Analytical and other software on the Secure Research Environment

The Research Environment runs with the operating system: Microsoft Windows Server 2022 DataCenter edition. The environment is based on the Microsoft Data Science virtual machine template and includes the following software:

- 7-zip
- Acrobat Reader
- MiniConda, including:
  - Python 3.8, 3.9, and 3.10
  - PyTorch
  - TensorFlow
- Apache Spark 3.1
- cMakeGIT
- Git and Git Extensions UI
- JAGS, including rjags
- Julia 1.10.5
- Jupyter Notebook, with Kernels for R, Python,Julia,PySpark
- Microsoft Office 2016 Standard edition, including Word, Excel, PowerPoint, and OneNote *(Access not included)*
- Microsoft Photo Viewer
- Windows subsystem for Linux, with Ubuntu
- Nodejs
- OpenBUGS
- PLINK
- PowerBI Desktop
- PowerShell
- PyCharm 2024.2.1, and PyCharm Community Edition, 2024.1.1
- Python 3.14 and 3.12, including PySpark
- R Studio 2026.01.0+392
- R Version 4.5.2 (2025-10-31), with Rtools
- Review Manager 5.4
- SQL Server Developer Edition (2019), including Management Studio and SQL Server Integration Services (SSIS)
- stan and rstan
- STATA 17
- Visual Studio Code 1.96.3
- Vowpal Wabbit
- xgboost

And in the Premium research environments:

- SAS 9.4, m4*

  *Alternative pricing applies for industry users of SAS, email support@vivli.org for details.

Users also have the ability to bring in additional software if the software was specified in the data request, the

software runs in the operating system described above, and the user can provide Vivli with any necessary licensing keys. Software licenses must be validated by the software only at installation or setup: software that validates the license on each invocation will not work. Users must attest that the license agreements they need for any of the software they want to bring in can be used in the Vivli research environment.

The following applications have been validated to work on the Vivli Research Environment when an appropriate license can be provided by the researcher – contact Vivli for details on license types:

- SAS Universal Viewer as an alternative to the full academic license for SAS.
- SPSS (Important: the usual academic site license will NOT work; Please contact Vivli for details on the correct license type)
- MATLAB
- MedCalc, from https://medcalc.org, but not the software available at https://medcalc.com
- Monolix or other applications from Lixoft.net
- Comprehensive Meta Analysis

How to add R and Python packages:

You can install R packages from CRAN, and approved Python packages using pip, yourself. You do not need administrator rights. Packages come from secure copies that Vivli keeps inside the research network.
For step-by-step instructions, see section 3.5 of the Vivli Data Access & Secure Research Environment Guide, linked below. The full list of approved Python packages is below:
If you need an R or Python package that you cannot install yourself, contact Vivli via chat or support@vivli.org with the package name, and Vivli will add it to your Research Environment.

For the latest guide to working in the Vivli Research Environment, please see here https://vivli.org/how-to-access-data-from-vivli-use-the-secure-research-environment/

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R Packages included in the Research Environment, associated with RStudio:

abind
acepack
ada
adabag
AnnotationDbi
AnnotationFilter
arules
askpass
assertthat
aweek
backports
bartMachine
bartMachineJARs
base
base64enc
BBmisc
BH
bibtex
bindr
bindrcpp
Biobase
BiocFileCache
BiocGenerics
BiocIO
BiocManager
BiocParallel
BiocVersion
biomaRt
Biostrings
biovizBase
bit
bit64
bitops
blob
boot
brew
brglm
brio
broom
BRugs
BSgenome
bslib
C50
cachem
cairoDevice
callr
car
carData
caret
caTools
CBPS
cellranger
checkmate
checkpoint
chron
class
classInt
cli
clipr
clisymbols
cluster
cmprsk
cobalt
coda
codetools
coin
colorspace
combinat
commonmark
compiler
conquer
corpcor
corrplot
covr
cowplot
cpp11
crayon
credentials
crosstalk
crrp
crrstep
Cubist
curl
CVST
data.table
data.tree
datasets
DBI
dbplyr
ddalpha
DelayedArray
DEoptimR
desc
devtools
DiagrammeR
dichromat
diffobj
digest
dimRed
doParallel
downloader
dplyr
drat
DRR
DT
dtplyr
e1071
earth
ebal
editrules
ellipse
ellipsis
ensembldb
Epi
etm
evaluate
exactRankTests
fansi
farver
fastICA
fastmap
fastmatch
filelock
forcats
foreach
foreign
forestplot
formatR
Formula
formula.tools
fs
futile.logger
futile.options
future
future.apply
gam
gargle
gbm
gdata
geepack
generics
GenomeInfoDb
GenomeInfoDbData
GenomicAlignments

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GenomicFeatures
GenomicRanges
geometry
geosphere
gert
ggmap
ggplot2
ggpubr
ggraph
ggrepel
ggsci
ggsignif
ggtext
gh
git2r
gitcreds
glmnet
glmnetUtils
globals
glue
Gmisc
googledrive
googlesheets4
gower
gplots
graphics
grDevices
Greg
grid
gridBase
gridExtra
gridtext
gsubfn
gtable
gtools
Gviz
haven
highr
Hmisc
hms
htmlTable
htmltools
htmlwidgets
httpuv
httr
huxtable
ids
igraph
incidence
influenceR
ini
inline
inum
ipred
ipw
IRanges
IRdisplay
IRkernel
irlba
isoband
ISwR
iterators
itertools
jomo
jpeg
jquerylib
jsonlite
KEGGREST
kernlab
KernSmooth
klaR
km.ci
KMsurv
knitr
labeling
labelled
lambda.r
later
lattice
latticeExtra
lava
lazyeval
libcoin
lifecycle
linprog
listenv
lme4
logistf
loo
lpSolve
lpSolveAPI
lubridate
magic
magrittr
mapproj
maps
maptools
markdown
MASS
Matching
MatchIt
mathjaxr
Matrix
MatrixGenerics
MatrixModels
matrixStats
maxstat
mboost
mda
memoise
metafor
methods
mets
mfp
mgcv
mice
mime
miniCRAN
miniUI
minqa
misc3d
missForest
mitml
mitools
mlbench
mlr
mlr3
mmrm
mnormt
ModelMetrics
modelr
modeltools
multcomp
munsell
mvtnorm
nlme
nloptr
NMF
nnet
nnls
numDeriv
openssl
openxlsx
operator.tools
ordinal
packrat
pamr
pan
pander
parallel
parallelly
parallelMap
ParamHelpers
party
partykit
pastecs



pbapply
pbdZMQ
pbkrtest
pdp
pec
penalized
pillar
pkgbuild
pkgcache
pkgconfig
pkgdepends
pkgload
pkgmaker
PKI
plogr
plot3D
plotmo
plotrix
pls
plyr
png
poilog
polspline
polyclip
polynom
pracma
praise
prettyunits
pROC
processx
prodlim
profileModel
progress
progressr
promises
ProtGenerics
proto
proxy
ps
psych
Publish
purrr
quadprog
quantreg
questionr
R.cache
R.methodsS3
R.oo
R.utils
R2WinBUGS
R6
randomForest
randomForestSRC
ranger
RANN
rappdirs
rattle
rcmdcheck
RColorBrewer
Rcpp
RcppArmadillo
RcppEigen
RcppParallel
RcppProgress
RcppRoll
RCurl
readr
readxl
recipes
registry
rematch
rematch2
remotes
repr
reprex
reshape2
restfulr
rex
rgexf
RgoogleMaps
RGtk2
Rhtslib
rio
riskRegression
rJava
rjson
RJSONIO
rlang
rmarkdown
rms
rngtools
robustbase
ROCR
RODBC
Rook
roxygen2
rpart
rpart.plot
rprojroot
Rsamtools
rsconnect
Rsolnp
RSQLite
rstan
rstatix
Rstudioapi
Rtools
rtracklayer
RUnit
rversions
rvest
RWeka
RWekajars
S4Vectors
sandwich
sas7bdat
saas
SASxport
scales
selectr
servr
sessioninfo
sfsmisc
shape
shiny
snow
sourcetools
sp
SparseM
spatial
splines
spls
sqldf
SQUAREM
stabs
STAN
StanHeaders
statmod
stats
stats4
stepp
stringi
stringr
strucchange
styler
subselect
SummarizedExperiment
superpc
survAUC
survey
survival
survivalROC
survivalsvm
survminer
survMisc
sys



tcltk
TeachingDemos
testthat
TH.data
tibble
tidyr
tidyselect
tidyverse
timeDate
timereg
timeROC
tinytex
tmvnsim
tools
translations
truncnorm
twang
tweenr
tzdb
ucminf
usethis
utf8
utils
uuid
V8
VariantAnnotation
vctrs
VennDiagram
viridis
viridisLite
visNetwork
visreg
vroom
waldo
WeightIt
whisker
withr
WriteXLS
xfun
xgboost
xlsx
xlsxjars
XML
xml2
xopen
xtable
XVector
yaml
zeallot
zip
zlibbioc
zoo

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Python Packages included in the Research Environment, in the Python 3.14 environment

absl-py
anyio
argon2-cffi
argon2-cffi-bindings
arrow
asttokens
astunparse
async-lru
attrs
babel
beautifulsoup4
bleach
certifi
cffi
charset-normalizer
colorama
comm
debugpy
decorator
defusedxml
executing
fastjsonschema
flatbuffers
fqdn
gast
google-pasta
grpcio
h11
h5py
httpcore
httpx
idna
ipykernel
ipython
ipython_pygments_lexers
isoduration
jedi
Jinja2
json5
jsonpointer
jsonschema
jsonschema-specifications
jupyter_client
jupyter_core
jupyter-events
jupyter-lsp
jupyter_server
jupyter_server_terminals
jupyterlab
jupyterlab_pygments
jupyterlab_server
keras
lark
libclang
Markdown
markdown-it-py
MarkupSafe
matplotlib-inline
mdurl
mistune
ml_dtypes
namex
narwhals
nbclient
nbconvert
nbformat
nest-asyncio
notebook
notebook_shim
numpy
opt_einsum
optree
overrides
packaging
pandas
pandocfilters
parso
pillow
pip
platformdirs
prometheus_client
prompt_toolkit
protobuf
psutil
pure_eval
py4j
pycparser
Pygments
pyreadstat
pyspark
python-dateutil
python-json-logger
pytz
pywin32
pywinpty
PyYAML
pyzmq
referencing
requests
rfc3339-validator
rfc3986-validator
rfc3987-syntax
rich
rpds-py
scipy
Send2Trash
setuptools
six
sniffio
soupsieve
stack-data
tensorboard
tensorboard-data-server
termcolor
terminado
tinycss2
tornado
traitlets
types-python-dateutil
typing_extensions
tzdata
uri-template
urllib3
wcwidth
webcolors
webencodings
websocket-client
Werkzeug
wheel
wrapt
xgboost-cpu

This document describes the software contained on Research Environments provisioned after 31 October 2026.

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