Analytical and other software on the Secure Research Environment

The Research Environment runs with the operating system: Microsoft Windows Server 2019 DataCenter edition. The environment is based on the Microsoft Data Science virtual machine template and includes the following software:

- 7-zip
- Acrobat Reader
- Apache Drill 1.11.0
- Apache Spark 2.2.0
- Evince PDF Viewer
- JAGS
- JuliaPro 1.5.4-1
- Jupyter Notebook, as part of the miniconda 3 environment
- MAPR Drill driver
- Microsoft Cognitive Toolkit (CNTK)
- Microsoft Machine Learning Server
- Microsoft Office 2016 Standard edition, including Word, Excel, PowerPoint, and OneNote (Access not included)
- Microsoft Photo Viewer
- Microsoft subsystem for Linux, with Ubuntu
- Miniconda 3, including an environment for Python 3.8.5 and environments for pytorch and tensorflow
- MXNet, MXNet Model Server
- Nodejs
- PLINK
- PowerBI
- PowerShell
- PyCharm Community Edition, 2020.3.2
- Python 3.11 and Python 3.10, as part of the miniconda 3 base environment
- R Studio 2022.12.0+353
- R Version 4.2.2 (2022-10-31)
- Review Manager 5.4
- SparkML and pySpark
- SQL Server Developer Edition (2017), including Management Studio and SQL Server Integration Services (SSIS)
- stan and rstan
- STATA 17
- Team Data Science Process (TDSP) Utilities
- TensorFlow
- VIM 8.0.606
- Visual Studio Code 1.17.1
- VOTT (Visual Object Tagging Tool) 1.6.11
- Vowpal Wabbit
- Weka
- WinBUGS and OpenBUGS
- 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)
- Mathlab
- MedCalc, from https://medcalc.org, but not the software available at https://medcalc.com
- Monlix or other applications from Lixoft.net)

**How to add R packages from CRAN not pre-installed in the Vivli Research Environment**

During the course of your analysis, if you find that you need to load R scripts from the CRAN repository, you can do that yourself using the following steps:

- To install a CRAN package in R, use the install.packages() function. This simple command downloads the package from a specified repository (by default, CRAN) and installs it on your machine (or);
- In RStudio go to Tools → Install Packages and in the Install from option select Repository (CRAN) and then specify the packages you want.

If you need any other R or Python scripts not pre-installed in the Vivli Research Environment, please reach out to Vivli via chat or support@vivli.org and let them know the names of the additional scripts that you require and they will add them to your research environment.

R Packages included in the Research Environment 4.2.2, associated with RStudio:

abind  boot  commonmark  drat
acepack  brew  compiler  DRR
ada  brglm  conquer  DT
adabag  brio  corpcor  dtplyr
toRooS  broom  corrplot  e1071
AnnotationDbi  BSgenome  covr  earth
AnnotationFilter  BRugs  cowplot  ebal
arules  BSGenome  cpp11  editrules
askpass  bslib  crayon  ellipse
assertthat  C50  credentials  ellipsis
aweek  cachem  crosstalk  ensemblDB
backports  cairoDevice  crrp  Epi
bartMachine  callr  crrstep  etm
cartMachineJARs  car  Cubist  evaluate
base  carData  curl  exactRankTests
base64enc  caret  CVST  fansi
BBmisc  caTools  data.table  farver
BH  CBPS  data.tree  fastICA
bibtex  cctransl  datasets  fastmapindr  checkmate  DBI  fastmatch
cbindcpp  checkpoint  dbplyr  filelock
debase  chron  dplyr  forcats
diffobj  class  ddply  foreign
difflib  cllranger  DelayedArray  foreach
forcats  classInt  DEoptimR  foreignR
future  cli  desc  forestplot
BiocManager  clipr  devtools  formatR
BiocParallel  clisymbols  DiagrammeR  Formula
BiocVersion  cluster  dichromat  formula.tools
toimart  cmprsk  diffobj  fs
Biostrings  cobalt  digest  future
biovizBase  coda  dimRed  future.apply
bit  codetools  doParallel  gam
bit64  coin  downloader  ggplot2
bitops  colorspace  dplyr  grid
blob  combinat  gridExtra  grDevices

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Python Packages included in the Research Environment, in the Conda Base environment

adal
alabaster
anaconda-client
anyio
AnyQt
appdirs
applicationinsights
argh
argon2-cffi
arrow
asn1crypto
astroid
astropy
async-generator
atomicwrites
attrs
autopep8
azure-batch
azure-cli-nsPKG
azure-common
azure-core
azure-datalake-store
azure-graphrbac
azure-keyvault
azure-keyvault-certificates
azure-keyvault-keys
azure-keyvault-secrets
azure-mgmt-advisor
azure-mgmt-applicationinsights
azure-mgmt-authorization
azure-mgmt-batch
azure-mgmt-batchai
azure-mgmt-billing
azure-mgmt-cdn
azure-mgmt-cognitiveservices
azure-mgmt-commerce
azure-mgmt-compute
azure-mgmt-consumption
azure-mgmt-containerinstance
azure-mgmt-containerregistry
azure-mgmt-containersservice
azure-mgmt-core
azure-mgmt-cosmosdb
azure-mgmt-datafactory
azure-mgmt-datalake-analytics
azure-mgmt-datalake-store
azure-mgmt-datastore
azure-mgmt-datamigration
azure-mgmt-devtestlabs
azure-mgmt-dns
azure-mgmt-documentdb
azure-mgmt-eventhub
azure-mgmt-hanaonazure
azure-mgmt-iotcentral
azure-mgmt-iothub
azure-mgmt-iothubprovisioningservices
azure-mgmt-keyvault
azure-mgmt-loganalytics
azure-mgmt-logic
azure-mgmt-machinelearningcompute
azure-mgmt-managementgroups
azure-mgmt-managementpartner
azure-mgmt-maps
azure-mgmt-marketplaceordering
azure-mgmt-media
azure-mgmt-monitor
azure-mgmt-msi
azure-mgmt-network
azure-mgmt-notificationhubs
azure-mgmt-nsPKG
beautifulsoup4
bcrypt
binaryornot
bitarray
bkcharts
black
bleach
blinker
bokeh
boto
boto3core
Bottleneck
brotllpy
bz2file
CacheControl
cached-property
certifi
cffi
chainer
chainercv
chainerrl
chardet
click
cloudpickle
clyent
colorama
commonmark
comtypes
conda
conda-package-handling
conffparser
contextlib2
cookiecutter
cPython
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cycler
Cython
cytoolz
dask
datashape
deprecation
dediff

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This document describes the software contained on Research Environments provisioned after 20 January 2023.