

Package: cranet (via r-universe)

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Type Package

Title Build and Analyze Network of R Packages

Version 1.0-0

Date 2018-05-04

Description Package DESCRIPTION files allows for specifying several types of inter-package relations. These include fields like Depends, Suggests, Enhances etc. This package allows for recovering graph structure based on these relations. Network representation of R repositories enables the user to explore the interconnected space of available R functionality while the developers or repository maintainers can quickly scan package forward and reverse dependencies.

Depends R (>= 2.10)

Imports igraph

Suggests testthat

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URL <https://github.com/mbojan/cranet>

BugReports <https://github.com/mbojan/cranet/issues>

LazyLoad yes

LazyData yes

RoxygenNote 6.0.1

Config/pak/sysreqs libglpk-dev libxml2-dev

Repository <https://mbojan.r-universe.dev>

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cranet-package	<i>Build and Analyze Network of R Packages</i>
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Description

Package DESCRIPTION files allows for specifying several types of inter-package relations. These include fields like Depends, Suggests, Enhances etc. This package and function `pkgnet` allows for recovering graph structure based on these relations. Network representation of R repositories enables the user to explore the interconnected space of available R functionality while the developers or repository maintainers can quickly scan package forward and reverse dependencies.

Author(s)

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avpkgs	<i>Matrix of Available Packages</i>
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Description

Snapshot of packages available on CRAN on 2016-08-12

Format

A 8938x17 matrix returned by `available.packages` with the following column names: “Package”, “Version”, “Priority”, “Depends”, “Imports”, “LinkingTo”, “Suggests”, “Enhances”, “License”, “License_is_FOSS”, “License_restricts_use”, “OS_type”, “Archs”, “MD5sum”, “NeedsCompilation”, “File”, “Repository”.

Source

Fetches from <http://cloud.r-project.org> on August 12, 2016.

See Also

`available.packages`, `crannet` which is an igraph object built from such matrix.

crannet*Snapshot of CRAN packages*

Description

Snapshot of CRAN packages made on 2016-08-12

Format

The network object is of class `igraph`. It is a directed network which contains 9182 packages (vertices) and 47032 inter-package relations (edges). The network, together with vertex and edge attributes is build from the matrix as returned by `available.packages`, which in turn is based on package DESCRIPTION files.

Available edge attributes: type

Available vertex attributes: name, Version, Priority, License, License_is_FOSS, License_restricts_use, OS_type, Archs, MD5sum, NeedsCompilation, File, Repository.

The network is a multi-graph, i.e. there may be multiple edges between a given pair of nodes. This corresponds to the fact, that package X may, for example, both depend and import package Y. To disentangle the types of relations one can use edge attribute `type` which identifies a type of inter-package relation. Possible values are of this attribute are: Depends, Enhances, Imports, LinkingTo, Suggests. They come from the respective columns in the matrix returned by `available.packages`.

See `available.packages` for the description of the attributes and types of inter-package relations.

Source

Fetches from <http://cran.at.r-project.org> on August 12, 2016.

pkgnet*Build a network based on package availability matrix*

Description

Given the matrix as returned by `available.packages` construct a graph, of class `igraph` of inter-package relations.

Usage

```
pkgnet(object, ...)
```

```
## Default S3 method:
```

```
pkgnet(object, ...)
```

```
## S3 method for class 'character'
```

```
pkgnet(object, ap_args = NULL, ...)
```

```
## S3 method for class 'matrix'
pkgnet(object, enams = c("Depends", "Suggests", "Imports",
  "Enhances", "LinkingTo"), vnams = c("Version", "Priority", "License",
  "License_is_FOSS", "License_restricts_use", "OS_type", "Archs", "MD5sum",
  "NeedsCompilation", "File", "Repository"), ...)
```

Arguments

object	a matrix as returned by available.packages or a character scalar, one of "cran" or "bioc" to fetch and process packages available on CRAN or on Bioconductor, or an URL to a CRAN-like repository.
...	arguments passed to/from other methods
ap_args	NULL or list of arguments passed to available.packages
enams	character, names of columns of a that are to be used as edge attributes
vnams	character, names of columns of a that are to be used as vertex attributes

Details

The resulting graph (object of class `igraph`) is a multigraph: there can be multiple relationships between any given pair of vertices. Different types of relations can be disentagled using edge attribute called `type`. It stores the type of relation as provided with `enams` argument.

Value

Object of class `igraph`.

See Also

[available.packages](#), [graph.data.frame](#)

Examples

```
## Not run:
a <- available.packages(contrib.url("http://cran.r-project.org", "source"))
g <- pkgnet(a)
summary(g)

## End(Not run)
```

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