzip2	1.0.8
c-ares	1.18.1
c-blosc2	2.0.4
ca-certificates	2021.10.8
cachetools	4.2.4
cairo	1.16.0
cds	1.1.0
certifi	2021.5.30
ffi	1.15.0
cfitsio	3.470
charls	2.2.0
charset-normalizer	2.0.6
click	8.0.3
click-plugins	1.1.1
clij	0.7.2
cloudpickle	2.0.0
colorama	0.4.4
colorcet	3.0.0
cryptography	36.0.1
cucim	21.12.00
cuda-toolkit	11.0.221
cudf	21.12.02
cudf_kafka	21.12.02
cudnn	8.2.1.32
cugraph	21.12.00
cuml	21.12.00
cupy	9.6.0
curl	7.80.0
cusignal	21.12.00
cuspatial	21.12.00
custreamz	21.12.02
cuxfilter	21.12.00
cycler	0.11.0
cyrus-sasl	2.1.27
cytoolz	0.11.2
dask	2021.11.2
dask-core	2021.11.2



Library	Version
dask-cuda	21.12.00
dask-cudf	21.12.02
datashader	0.11.1
datashape	0.5.4
debugpy	1.5.1
decorator	5.1.0
defusedxml	0.7.1
distributed	2021.11.2
dlpack	0.5
entrypoints	0.3
expat	2.4.1
faiss-proc	1.0.0
fastavro	1.4.7
fastrlock	0.8
fiona	1.8.20
font-ttf-dejavu-sans-mono	2.37
font-ttf-inconsolata	3.000
font-ttf-source-code-pro	2.038
font-ttf-ubuntu	0.83
fontconfig	2.13.1
fonts-conda-ecosystem	1
fonts-conda-forge	1
fonttools	4.28.4
freetype	2.10.4
freexl	1.0.6
frozenset	1.2.0
fsspec	2021.11.1
gdal	3.3.2
geopandas	0.9.0
geopandas-base	0.9.0
geos	3.9.1
geotiff	1.7.0
gettext	0.19.8.1
gflags	2.2.2
giflib	5.2.1
git	2.34.1
glog	0.5.0
gpuci-tools	0.3.1
grpc-cpp	1.41.1

Library	Version
hdf4	4.2.15
hdf5	1.12.1
heapdict	1.0.1
icu	68.2
idna	3.2
imagecodecs	2021.8.26
imageio	2.13.3
importlib-metadata	4.8.3
importlib_metadata	4.8.3
importlib_resources	5.4.0
ipykernel	6.6.0
ipython	7.30.1
ipython_genutils	0.2.0
ipywidgets	7.6.5
jbig	2.1
jedi	0.18.1
jinja2	3.0.3
joblib	1.1.0
jpeg	9d
json-c	0.15
jsonschema	4.3.1
jupyter-server-proxy	3.2.0
jupyter_client	7.1.0
jupyter_core	4.9.1
jupyter_server	1.13.1
jupyterlab_pygments	0.1.2
jupyterlab_widgets	1.0.2
jxrlib	1.1
kealib	1.4.14
kiwisolver	1.3.2
krb5	1.19.2
lcms2	2.12
ld_impl_linux-64	2.36.1
lerc	3.0
libaec	1.0.6
libblas	3.9.0
libbrotlicommon	1.0.9
libbrotlidec	1.0.9
libbrotlienc	1.0.9

Library	Version
libblas	3.9.0
libcucim	21.12.00
libcudf	21.12.02
libcudf_kafka	21.12.02
libcugraph	21.12.00
libcuml	21.12.00
libcumlprims	21.12.00
libcurl	7.80.0
libcusolver	11.3.2.107
libcuspatial	21.12.00
libdap4	3.20.6
libdeflate	1.8
libedit	3.1.20191231
libev	4.33
libevent	2.1.10
libfaiss	1.7.0
libffi	3.4.2
libgcc-ng	9.4.0
libgcrypt	1.9.4
libgdal	3.3.2
libgfortran-ng	11.2.0
libgfortran5	11.2.0
libglib	2.70.2
libpgg-error	1.42
libgsasl	1.10.0
libhwloc	2.3.0
libiconv	1.16
libkml	1.3.0
liblapack	3.9.0
libllvm11	11.1.0
libnetcdf	4.8.1
libnghttp2	1.43.0
libnsl	2.0.0
libntlm	1.4
libopenblas	0.3.18
libpng	1.6.37
libpq	13.5
libprotobuf	3.18.1
librdkafka	1.6.1

Library	Version
librmm	21.12.00
librttopo	1.1.0
libsodium	1.0.18
libspatialindex	1.9.3
libspatialite	5.0.1
libssh2	1.10.0
libstdcxx-ng	9.4.0
libthrift	0.15.0
libtiff	4.3.0
libutf8proc	2.7.0
libuuid	2.32.1
libuv	1.42.0
libwebp	1.2.1
libwebp-base	1.2.1
libxcb	1.13
libxgboost	1.5.0dev.rapidsai21.12
libxml2	2.9.12
libzip	1.8.0
libzlib	1.2.11
libzopfli	1.0.3
llvm-openmp	12.0.1
llvmlite	0.37.0
locket	0.2.0
lz4-c	1.9.3
mapclassify	2.4.3
markdown	3.3.6
markupsafe	2.0.1
matplotlib-base	3.5.1
matplotlib-inline	0.1.3
mistune	0.8.4
msgpack-python	1.0.3
multidict	5.2.0
multipledispatch	0.6.0
munch	2.5.0
munkres	1.1.4
nbclient	0.5.9
nbconvert	6.3.0
nbformat	5.1.3
nccl	2.11.4.1

Library	Version
ncurses	6.2
nest-asyncio	1.5.4
networkx	2.6.3
nodejs	14.17.4
notebook	6.4.6
nspr	4.32
nss	3.73
numba	0.54.1
numpy	1.20.3
nvtx	0.2.3
olefile	0.46
openjpeg	2.4.0
openssl	1.1.11
orc	1.7.1
packaging	21.3
pandas	1.3.5
pandoc	2.16.2
pandocfilters	1.5.0
panel	0.12.4
param	1.12.0
parquet-cpp	1.5.1
parso	0.8.3
partd	1.2.0
pcre	8.45
pcre2	10.37
perl	5.32.1
pexpect	4.8.0
pickle5	0.0.12
pickleshare	0.7.5
pillow	8.4.0
pip	21.3.1
pixman	0.40.0
pooch	1.5.2
poppler	21.09.0
poppler-data	0.4.11
postgresql	13.5
proj	8.1.0
prometheus_client	0.12.0
prompt-toolkit	3.0.24

Library	Version
protobuf	3.18.1
psutil	5.8.0
pthread-stubs	0.4
ptxcompiler	0.2.0
ptyprocess	0.7.0
py-xgboost	1.5.0dev.rapidsai21.12
py4j	0.10.9
pyarrow	5.0.0
pycparser	2.21
pyct	0.4.6
pyct-core	0.4.6
pydeck	0.5.0
pyee	8.1.0
pygments	2.10.0
pynvml	11.4.1
pyopenssl	21.0.0
pyparsing	3.0.6
pyppeteer	0.2.6
pyproj	3.1.0
pyrsistent	0.18.0
pysocks	1.7.1
python	3.7.12
python-confluent-kafka	1.6.0
python-dateutil	2.8.2
python_abi	3.7
pytz	2021.3
pyviz_comms	2.1.0
pywavelets	1.2.0
pyyaml	6.0
pyzmq	22.3.0
rapids	21.12.00
rapids-xgboost	21.12.00
re2	2021.11.01
readline	8.1
requests	2.26.0
rmm	21.12.00
rtree	0.9.7
s2n	1.3.0
scikit-image	0.18.1

Library	Version
scikit-learn	1.0.1
scipy	1.7.3
send2trash	1.8.0
setuptools	59.6.0
shapely	1.8.0
simpervisor	0.4
six	1.16.0
snappy	1.1.8
sniffio	1.2.0
sortedcontainers	2.4.0
spdlog	1.8.5
sqlite	3.37.0
streamz	0.6.3
tblib	1.7.0
terminado	0.12.1
testpath	0.5.0
threadpoolctl	3.0.0
tifffile	2021.11.2
tiledb	2.3.4
tk	8.6.11
toolz	0.11.2
tornado	6.1
tqdm	4.62.3
traitlets	5.1.1
treelite	2.1.0
treelite-runtime	2.1.0
typing-extensions	4.0.1
typing_extensions	4.0.1
tzcode	2021e
tzdata	2021e
ucx	1.11.2+gef2bbcf
ucx-proc	1.0.0
ucx-py	0.23.0
unicodedata2	13.0.0.post2
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.3
websockets	9.1

Library	Version
wheel	0.37.0
widetsnbextension	3.5.2
xarray	0.20.2
xerces-c	3.2.3
xgboost	1.5.0dev.rapidsai21.12
xorg-kbproto	1.0.7
xorg-libice	1.0.10
xorg-libsm	1.2.3
xorg-libx11	1.7.2
xorg-libxau	1.0.9
xorg-libxdmcp	1.1.3
xorg-libxext	1.3.4
xorg-libxrender	0.9.10
xorg-renderproto	0.11.1
xorg-xextproto	7.3.0
xorg-xproto	7.0.31
xz	5.2.5
yaml	0.2.5
yaml	1.7.2
zeromq	4.3.4
zfp	0.5.5
zict	2.0.0
zipp	3.6.0
zlib	1.2.11
zstd	1.5.0

## Scala 2.11 Libraries for Workbench

This section lists the packages in Scala 2.11.12 Workbench Runtimes that ship with ML Runtimes 2021.12.

### Scala 2.11.12 Libraries for Workbench - Standard

Library	Version
org.scala-lang:scala-library	2.11.12
org.scalatest:scalatest	2.2.4
org.scala-lang:scala-compiler	2.11.12
io.circe:circe-generic	0.11.2
io.circe:circe-parser	0.11.2
org.scalameta:scalameta	1.0.0



## Python 3.9.6 Libraries for JupyterLab

This section lists the packages in Python 3.9 JupyterLab Runtimes that ship with ML Runtimes 2021.12.

**Table 144: Packages in Python 3.9.6 JupyterLab Runtimes - Standard**

Library	Version
python	3.9.6
pip	21.1.3
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1

Library	Version
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1

Library	Version
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1

**Table 145: Packages in Python 3.9.6 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.9.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3

Library	Version
jupyter-server	1.10.2
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pyparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0

Library	Version
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1

## Python 3.8 Libraries for JupyterLab

This section lists the packages in Python 3.8 JupyterLab Runtimes that ship with ML Runtimes 2021.012.

**Table 146: Packages in Python 3.8.6 JupyterLab Runtimes - Standard**

Library	Version
python	3.8.6
pip	21.1.3
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1

Library	Version
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1

Library	Version
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1

**Table 147: Packages in Python 3.8.6 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0
Babel	2.9.1
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cffi	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0

Library	Version
entrypoints	0.3
idna	2.10
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbcClassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1



Library	Version
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1

**Table 148: Packages in Python 3.8.6 JupyterLab Runtimes - RAPIDS**

Library	Version
python	3.8.6
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
_libgcc_mutex	0.1
_openmp_mutex	4.5
abseil-cpp	20210324.2
aiohttp	3.8.1
aiosignal	1.2.0
anyio	3.3.0
appdirs	1.4.4
argon2-cffi	20.1.0
arrow-cpp	5.0.0
arrow-cpp-proc	3.0.0

Library	Version
async-timeout	4.0.1
async_generator	1.10
attrs	20.3.0
aws-c-auth	0.6.7
aws-c-cal	0.5.12
aws-c-common	0.6.17
aws-c-compression	0.2.14
aws-c-event-stream	0.2.7
aws-c-http	0.6.10
aws-c-io	0.10.13
aws-c-mqtt	0.7.9
aws-c-s3	0.1.27
aws-c-sdkutils	0.1.1
aws-checksums	0.1.12
aws-crt-cpp	0.17.8
aws-sdk-cpp	1.9.145
babel	2.9.1
backcall	0.2.0
backports	1.0
backports.functools_lru_cache	1.6.4
bleach	3.3.1
blosc	1.21.0
bokeh	2.4.0
boost	1.74.0
boost-cpp	1.74.0
brotli	1.0.9
brotli-bin	1.0.9
brotlipy	0.7.0
brunli	0.1
bzip2	1.0.8
c-ares	1.18.1
c-blosc2	2.0.4
ca-certificates	2021.10.8
cachetools	4.2.4
cairo	1.16.0
cdsw	1.1.0
certifi	2020.11.8
cfffi	1.14.4
cfitsio	3.470

Library	Version
chardet	4.0.0
charls	2.2.0
charset-normalizer	2.0.6
click	8.0.3
click-plugins	1.1.1
cligj	0.7.2
cloudpickle	2.0.0
colorama	0.4.4
colorcet	3.0.0
cryptography	36.0.1
cucim	21.12.00
cuda-toolkit	11.0.221
cudf	21.12.02
cudf_kafka	21.12.02
cudnn	8.2.1.32
cugraph	21.12.00
cuml	21.12.00
cupy	9.6.0
curl	7.80.0
cusignal	21.12.00
cuspatial	21.12.00
custreamz	21.12.02
cuxfilter	21.12.00
cycler	0.11.0
cyrus-sasl	2.1.27
cytoolz	0.11.2
dask	2021.11.2
dask-core	2021.11.2
dask-cuda	21.12.00
dask-cudf	21.12.02
datashader	0.11.1
datashape	0.5.4
debugpy	1.5.1
decorator	4.4.2
defusedxml	0.6.0
distributed	2021.11.2
dlpack	0.5
entrypoints	0.3
expat	2.4.1

Library	Version
faiss-proc	1.0.0
fastavro	1.4.7
fastrlock	0.8
fiona	1.8.20
font-ttf-dejavu-sans-mono	2.37
font-ttf-inconsolata	3.000
font-ttf-source-code-pro	2.038
font-ttf-ubuntu	0.83
fontconfig	2.13.1
fonts-conda-ecosystem	1
fonts-conda-forge	1
fonttools	4.28.4
freetype	2.10.4
freexl	1.0.6
frozenlist	1.2.0
fsspec	2021.11.1
gdal	3.3.2
geopandas	0.9.0
geopandas-base	0.9.0
geos	3.9.1
geotiff	1.7.0
gettext	0.19.8.1
gflags	2.2.2
giflib	5.2.1
git	2.34.1
glog	0.5.0
gpuci-tools	0.3.1
grpc-cpp	1.41.1
hdf4	4.2.15
hdf5	1.12.1
heapdict	1.0.1
icu	68.2
idna	2.10
imagecodecs	2021.8.26
imageio	2.13.3
importlib-metadata	4.8.3
importlib_metadata	4.8.3
importlib_resources	5.4.0
ipykernel	5.3.4

Library	Version
ipython	7.16.1
ipython_genutils	0.2.0
ipywidgets	7.6.5
jbig	2.1
jedi	0.17.2
jinja2	2.11.3
joblib	1.1.0
jpeg	9d
json-c	0.15
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyter-server-proxy	3.2.0
jupyterlab	3.2.8
jupyterlab-server	2.7.2
jupyterlab_pygments	0.1.2
jupyterlab_widgets	1.0.2
jxrlib	1.1
kealib	1.4.14
kiwisolver	1.3.2
krb5	1.19.2
lcms2	2.12
ld_impl_linux-64	2.36.1
lerc	3.0
libaec	1.0.6
libblas	3.9.0
libbrotlicommon	1.0.9
libbrotlidec	1.0.9
libbrotlienc	1.0.9
libblas	3.9.0
libcucim	21.12.00
libcudf	21.12.02
libcudf_kafka	21.12.02
libcugraph	21.12.00
libcuml	21.12.00
libcumlprims	21.12.00
libcurl	7.80.0

Library	Version
libcusolver	11.3.2.107
libcuspatial	21.12.00
libdap4	3.20.6
libdeflate	1.8
libedit	3.1.20191231
libev	4.33
libevent	2.1.10
libfaiss	1.7.0
libffi	3.4.2
libgcc-ng	9.4.0
libgcrypt	1.9.4
libgdal	3.3.2
libgfortran-ng	11.2.0
libgfortran5	11.2.0
libglib	2.70.2
libgpg-error	1.42
libgsasl	1.10.0
libhwloc	2.3.0
libiconv	1.16
libkml	1.3.0
liblapack	3.9.0
libllvm11	11.1.0
libnetcdf	4.8.1
libnghttp2	1.43.0
libnsl	2.0.0
libntlm	1.4
libopenblas	0.3.18
libpng	1.6.37
libpq	13.5
libprotobuf	3.18.1
librdkafka	1.6.1
librmm	21.12.00
librttopo	1.1.0
libsodium	1.0.18
libspatialindex	1.9.3
libspatialite	5.0.1
libssh2	1.10.0
libstdcxx-ng	9.4.0
libthrift	0.15.0

Library	Version
libtiff	4.3.0
libutf8proc	2.7.0
libuuid	2.32.1
libuv	1.42.0
libwebp	1.2.1
libwebp-base	1.2.1
libxcb	1.13
libxgboost	1.5.0dev.rapidsai21.12
libxml2	2.9.12
libzip	1.8.0
libzlib	1.2.11
libzopfli	1.0.3
llvm-openmp	12.0.1
llvmlite	0.37.0
loket	0.2.0
lz4-c	1.9.3
mapclassify	2.4.3
markdown	3.3.6
markupsafe	1.1.1
matplotlib-base	3.5.1
matplotlib-inline	0.1.3
mistune	0.8.4
msgpack-python	1.0.3
multidict	5.2.0
multiplatform	0.6.0
munch	2.5.0
munkres	1.1.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
necl	2.11.4.1
ncurses	6.2
nest-asyncio	1.5.1
networkx	2.6.3
nodejs	14.17.4
notebook	6.4.3
nspr	4.32
nss	3.73

Library	Version
numba	0.54.1
numpy	1.20.3
nvtx	0.2.3
olefile	0.46
openjpeg	2.4.0
openssl	1.1.11
orc	1.7.1
packaging	20.9
pandas	1.3.5
pandoc	2.16.2
pandocfilters	1.4.3
panel	0.12.4
param	1.12.0
parquet-cpp	1.5.1
parso	0.7.1
partd	1.2.0
pcre	8.45
pcre2	10.37
perl	5.32.1
pexpect	4.8.0
pickleshare	0.7.5
pillow	8.4.0
pip	21.3.1
pixman	0.40.0
pooch	1.5.2
poppler	21.09.0
poppler-data	0.4.11
postgresql	13.5
proj	8.1.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
protobuf	3.18.1
psutil	5.8.0
pthread-stubs	0.4
ptxcompiler	0.2.0
ptyprocess	0.6.0
py-xgboost	1.5.0dev.rapidsai21.12
py4j	0.10.9
pyarrow	5.0.0



Library	Version
pycparser	2.20
pyct	0.4.6
pyct-core	0.4.6
pydeck	0.5.0
pyee	8.1.0
pygments	2.8.1
pynvml	11.4.1
pyopenssl	21.0.0
pparsing	2.4.7
pypeteer	0.2.6
pyproj	3.1.0
pyrsistent	0.17.3
pysocks	1.7.1
python	3.8.12
python-confluent-kafka	1.6.0
python-dateutil	2.8.1
python_abi	3.8
pytz	2021.1
pyviz_comms	2.1.0
pywavelets	1.2.0
pyyaml	6.0
pyzmq	19.0.2
rapids	21.12.00
rapids-xgboost	21.12.00
re2	2021.11.01
readline	8.1
requests	2.25.1
requests-unixsocket	0.2.0
rmm	21.12.00
rtree	0.9.7
s2n	1.3.0
scikit-image	0.18.1
scikit-learn	1.0.1
scipy	1.7.3
send2trash	1.5.0
setuptools	59.6.0
shapely	1.8.0
simpervisor	0.4
six	1.15.0

Library	Version
snappy	1.1.8
sniffio	1.2.0
sortedcontainers	2.4.0
spdlog	1.8.5
sqlite	3.37.0
streamz	0.6.3
tblib	1.7.0
terminado	0.9.2
testpath	0.4.4
threadpoolctl	3.0.0
tiffio	2021.11.2
tiledb	2.3.4
tk	8.6.11
toolz	0.11.2
tornado	6.1
tqdm	4.62.3
traitlets	4.3.3
treelite	2.1.0
treelite-runtime	2.1.0
typing-extensions	4.0.1
typing_extensions	4.0.1
tzcode	2021e
tzdata	2021e
ucx	1.11.2+gef2bbcf
ucx-proc	1.0.0
ucx-py	0.23.0
unicodedata2	13.0.0.post2
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
websockets	9.1
wheel	0.37.0
widetsnbextension	3.5.2
xarray	0.20.2
xerces-c	3.2.3
xgboost	1.5.0dev.rapidsai21.12
xorg-kbproto	1.0.7
xorg-libice	1.0.10



Library	Version
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
importlib-metadata	3.4.0
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prometheus-client	0.9.0

Library	Version
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.4.0

**Table 150: Packages in Python 3.7.11 JupyterLab Runtimes - Nvidia GPU Edition**

Library	Version
python	3.7.11
pip	21.1.3
cuda	11.4.1-1
libcudnn8	8.2.2.26-1
anyio	3.3.0
argon2-cffi	20.1.0
async-generator	1.10
attrs	20.3.0

Library	Version
Babel	2.9.1
backcall	0.2.0
bitarray	2.1.0
bleach	3.3.1
certifi	2020.11.8
cff	1.14.4
chardet	4.0.0
charset-normalizer	2.0.6
cycler	0.10.0
decorator	4.4.2
defusedxml	0.6.0
entrypoints	0.3
idna	2.10
importlib-metadata	3.4.0
impyla	0.17.0
ipykernel	5.3.4
ipython	7.16.1
ipython-genutils	0.2.0
jedi	0.17.2
Jinja2	2.11.3
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyterlab	3.2.8
jupyterlab-pygments	0.1.2
jupyterlab-server	2.7.2
kerberos	1.3.1
kiwisolver	1.3.1
MarkupSafe	1.1.1
matplotlib	3.3.4
mistune	0.8.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nest-asyncio	1.5.1
notebook	6.4.3

Library	Version
numpy	1.19.4
packaging	20.9
pandocfilters	1.4.3
parso	0.7.1
pexpect	4.8.0
pickleshare	0.7.5
Pillow	8.4.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
ptyprocess	0.6.0
pure-sasl	0.6.2
py4j	0.10.9.1
pycparser	2.20
Pygments	2.8.1
pyparsing	2.4.7
pyrsistent	0.17.3
python-dateutil	2.8.1
pytz	2021.1
pyzmq	19.0.2
requests	2.25.1
requests-unixsocket	0.2.0
Send2Trash	1.5.0
six	1.15.0
sniffio	1.2.0
terminado	0.9.2
testpath	0.4.4
thrift	0.11.0
thrift-sasl	0.4.3
tornado	6.1
traitlets	4.3.3
typing-extensions	3.7.4.3
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
zipp	3.4.0

**Table 151: Packages in Python 3.7.11 JupyterLab Runtimes - RAPIDS**

Library	Version
python	3.7.11
pip	21.1.3
_libgcc_mutex	0.1
_openmp_mutex	4.5
abseil-cpp	20210324.2
aiohttp	3.8.1
aiosignal	1.2.0
anyio	3.3.0
appdirs	1.4.4
argcomplete	1.12.3
argon2-cffi	20.1.0
arrow-cpp	5.0.0
arrow-cpp-proc	3.0.0
async-timeout	4.0.1
async_generator	1.10
asynctest	0.13.0
attrs	20.3.0
aws-c-auth	0.6.7
aws-c-cal	0.5.12
aws-c-common	0.6.17
aws-c-compression	0.2.14
aws-c-event-stream	0.2.7
aws-c-http	0.6.10
aws-c-io	0.10.13
aws-c-mqtt	0.7.9
aws-c-s3	0.1.27
aws-c-sdkutils	0.1.1
aws-checksums	0.1.12
aws-crt-cpp	0.17.8
aws-sdk-cpp	1.9.145
babel	2.9.1
backcall	0.2.0
backports	1.0
backports.functools_lru_cache	1.6.4
bleach	3.3.1
blosc	1.21.0
bokeh	2.4.0
boost	1.74.0



Library	Version
boost-cpp	1.74.0
brotli	1.0.9
brotli-bin	1.0.9
brotlipy	0.7.0
brunsl	0.1
bzip2	1.0.8
c-ares	1.18.1
c-blosc2	2.0.4
ca-certificates	2021.10.8
cachetools	4.2.4
cairo	1.16.0
cdsw	1.1.0
certifi	2020.11.8
cff	1.14.4
cfitsio	3.470
chardet	4.0.0
charls	2.2.0
charset-normalizer	2.0.6
click	8.0.3
click-plugins	1.1.1
cligj	0.7.2
cloudpickle	2.0.0
colorama	0.4.4
colorcet	3.0.0
cryptography	36.0.1
cucim	21.12.00
cuda-toolkit	11.0.221
cudf	21.12.02
cudf_kafka	21.12.02
cudnn	8.2.1.32
cugraph	21.12.00
cuml	21.12.00
cupy	9.6.0
curl	7.80.0
cusignal	21.12.00
cuspatial	21.12.00
custreamz	21.12.02
cuxfilter	21.12.00
cycler	0.11.0

Library	Version
cyrus-sasl	2.1.27
cytoolz	0.11.2
dask	2021.11.2
dask-core	2021.11.2
dask-cuda	21.12.00
dask-cudf	21.12.02
datashader	0.11.1
datashape	0.5.4
debugpy	1.5.1
decorator	4.4.2
defusedxml	0.6.0
distributed	2021.11.2
dlpack	0.5
entrypoints	0.3
expat	2.4.1
faiss-proc	1.0.0
fastavro	1.4.7
fastrlock	0.8
fiona	1.8.20
font-ttf-dejavu-sans-mono	2.37
font-ttf-inconsolata	3.000
font-ttf-source-code-pro	2.038
font-ttf-ubuntu	0.83
fontconfig	2.13.1
fonts-conda-ecosystem	1
fonts-conda-forge	1
fonttools	4.28.4
freetype	2.10.4
freexl	1.0.6
frozenset	1.2.0
fsspec	2021.11.1
gdal	3.3.2
geopandas	0.9.0
geopandas-base	0.9.0
geos	3.9.1
geotiff	1.7.0
gettext	0.19.8.1
gflags	2.2.2
giflib	5.2.1

Library	Version
git	2.34.1
glog	0.5.0
gpuci-tools	0.3.1
grpc-cpp	1.41.1
hdf4	4.2.15
hdf5	1.12.1
heapdict	1.0.1
icu	68.2
idna	2.10
imagecodecs	2021.8.26
imageio	2.13.3
importlib-metadata	3.4.0
importlib_metadata	4.8.3
importlib_resources	5.4.0
ipykernel	5.3.4
ipython	7.16.1
ipython_genutils	0.2.0
ipywidgets	7.6.5
jbig	2.1
jedi	0.17.2
jinja2	2.11.3
joblib	1.1.0
jpeg	9d
json-c	0.15
json5	0.9.5
jsonschema	3.2.0
jupyter-client	6.1.7
jupyter-core	4.6.3
jupyter-server	1.10.2
jupyter-server-proxy	3.2.0
jupyterlab	3.2.8
jupyterlab-server	2.7.2
jupyterlab_pygments	0.1.2
jupyterlab_widgets	1.0.2
jxrlib	1.1
kealib	1.4.14
kiwisolver	1.3.2
krb5	1.19.2
lcms2	2.12

Library	Version
ld_impl_linux-64	2.36.1
lerc	3.0
libaec	1.0.6
libblas	3.9.0
libbrotlicommon	1.0.9
libbrotlidec	1.0.9
libbrotlienc	1.0.9
libcblas	3.9.0
libcucim	21.12.00
libcudf	21.12.02
libcudf_kafka	21.12.02
libcugraph	21.12.00
libcuml	21.12.00
libcumlprims	21.12.00
libcurl	7.80.0
libcusolver	11.3.2.107
libcuspatial	21.12.00
libdap4	3.20.6
libdeflate	1.8
libedit	3.1.20191231
libev	4.33
libevent	2.1.10
libfaiss	1.7.0
libffi	3.4.2
libgcc-ng	9.4.0
libgcrypt	1.9.4
libgdal	3.3.2
libgfortran-ng	11.2.0
libgfortran5	11.2.0
libglib	2.70.2
libgpg-error	1.42
libgsasl	1.10.0
libhwloc	2.3.0
libiconv	1.16
libkml	1.3.0
liblapack	3.9.0
libllvm11	11.1.0
libnetcdf	4.8.1
libnghttp2	1.43.0

Library	Version
libnsl	2.0.0
libntlm	1.4
libopenblas	0.3.18
libpng	1.6.37
libpq	13.5
libprotobuf	3.18.1
librdkafka	1.6.1
librmm	21.12.00
librttopo	1.1.0
libsodium	1.0.18
libspatialindex	1.9.3
libspatialite	5.0.1
libssh2	1.10.0
libstdcxx-ng	9.4.0
libthrift	0.15.0
libtiff	4.3.0
libutf8proc	2.7.0
libuuid	2.32.1
libuv	1.42.0
libwebp	1.2.1
libwebp-base	1.2.1
libxcb	1.13
libxgboost	1.5.0dev.rapidsai21.12
libxml2	2.9.12
libzip	1.8.0
libzlib	1.2.11
libzopfli	1.0.3
llvm-openmp	12.0.1
llvmlite	0.37.0
locket	0.2.0
lz4-c	1.9.3
mapclassify	2.4.3
markdown	3.3.6
markupsafe	1.1.1
matplotlib-base	3.5.1
matplotlib-inline	0.1.3
mistune	0.8.4
msgpack-python	1.0.3
multidict	5.2.0

Library	Version
multipledispatch	0.6.0
munch	2.5.0
munkres	1.1.4
nbclassic	0.3.1
nbclient	0.5.1
nbconvert	6.0.7
nbformat	5.1.3
nccl	2.11.4.1
ncurses	6.2
nest-asyncio	1.5.1
networkx	2.6.3
nodejs	14.17.4
notebook	6.4.3
nspr	4.32
nss	3.73
numba	0.54.1
numpy	1.20.3
nvtx	0.2.3
olefile	0.46
openjpeg	2.4.0
openssl	1.1.11
orc	1.7.1
packaging	20.9
pandas	1.3.5
pandoc	2.16.2
pandocfilters	1.4.3
panel	0.12.4
param	1.12.0
parquet-cpp	1.5.1
parso	0.7.1
partd	1.2.0
pcre	8.45
pcre2	10.37
perl	5.32.1
pexpect	4.8.0
pickle5	0.0.12
pickleshare	0.7.5
pillow	8.4.0
pip	21.3.1

Library	Version
pixman	0.40.0
pooch	1.5.2
poppler	21.09.0
poppler-data	0.4.11
postgresql	13.5
proj	8.1.0
prometheus-client	0.9.0
prompt-toolkit	3.0.8
protobuf	3.18.1
psutil	5.8.0
pthread-stubs	0.4
ptxcompiler	0.2.0
ptyprocess	0.6.0
py-xgboost	1.5.0dev.rapidsai21.12
py4j	0.10.9
pyarrow	5.0.0
pycparser	2.20
pyct	0.4.6
pyct-core	0.4.6
pydeck	0.5.0
pyee	8.1.0
pygments	2.8.1
pynvml	11.4.1
pyopenssl	21.0.0
pyparsing	2.4.7
pyppeteer	0.2.6
pyproj	3.1.0
pyrsistent	0.17.3
pysocks	1.7.1
python	3.7.12
python-confluent-kafka	1.6.0
python-dateutil	2.8.1
python_abi	3.7
pytz	2021.1
pyviz_comms	2.1.0
pywavelets	1.2.0
pyyaml	6.0
pyzmq	19.0.2
rapids	21.12.00

Library	Version
rapids-xgboost	21.12.00
re2	2021.11.01
readline	8.1
requests	2.25.1
requests-unixsocket	0.2.0
rmm	21.12.00
rtree	0.9.7
s2n	1.3.0
scikit-image	0.18.1
scikit-learn	1.0.1
scipy	1.7.3
send2trash	1.5.0
setuptools	59.6.0
shapely	1.8.0
simpervisor	0.4
six	1.15.0
snappy	1.1.8
sniffio	1.2.0
sortedcontainers	2.4.0
spdlog	1.8.5
sqlite	3.37.0
streamz	0.6.3
tblib	1.7.0
terminado	0.9.2
testpath	0.4.4
threadpoolctl	3.0.0
tiffifile	2021.11.2
tiledb	2.3.4
tk	8.6.11
toolz	0.11.2
tornado	6.1
tqdm	4.62.3
traitlets	4.3.3
treelite	2.1.0
treelite-runtime	2.1.0
typing-extensions	3.7.4.3
tzcode	2021e
tzdata	2021e
ucx	1.11.2+gef2bbcf



Library	Version
ucx-proc	1.0.0
ucx-py	0.23.0
unicodedata2	13.0.0.post2
urllib3	1.26.6
wcwidth	0.2.5
webencodings	0.5.1
websocket-client	1.2.1
websockets	9.1
wheel	0.37.0
widetsnbextension	3.5.2
xarray	0.20.2
xerces-c	3.2.3
xgboost	1.5.0dev.rapidsai21.12
xorg-kbproto	1.0.7
xorg-libice	1.0.10
xorg-libsm	1.2.3
xorg-libx11	1.7.2
xorg-libxau	1.0.9
xorg-libxdmcp	1.1.3
xorg-libxext	1.3.4
xorg-libxrender	0.9.10
xorg-renderproto	0.11.1
xorg-xextproto	7.3.0
xorg-xproto	7.0.31
xz	5.2.5
yaml	0.2.5
yaml	1.7.2
zeromq	4.3.4
zfp	0.5.5
zict	2.0.0
zipp	3.4.0
zlib	1.2.11
zstd	1.5.0

## R 4.0 Libraries

This section lists the R 4.0 libraries that ship with ML Runtimes 2021.12.

**Table 152: R 4.0.5 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.0.5
bitops	1.0-7
boot	1.3-27
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cds	2.1
class	7.3-18
cli	3.0.1
cluster	2.1.1
codetools	0.2-18
colorspace	2.0-2
compiler	4.0.5
crayon	1.4.1
curl	4.3.2
datasets	4.0.5
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-81
ggplot2	3.3.5
glue	1.4.2
graphics	4.0.5
grDevices	4.0.5
grid	4.0.5
gtable	0.3.0
httr	1.4.2
jsonlite	1.7.2
KernSmooth	2.23-18
labeling	0.4.2
lattice	0.20-41
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-53.1
Matrix	1.3-2

Library	Version
methods	4.0.5
mgcv	1.8-34
mime	0.11
munsell	0.5.0
nlme	3.1-152
nnet	7.3-15
openssl	1.4.4
parallel	4.0.5
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-13
splines	4.0.5
stats	4.0.5
stats4	4.0.5
survival	3.2-10
sys	3.4
tcltk	4.0.5
tibble	3.1.4
tools	4.0.5
utf8	1.2.2
utils	4.0.5
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## R 4.1 Libraries

This section lists the R 4.1 libraries that ship with ML Runtimes 2021.12.

**Table 153: R 4.0.5 Libraries for Workbench**

Library	Version
askpass	1.1
base	4.1.1
bitops	1.0-7
boot	1.3-28
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cds	2.1
class	7.3-19
cli	3.0.1
cluster	2.1.2
codetools	0.2-18
colorspace	2.0-2
compiler	4.1.1
crayon	1.3.4
curl	4.3.2
datasets	4.1.1
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-81
ggplot2	3.3.5
glue	1.4.2
graphics	4.1.1
grDevices	4.1.1
grid	4.1.1
gtable	0.3.0
httr	1.4.2
jsonlite	1.7.2
KernSmooth	2.23-20
labeling	0.4.2
lattice	0.20-44
lifecycle	1.0.0
magrittr	2.0.1
MASS	7.3-54
Matrix	1.3-4

Library	Version
methods	4.1.1
mgcv	1.8-36
mime	0.11
munsell	0.5.0
nlme	3.1-152
nnet	7.3-16
openssl	1.4.4
parallel	4.1.1
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-14
splines	4.1.1
stats	4.1.1
stats4	4.1.1
survival	3.2-11
sys	3.4
tcltk	4.1.1
tibble	3.1.4
tools	4.1.1
utf8	1.2.2
utils	4.1.1
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## R 3.6 Libraries

This section lists the R 3.6 libraries that ship with ML Runtimes 2021.12.

**Table 154: R 3.6.3 Libraries for Workbench**

Library	Version
askpass	1.1
base	3.6.3
bitops	1.0-7
boot	1.3-24
brew	1.0-6
Cairo	1.2-0
caTools	1.18.2
cdsweb	2.1
class	7.3-15
cli	3.0.1
cluster	2.1.0
codetools	0.2-16
colorspace	2.0-2
compiler	3.6.3
crayon	1.4.4
curl	4.3.2
datasets	3.6.3
digest	0.6.27
ellipsis	0.3.2
fansi	0.5.0
farver	2.1.0
foreign	0.8-75
ggplot2	3.3.5
glue	1.4.2
graphics	3.6.3
grDevices	3.6.3
grid	3.6.3
gtable	0.3.0
httr	1.4.2
jsonlite	1.7.2
KernSmooth	2.23-16
labeling	0.4.2
lattice	0.20-38
lifecycle	0.1.0
magrittr	2.0.1
MASS	7.3-51.5
Matrix	1.2-18

Library	Version
methods	3.6.3
mgcv	1.8-31
mime	0.11
munsell	0.5.0
nlme	3.4-144
nnet	7.3-12
openssl	1.4.4
parallel	3.6.3
pillar	1.6.2
pkgconfig	2.0.3
png	0.1-7
R6	2.5.1
RColorBrewer	1.1-2
RJSONIO	1.3-1.5
rlang	0.4.11
Rook	1.1-1
rpart	4.1-15
Rserve	1.7-0
scales	1.1.1
spatial	7.3-11
splines	3.6.3
stats	3.6.3
stats4	3.6.3
survival	3.1-8
sys	3.4
tcltk	3.6.3
tibble	3.1.4
tools	3.6.3
utf8	1.2.2
utils	3.6.3
vctrs	0.3.8
viridisLite	0.4.0
withr	2.4.2

## ML Runtimes 2020.11

This section lists the Python and R libraries that ship with ML Runtimes 2020.11.

All ML Runtimes 2020.11 contain NumPy 1.19.2 and Matplotlib 3.1.2.

- Matplotlib - 3.1.2
- NumPy - 1.19.2 and the Python versions, which are 3.6.10, 3.7.9, and 3.8.3