Release Notes: Omics Playground v3.5.0

BigOmics Analytics Inc.

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Overview

Scope

The purpose of this document is to provide a list of configurations for OmicsPlayground Enterprise and subsystems. The specification consists of baseline configurations required to be set up at site level as well as project level configurations to meet the requirements defined in User Requirement Specification (URS).

Scope of this Configuration Specification is not limited to the below:

- OmicsPlayground configuration,
- ShinyProxy configuration,
- Operating System (OS) configuration,
- AWS EC2 configuration

Contact

BigOmics Analytics SA
Via Serafino Balestra 12
6900 Lugano
Switzerland

Website

www.bigomics.ch

Registered

CHE-299.736.565

Support

Connect with BigOmics by calling our 24/7 customer service line at 1-800-555-5555. For questions, concerns or comments, please email our support team at support@bigomics.ch.

1 What's new in OmicsPlayground v3.5.0

1.1 Full Proteomics Support

- Missing value imputation using `SVDimpute`
- New normalization methods: `maxMedian` and `maxSum`
- Text and labels are adapted for proteomics terminologies
- UNIPROT id's are detected and annotated automatically
- Reference links to UniProtKB and PhosphoSite databases

1.2 Extended species support

OmicsPlayground v3.5.0 now supports annotation of well over 200 different species.

- Automatic annotation from ENSEMBL, symbol, UNIPROT or accession number.
- Automatic annotation to human ortholog gene/protein.
- Automatic annotation of organism-specific Gene Ontology

1.3 Automatic Reports

Also new in v3.5 is the ability to create automatic visual reports in PDF format.

1.4 New modules/boards

- The Prize-Collection Steiner Tree (PCSF) module (previously in beta) is now standard included under "SystemBio" in the main menu.

1.5 Improved information on methods

We have much improved the information about the methods including references for each plot or table. Click on the 'i' button on the top right of each plot to see this. This information can be copy and pasted for your paper submission.

1.6 Improved information on plot settings

For improved reproducibility, when downloading plots, you have now the possibility to include the plot settings in the PDF. In this way, you can remember what settings you used to create the plot.

1.7 Other new features

- feat: use database for credentials + expiry (prototype)
- feat: utils for database
- feat: read options from database
- feat: add modal wizard to the upload module
- feat: upload new data button now works
- feat: upload button now has bigomics styles
- feat: disable upload tab and handle upload UI directly via modal calls
- feat: upload module can now be triggered via load dataset module button
- feat: modal upload can now be triggered by welcome board
- feat: upload module is not triggered at startup
- feat: Add legend and checklist to upload_table_preview_counts_ui via server rendering
- feat: dynamically render UI based on input of counts
- feat: counts are now passing directly from counts_ui to checked_counts
- feat: wizard can now be locked based on state of input file
- feat: restyle buttons and load example counts when clicking load_example button
- feat: logic for counts when other input files are uploaded
- feat: handle deletion of samples when contrasts are already uploaded
- feat: contrast builder is embedded into contrasts_ui
- feat: dynamically render contrast builder
- feat: wizard now sends message to compute and active step
- feat: upload module now responds to wizard commands
- feat: rename compute tab and add an additional tab for review, to avoid the locking issues
- feat: contrasts step now (un)locks depending on modified_ct
- feat: block new uploads if we already have a processx computation running
- feat: shinyvalidate now works!
- feat: countsstats is displays correctly and checkTables deprecated input removed
- feat: manage to render the plots in correct size (with a lot of flickering)
- feat: initial prototype of wizard reset
- feat: wizard reset on new upload
- feat: wizard works without conflicts with shinyvalidate and shinyalert (preventing re-initializa
- feat: pass wizard controls to fire updateSelectInput exactly when contrast builder is triggered
- feat: validate dataset name is not at upload_server level for better wizard control
- feat: end of computation does not trigger new wizard upload
- feat: reset conditions when user add contrast
- feat: prevent updateTextInput newname observer to change upon reset of builder
- feat: shinyvalidate does not need to to be triggered at page trigger
- feat: improve ux by warning user that a locked button was clicked
- feat: centralize all warnings to give real-time feedback to use (in alerts, embed in wizard...)
- feat: add shinyalert with error message only
- feat: add default step layout to batch correction module
- feat: option to color or not (up/down reg) volcano plots
- feat: echo playbase branch
- feat: aux function to check if user in DB
- feat: if user in DB use it, otherwise use user folder OPTIONS
- feat: extra duration for clustering board
- feat: colo up/down MA plot
- feat: act matrix with plotly
- feat: disable legen on small plot
- feat: drugconnect actmatrix change color gradient

- feat: pathway actmatrix change color ramp
- feat: pathway invert y axis
- new: add detection of mobile and show warning

2 What has been fixed in v3.5.0

Bug fixes improve security and stability of our application. Our team is continuously resolving bugs and errors. If you find a bug, please contact us or report this as an Issue at our GitHub page.

- fix: cookie + database fixes
- fix: umap different
- fix: umap mismatch problem
- improve button spacing
- improve color style of navbar steps when steps succeed
- improve styles of margins
- improve button border color style
- improve styling of wizard buttons to match load board styles
- improve style of run comparison builder
- fix: unload sidebar correctly
- fix: clean sidebar when loading welcome board
- minor improvements
- feat: improve ux by warning user that a locked button was clicked
- improve styles
- improve UI; match color/style of contrast builder button across entire upload
- improve style of comparison upload widget text
- minor fix: replace contrast with comparison
- improvement in alert message when step is incomplete
- attempt to improve bs_alert layout
- improve styles of description step
- improve style of computation options
- improve spacing between computation options; reorder description inputs
- minor improvement in message
- minor improvements in message
- add option to leave BC; reset BC state when wizard resets; improve leave BC button
- fix: move specific packages after playbase installation
- temp fix: to be removed after deploying new base image
- fix: show info text when no geneset is selected
- fix: remove test -- workflow is now fixed
- fix: use pgx geneset genes
- fix: remove browser
- fix: remove unused values
- fix: remove unused wait
- fix: extra time + connectivity more duration
- fix: threshold
- fix: add plot options
- fix: robust file extension detection
- fix: detect colored columns after modifying `df`
- fix: change drugconnect color scale + order
- fix: do not check user on credentials on this auth metdho

- fix: use db when logged with cookie
- fix: if no labels matched return plain wikipath
- fix: use mail variable, not reactive
- fix: use dir variable, not reactive
- fix: use req with a logic condition
- fix: plot tissue csv
- fix: plot barplot csv
- fix: plot decisiontree csv
- fix: plot boxplot csv
- fix: plot heatmap csv
- fix: plot correlation csv
- fix: plot volcanomethods csv
- fix: Partial correlation network csv download
- fix: Mechanism of action csv download
- fix: Activation matrix csv download
- fix: Similarity scores csv download
- fix: upload files check
- fix: singlecell broken csv download (removed them)
- fix: Enrichment analysis csv download
- fix: Frequency in top gene sets csv download
- fix: Differential expression analysis csv download
- fix: Dataset abundance of major gene types csv download
- fix: Abundance of major gene types per group csv download
- fix: Contrast table csv download
- fix: Correlation scatter plots csv download
- fix: abort invite if no mail server
- fix: abort invite if no mail server
- fix: Expression of top differentially expressed genes csv download
- fix: Gene in comparisson csv download
- fix: QC tab not appearing
- fix: use custom genelist when selected
- fix: unresponsive close button in modal
- fix: sending invite
- fix: reactivity feature map plots
- fix: show all contrasts
- fix: react on contrasts missing in pgx

3 External Databases

3.1 Genomic annotation

For the major organism (Human, Mouse and Rat) we have manually included the most up-to-date annotation databases as provided by the latest `org.Xx.eg.db` packages in BioConductor.

3.1.1 Homo Sapiens (Human)

name	value
DBSCHEMAVERSION	2.1
Db type	OrgDb
Supporting package	AnnotationDbi
DBSCHEMA	HUMAN_DB
ORGANISM	Homo sapiens
SPECIES	Human
EGSOURCEDATE	2024-Mar12
EGSOURCENAME	Entrez Gene
EGSOURCEURL	ftp://ftp.ncbi.nlm.nih.gov/gene/DATA
CENTRALID	EG
TAXID	9606
GOSOURCENAME	Gene Ontology
GOSOURCEURL	http://current.geneontology.org/ontology/go-basic.obo
GOSOURCEDATE	2024-01-17
GOEGSOURCEDATE	2024-Mar12
GOEGSOURCENAME	Entrez Gene
GOEGSOURCEURL	ftp://ftp.ncbi.nlm.nih.gov/gene/DATA
GPSOURCENAME	UCSC Genome Bioinformatics (Homo sapiens)
GPSOURCEURL	
GPSOURCEDATE	2024-Feb29
ENSOURCEDATE	2023-Nov22
ENSOURCENAME	Ensembl
ENSOURCEURL	ftp://ftp.ensembl.org/pub/current_fasta
UPSOURCENAME	Uniprot
UPSOURCEURL	http://www.UniProt.org/
UPSOURCEDATE	Thu Apr 18 21:39:39 2024

3.1.2 Mus Musculus (Mouse)

name	value
DBSCHEMAVERSION	2.1

name	value
Db type	OrgDb
Supporting package	AnnotationDbi
DBSCHEMA	MOUSE_DB
ORGANISM	Mus musculus
SPECIES	Mouse
EGSOURCEDATE	2024-Mar12
EGSOURCENAME	Entrez Gene
EGSOURCEURL	ftp://ftp.ncbi.nlm.nih.gov/gene/DATA
CENTRALID	EG
TAXID	10090
GOSOURCENAME	Gene Ontology
GOSOURCEURL	http://current.geneontology.org/ontology/go-basic.obo
GOSOURCEDATE	2024-01-17
GOEGSOURCEDATE	2024-Mar12
GOEGSOURCENAME	Entrez Gene
GOEGSOURCEURL	ftp://ftp.ncbi.nlm.nih.gov/gene/DATA
GPSOURCENAME	UCSC Genome Bioinformatics (Mus musculus)
GPSOURCEURL	
GPSOURCEDATE	2024-Feb29
ENSOURCEDATE	2023-Nov22
ENSOURCENAME	Ensembl
ENSOURCEURL	ftp://ftp.ensembl.org/pub/current_fasta
UPSOURCENAME	Uniprot
UPSOURCEURL	http://www.UniProt.org/
UPSOURCEDATE	Thu Apr 18 21:47:52 2024

3.1.3 Rattus Norvegicus (Rat)

name	value
DBSCHEMAVERSION	2.1
Db type	OrgDb
Supporting package	AnnotationDbi
DBSCHEMA	RAT_DB
ORGANISM	Rattus norvegicus
SPECIES	Rat
EGSOURCEDATE	2024-Mar12
EGSOURCENAME	Entrez Gene
EGSOURCEURL	ftp://ftp.ncbi.nlm.nih.gov/gene/DATA
CENTRALID	EG
TAXID	10116
GOSOURCENAME	Gene Ontology
GOSOURCEURL	http://current.geneontology.org/ontology/go-basic.obo
GOSOURCEDATE	2024-01-17
GOEGSOURCEDATE	2024-Mar12
GOEGSOURCENAME	Entrez Gene
GOEGSOURCEURL	ftp://ftp.ncbi.nlm.nih.gov/gene/DATA
GPSOURCENAME	UCSC Genome Bioinformatics (Rattus norvegicus)
GPSOURCEURL	
GPSOURCEDATE	2021-Apr27

ENSOURCEDATE	2023-Nov22
ENSOURCENAME	Ensembl
ENSOURCEURL	ftp://ftp.ensembl.org/pub/current_fasta
UPSOURCENAME	Uniprot
UPSOURCEURL	http://www.UniProt.org/
UPSOURCEDATE	Thu Apr 18 21:41:50 2024

3.1.4 Other supported species

OmicsPlayground v3.5.0 supports annotation of a total of 298 species. For these organisms, we use the `AnnotationHub` package with snapshot date 2023-10-23. For annotation to human ortholog we use `orthogene` package.

organism_id	species
80966	Acanthochromis polyacanthus
7029	Acyrthosiphon pisum
7159	Aedes aegypti
7160	Aedes albopictus
9646	Ailuropoda melanoleuca
13333	Amborella trichopoda
400682	Amphimedon queenslandica
80972	Amphiprion ocellaris
64144	Anabas testudineus
4615	Ananas comosus
8839	Anas platyrhynchos
28377	Anolis carolinensis
7173	Anopheles arabiensis
62324	Anopheles funestus
30066	Anopheles merus
30069	Anopheles stephensi
217634	Anoplophora glabripennis
37293	Aotus nancymaae
112090	Aphanomyces astaci
157072	Aphanomyces invadans
223781	Aquila chrysaetos chrysaetos
81972	Arabidopsis lyrata subsp. lyrata
3702	Arabidopsis thaliana
4686	Asparagus officinalis
8154	Astatotilapia calliptera
7994	Astyanax mexicanus
9771	Balaenoptera musculus
7038	Bemisia tabaci
3555	Beta vulgaris subsp. vulgaris
158456	Betta splendens
6526	Biomphalaria glabrata
43346	Bison bison bison
7091	Bombyx mori
30522	Bos indicus x Bos taurus
72004	Bos mutus
9913	Bos taurus

15368	Brachypodium distachyon
3708	Brassica napus
3711	Brassica rapa
6238	Caenorhabditis briggsae
6239	Caenorhabditis elegans
31234	Caenorhabditis remanei
9483	Callithrix jacchus
7868	Callorhinchus milii
90675	Camelina sativa
9838	Camelus dromedarius
286419	Canis lupus dingo
9615	Canis lupus familiaris
3483	Cannabis sativa
9925	Capra hircus
4072	Capsicum annuum
7957	Carassius auratus
1868482	Carlito syrichta
10141	Cavia porcellus
2715852	Cebus imitator
9531	Cercocebus atys
106734	Chelonoidis abingdonii
63459	Chenopodium quinoa
34839	Chinchilla lanigera
3055	Chlamydomonas reinhardtii
60711	Chlorocebus sabaeus
7719	Ciona intestinalis
85681	Citrus clementina
7950	Clupea harengus
13451	Corylus avellana
56716	Cottoperca gobio
93934	Coturnix japonica
29159	Crassostrea gigas
10029	Cricetulus griseus
8502	Crocodylus porosus
3656	Cucumis melo
3659	Cucumis sativus
7176	Culex quinquefasciatus
8103	Cyclopterus lumpus
244447	Cynoglossus semilaevis
28743	Cyprinodon variegatus
7962	Cyprinus carpio
7955	Danio rerio
35525	Daphnia magna
6669	Daphnia pulex
9361	Dasypus novemcinctus
79200	Daucus carota subsp. sativus
9749	Delphinapterus leucas
77166	Dendroctonus ponderosae
299321	Denticeps clupeoides
13489	Dicentrarchus labrax
55577	Dioscorea cayenensis subsp. rotundata
10020	Dipodomys ordii

7217	Drosophila ananassae
7220	Drosophila erecta
7227	Drosophila melanogaster
7230	Drosophila mojavensis
7234	Drosophila persimilis
7238	Drosophila sechellia
7240	Drosophila simulans
7244	Drosophila virilis
7260	Drosophila willistoni
7245	Drosophila yakuba
9371	Echinops telfairi
8005	Electrophorus electricus
280463	Emiliania huxleyi CCMP1516
9796	Equus caballus
9365	Erinaceus europaeus
27687	Erpetoichthys calabaricus
71139	Eucalyptus grandis
72664	Eutrema salsugineum
9685	Felis catus
59894	Ficedula albicollis
158441	Folsomia candida
8078	Fundulus heteroclitus
426428	Fusarium oxysporum f. sp. lycopersici 4287
660122	Fusarium vanettenii 77-13-4
334819	Fusarium verticillioides 7600
8049	Gadus morhua
644352	Gaeumannomyces tritici R3-111a-1
9031	Gallus gallus
69293	Gasterosteus aculeatus
48883	Geospiza fortis
3847	Glycine max
1825980	Gopherus evgoodei
9595	Gorilla gorilla gorilla
29730	Gossypium raimondii
905079	Guillardia theta CCMP2712
8153	Haplochromis burtoni
4232	Helianthus annuus
6412	Helobdella robusta
10181	Heterocephalus glaber
109280	Hippocampus comes
9606	Homo sapiens
112509	Hordeum vulgare subsp. vulgare
7998	Ictalurus punctatus
43179	Ictidomys tridecemlineatus
35885	Ipomoea triloba
6945	Ixodes scapularis
51337	Jaculus jaculus
51240	Juglans regia
37003	Kryptolebias marmoratus
56723	Labrus bergylta
4236	Lactuca sativa
215358	Larimichthys crocea

8187	Lates calcarifer
7897	Latimeria chalumnae
72036	Lepeophtheirus salmonis
7918	Lepisosteus oculatus
7574	Lingula anatina
7209	Loa loa
225164	Lottia gigantea
9785	Loxodonta africana
7375	Lucilia cuprina
3871	Lupinus angustifolius
9541	Macaca fascicularis
9544	Macaca mulatta
9545	Macaca nemestrina
3750	Malus domestica
9568	Mandrillus leucophaeus
3983	Manihot esculenta
9994	Marmota marmota marmota
205130	Mastacembelus armatus
106582	Maylandia zebra
3880	Medicago truncatula
747676	Melampsora larici-populina 98AG31
9103	Meleagris gallopavo
113334	Melitaea cinxia
10036	Mesocricetus auratus
30608	Microcebus murinus
79684	Microtus ochrogaster
13616	Monodelphis domestica
40151	Monodon monoceros
10089	Mus caroli
10090	Mus musculus
10093	Mus pahari
9669	Mustela putorius furo
59463	Myotis lucifugus
586833	Myripristis murdjan
1026970	Nannospalax galili
7425	Nasonia vitripennis
51031	Necator americanus
45351	Nematostella vectensis
452646	Neogale vison
32507	Neolamprologus brichardi
49451	Nicotiana attenuata
61853	Nomascus leucogenys
8663	Notechis scutatus
105023	Nothobranchius furzeri
210225	Nymphaea colorata
9978	Ochotona princeps
10160	Octodon degus
37653	Octopus bimaculoides
158386	Olea europaea var. sylvestris
8019	Oncorhynchus kisutch
8022	Oncorhynchus mykiss
74940	Oncorhynchus tshawytscha

6198	Opisthorchis viverrini
8128	Oreochromis niloticus
9258	Ornithorhynchus anatinus
9986	Oryctolagus cuniculus
4533	Oryza brachyantha
4538	Oryza glaberrima
39947	Oryza sativa Japonica Group
8090	Oryzias latipes
30732	Oryzias melastigma
30611	Otolemur garnettii
9940	Ovis aries
9597	Pan paniscus
9598	Pan troglodytes
206008	Panicum hallii
9689	Panthera leo
9691	Panthera pardus
3469	Papaver somniferum
9555	Papio anubis
5888	Paramecium tetraurelia
1676925	Paramormyrops kingsleyae
321614	Parastagonospora nodorum SN15
9157	Parus major
13735	Pelodiscus sinensis
230844	Peromyscus maniculatus bairdii
7757	Petromyzon marinus
38626	Phascolarctos cinereus
3885	Phaseolus vulgaris
42100	Phocoena sinus
3218	Physcomitrium patens
9755	Physeter catodon
403677	Phytophthora infestans T30-4
67593	Phytophthora sojae
55513	Pistacia vera
3888	Pisum sativum
64176	Podarcis muralis
48698	Poecilia formosa
48699	Poecilia latipinna
8081	Poecilia reticulata
9601	Pongo abelii
3694	Populus trichocarpa
379532	Propithecus coquereli
42229	Prunus avium
3755	Prunus dulcis
3760	Prunus persica
8673	Pseudonaja textilis
132908	Pteropus vampyrus
418459	Puccinia graminis f. sp. tritici CRL 75-36-700-3
303518	Pundamilia nyererei
42514	Pygocentrus nattereri
97700	Quercus lobata
10116	Rattus norvegicus
59479	Rhinolophus ferrumequinum

61621	Rhinopithecus bieti
61622	Rhinopithecus roxellana
74649	Rosa chinensis
559292	Saccharomyces cerevisiae S288C
8030	Salmo salar
8032	Salmo trutta
283035	Sander lucioperca
9305	Sarcophilus harrisii
113540	Scleropages formosus
665079	Sclerotinia sclerotiorum 1980 UF-70
52904	Scophthalmus maximus
88036	Selaginella moellendorffii
9135	Serinus canaria
41447	Seriola dumerili
1841481	Seriola lalandi dorsalis
4182	Sesamum indicum
4555	Setaria italica
4556	Setaria viridis
75366	Sinocyclocheilus grahami
4081	Solanum lycopersicum
4113	Solanum tuberosum
13686	Solenopsis invicta
42254	Sorex araneus
4558	Sorghum bicolor
8175	Sparus aurata
144197	Stegastes partitus
35570	Stomoxys calcitrans
2489341	Strigops habroptila
7668	Strongylocentrotus purpuratus
441894	Struthio camelus australis
9823	Sus scrofa
59729	Taeniopygia guttata
31033	Takifugu rubripes
139649	Teleopsis dalmanni
2587831	Terrapene carolina triunguis
312017	Tetrahymena thermophila SB210
3641	Theobroma cacao
6334	Trichinella spiralis
57577	Trifolium pratense
4565	Triticum aestivum
85692	Triticum dicoccoides
9739	Tursiops truncatus
9999	Urocitellus parryii
9643	Ursus americanus
29073	Ursus maritimus
30538	Vicugna pacos
3914	Vigna angularis
29760	Vitis vinifera
29139	Vombatus ursinus
9627	Vulpes vulpes
8364	Xenopus tropicalis

8083	Xiphophorus maculatus
4577	Zea mays
136037	Zootermopsis nevadensis

4 System and R Version

4.1 Operating System

```
Description:    Ubuntu 24.04 LTS
Release:    24.04
Codename:   noble
```

4.2 R version

name	version
platform	x86_64-pc-linux-gnu
arch	x86_64
os	linux-gnu
system	x86_64, linux-gnu
status	
major	4
minor	3.3
year	2024
month	02
day	29
svn rev	86002
language	R
version.string	R version 4.3.3 (2024-02-29)
nickname	Angel Food Cake
Bioconductor	3.18

4.3 R packages

Package	Version	License
AnnotationDbi	1.64.1	Artistic-2.0
AnnotationHub	3.10.1	Artistic-2.0
ape	5.8	GPL-2 | GPL-3
aws.s3	0.3.21	GPL (>= 2)
Azimuth	0.5.0	GPL-3 | file LICENSE
base	4.3.3	Part of R 4.3.3
base64enc	0.1-3	GPL-2 | GPL-3
batchelor	1.18.1	GPL-3
beepr	2.0	GPL-3
beeswarm	0.4.0	Artistic-2.0

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BiocParallel	1.36.0	GPL-2 | GPL-3
blastula	0.3.5	MIT + file LICENSE
Boruta	8.0.0	GPL (>= 2)
bslib	0.8.0	MIT + file LICENSE
bsutils	0.0.0.9000	MIT + file LICENSE
caret	6.0-94	GPL (>= 2)
circlize	0.4.16	MIT + file LICENSE
cluster	2.1.6	GPL (>= 2)
colorspace	2.1-1	BSD_3_clause + file LICENSE
ComICS	1.0.4	GPL-2
ComplexHeatmap	2.18.0	MIT + file LICENSE
cookies	0.2.3	MIT + file LICENSE
corpcor	1.6.10	GPL (>= 3)
corpora	0.6	GPL-3
corrplot	0.92	MIT + file LICENSE
cowplot	1.1.3	GPL-2
data.table	1.15.4	MPL-2.0 | file LICENSE
DBI	1.2.3	LGPL (>= 2.1)
DeconRNASeq	1.44.0	GPL-2
DESeq2	1.42.1	LGPL (>= 3)
doParallel	1.0.17	GPL-2
dplyr	1.1.4	MIT + file LICENSE
DT	0.33	GPL-3 | file LICENSE
edgeR	4.0.16	GPL (>=2)
EPIC	1.1.7	file LICENSE
fastcluster	1.2.6	FreeBSD | GPL-2 | file LICENSE
fgsea	1.29.1	MIT + file LICENCE
firebase	1.0.2	AGPL-3
FNN	1.1.4	GPL (>= 2)
forcats	1.0.0	MIT + file LICENSE
foreach	1.5.2	Apache License (== 2.0)
future	1.34.0	LGPL (>= 2.1)
GenomicRanges	1.54.1	Artistic-2.0
GEOquery	2.70.0	MIT
ggforce	0.4.2	MIT + file LICENSE
ggplot2	3.5.1	MIT + file LICENSE
ggrepel	0.9.5	GPL-3 | file LICENSE
ggtext	0.1.2	GPL-2
ggVennDiagram	1.5.2	GPL-3
glasso	1.11	GPL-2
glmnet	4.1-8	GPL-2
glue	1.7.0	MIT + file LICENSE
GO.db	3.18.0	Artistic-2.0
gplots	3.1.3.1	GPL-2
graphics	4.3.3	Part of R 4.3.3
grDevices	4.3.3	Part of R 4.3.3
grid	4.3.3	Part of R 4.3.3
gridExtra	2.3	GPL (>= 2)
GSVA	1.50.5	GPL (>= 2)
harmony	1.2.0	GPL-3
heatmaply	1.5.0	GPL-2 | GPL-3
htmltools	0.5.8.9000	GPL (>= 2)

htmlwidgets	1.6.4	MIT + file LICENSE
httr	1.4.7	MIT + file LICENSE
igraph	2.0.3	GPL (>= 2)
iheatmapr	0.7.1	MIT + file LICENSE
infercnv	1.21.0	BSD_3_clause + file LICENSE
inspectdf	0.0.12	GPL-2
irlba	2.3.5.1	GPL-3
isva	1.9	GPL-2
jpeg	0.1-10	GPL-2 | GPL-3
jsonlite	1.8.8	MIT + file LICENSE
lazyeval	0.2.2	GPL-3
limma	3.58.1	GPL (>=2)
magrittr	2.0.3	MIT + file LICENSE
markdown	1.13	MIT + file LICENSE
Matrix	1.6-4	GPL (>= 2) | file LICENCE
matrixStats	1.3.0	Artistic-2.0
matrixTests	0.2.3	GPL-2
methods	4.3.3	Part of R 4.3.3
microbenchmark	1.4.10	BSD_2_clause + file LICENSE
miniUI	0.1.1.1	GPL-3
missForest	1.5	GPL (>= 2)
mixOmics	6.26.0	GPL (>= 2)
msa	1.34.0	GPL (>= 2)
msImpute	1.12.0	GPL (>=2)
MSnbase	2.28.1	Artistic-2.0
MultiAssayExperiment	1.28.0	Artistic-2.0
NNLM	0.4.4	BSD_2_clause + file LICENSE
org.Hs.eg.db	3.19.1	Artistic-2.0
org.Mm.eg.db	3.19.1	Artistic-2.0
org.Pf.plasmo.db	3.14.0	Artistic-2.0
org.Rn.eg.db	3.19.1	Artistic-2.0
orthogene	1.8.0	GPL-3
pairsD3	0.1.3	GPL (>= 3)
pamr	1.57	GPL-2
parallel	4.3.3	Part of R 4.3.3
partykit	1.2-21	GPL-2 | GPL-3
patchwork	1.2.0	MIT + file LICENSE
pcaMethods	1.94.0	GPL (>= 3)
PCSF	0.99.1	MIT + file LICENSE
plotly	4.10.4	MIT + file LICENSE
plsRcox	1.7.7	GPL-3
png	0.1-8	GPL-2 | GPL-3
ppcor	1.1	GPL-2
processx	3.8.4	MIT + file LICENSE
promises	1.3.0	MIT + file LICENSE
psych	2.4.6.26	GPL (>= 2)
purrr	1.0.2	MIT + file LICENSE
qgraph	1.9.8	GPL-2
qlcMatrix	0.9.8	GPL-3
R6	2.5.1	MIT + file LICENSE
randomForest	4.7-1.1	GPL (>= 2)
randomForestSRC	3.3.1	GPL (>= 3)

RColorBrewer	1.1-3	Apache License 2.0
recount	1.28.0	Artistic-2.0
reshape2	1.4.4	MIT + file LICENSE
reticulate	1.38.0	Apache License 2.0
rgeolocate	1.4.2	Apache License (== 2.0)
rhdf5	2.46.1	Artistic-2.0
rliger	2.0.1	GPL-3
rpart	4.1.23	GPL-2 | GPL-3
RSQLite	2.3.7	LGPL (>= 2.1)
Rtsne	0.17	file LICENSE
ruv	0.9.7.1	GPL
RUVSeq	1.36.0	Artistic-2.0
rworldmap	1.3-8	GPL (>= 2)
SBGNview	1.16.0	AGPL-3
scales	1.3.0	MIT + file LICENSE
scatterD3	1.0.1	GPL (>= 3)
scran	1.30.2	GPL-3
Seurat	5.1.0	MIT + file LICENSE
sever	0.0.7	MIT + file LICENSE
shiny	1.9.1	GPL-3 | file LICENSE
shiny.i18n	0.3.0	MIT + file LICENSE
shinyalert	3.1.0	MIT + file LICENSE
shinybrowser	1.0.0	MIT + file LICENSE
shinyBS	0.61.1	GPL-3
shinybusy	0.3.3	GPL-3
shinycssloaders	1.1.0	MIT + file LICENSE
shinydashboardPlus	2.0.4	GPL (>= 2) | file LICENSE
shinyjqui	0.4.1	MIT + file LICENSE
shinyjs	2.1.0	MIT + file LICENSE
shinyvalidate	0.1.3	MIT + file LICENSE
shinyWidgets	0.8.6	GPL-3
SILGGM	1.0.0	GPL (>= 2)
SingleR	2.4.1	GPL-3 + file LICENSE
sodium	1.3.1	MIT + file LICENSE
sortable	0.5.0	MIT + file LICENSE
stats	4.3.3	Part of R 4.3.3
stringr	1.5.1	MIT + file LICENSE
SummarizedExperiment	1.32.0	Artistic-2.0
SuperCell	1.0	file LICENSE
survival	3.7-0	LGPL (>= 2)
sva	3.50.0	Artistic-2.0
svgPanZoom	0.3.4	MIT + file LICENSE
tools	4.3.3	Part of R 4.3.3
umap	0.2.10.0	MIT + file LICENSE
utils	4.3.3	Part of R 4.3.3
uwot	0.2.2	GPL (>= 3)
vioplot	0.5.0	BSD_3_clause + file LICENSE
viridis	0.6.5	MIT + file LICENSE
visNetwork	2.1.3	MIT + file LICENSE
waiter	0.2.5.9000	MIT + file LICENSE
webshot2	0.1.1	GPL-2

WGCNA	1.72-5	GPL (>= 2)
withr	3.0.1	MIT + file LICENSE
wordcloud	2.6	LGPL-2.1
xfun	0.46	MIT + file LICENSE
xgboost	1.7.8.1	Apache License (== 2.0) | file LICENSE
xml2	1.3.6	MIT + file LICENSE
yaml	2.3.10	BSD_3_clause + file LICENSE
zip	2.3.1	MIT + file LICENSE

4.4 OmicsPlayground configuration (OPTIONS)

```
TITLE                = 'Omics Playground'
AUTHENTICATION       = none
ALLOW_NEW_USERS      = TRUE
ALLOW_PERSONAL_EMAIL = FALSE
USE_CREDENTIALS      = FALSE
BLOCKED_DOMAIN       = bigomics.com|massdynamics.com|pluto.bio|rosalind.bio
ENABLE_CHIRP         = TRUE
ENABLE_DELETE        = TRUE
ENABLE_PGX_DOWNLOAD  = TRUE
ENABLE_PUBLIC_SHARE  = TRUE
ENABLE_UPLOAD        = TRUE
ENABLE_USERDIR       = TRUE
ENABLE_USER_SHARE    = TRUE
ENABLE_USER_LOCK     = TRUE
ENABLE_HEARTBEAT     = TRUE
ENABLE_INACTIVITY    = TRUE
ENABLE_ANNOT         = FALSE
MAX_DATASETS         = 100
MAX_SAMPLES          = 1000
MAX_COMPARISONS      = 20
MAX_GENES            = 20000
MAX_GENESETS         = 5000
MAX_SHARED_QUEUE     = 3
MAX_SESSIONS         = 2
TIMEOUT              = 0
WATERMARK            = TRUE
APACHE_COOKIE_PATH   = /app/omicsplayground/
DEVMODE              = FALSE
```

4.5 OmicsPlayground default settings (DEFAULTS)

```
computation_options:
  probe_filtering:
    - remove.notexpressed
    - remove.unknown
    - only.proteincoding
```