A new version of pins is available on CRAN! pins 0.3 comes with many improvements and the following major features:

* Support for new **cloud boards** to pin resources in [Azure](https://rstudio.github.io/articles/boards-azure.html), [GCloud](https://rstudio.github.io/articles/boards-gcloud.html) and [S3](https://rstudio.github.io/articles/boards-s3.html) storage.
* Retrieve **pin information** with pin\_info() including properties particular to each board.

You can install this new version from CRAN as follows:

install.packages("pins")

In addition, there is a new [Use Cases](https://rstudio.github.io/pins/articles/use-cases.html) section in our docs, various improvements (see [NEWS](https://rstudio.github.io/pins/news/index.html)) and two community extensions being developed to support [databases](https://edgararuiz.github.io/connections/#pins) and [Nextcloud](https://gitlab.com/gwmngilfen/nextcloudr) as boards.

**Cloud Boards**

pins 0.3 adds support to find, retrieve and store resources in various cloud providers like: [Microsoft Azure](https://azure.microsoft.com/), [Google Cloud](https://cloud.google.com/) and [Amazon Web Services](https://aws.amazon.com/).

To illustrate how they work, lets first try to find the World Bank indicators dataset in [Kaggle](https://www.kaggle.com/):

library(pins)

pin\_find("indicators", board = "kaggle")

# A tibble: 6 x 4

name description type board

1 worldbank/world-development-indicators World Development Indicators files kaggle

2 theworldbank/world-development-indicators World Development Indicators files kaggle

3 cdc/chronic-disease Chronic Disease Indicators files kaggle

4 bigquery/worldbank-wdi World Development Indicators (WDI) Data files kaggle

5 rajanand/key-indicators-of-annual-health-survey Health Analytics files kaggle

6 loveall/human-happiness-indicators Human Happiness Indicators files kaggle

Which we can then easily download with pin\_get(), beware this is a 2GB download:

pin\_get("worldbank/world-development-indicators")

[1] "/.../worldbank/world-development-indicators/Country.csv"

[2] "/.../worldbank/world-development-indicators/CountryNotes.csv"

[3] "/.../worldbank/world-development-indicators/database.sqlite"

[4] "/.../worldbank/world-development-indicators/Footnotes.csv"

[5] "/.../worldbank/world-development-indicators/hashes.txt"

[6] "/.../worldbank/world-development-indicators/Indicators.csv"

[7] "/.../worldbank/world-development-indicators/Series.csv"

[8] "/.../worldbank/world-development-indicators/SeriesNotes.csv"

The Indicators.csv file contains all the indicators, so let’s load it with [readr](https://readr.tidyverse.org/):

indicators <- pin\_get("worldbank/world-development-indicators")[6] %>%

readr::read\_csv()

Analysing this dataset would be quite interesting; however, this post focuses on how to share this in S3, Google Cloud or Azure storage. More specifically, we will learn how to publish to an [S3 board](https://rstudio.github.io/articles/boards-s3.html). To publish to other cloud providers, take a look at the [Google Cloud](https://rstudio.github.io/articles/boards-gcloud.html) and [Azure boards](https://rstudio.github.io/articles/boards-azure.html) articles.

As you would expect, the first step is to register the S3 board. When using RStudio, you can use the [New Connection](https://rstudio.github.io/articles/pins-rstudio.html) action to guide you through this process, or you can specify your key and secret as follows. Please refer to the [S3 board](https://rstudio.github.io/articles/boards-s3.html) article to understand how to store your credentials securely.

board\_register\_s3(name = "rpins",

bucket = "rpins",

key = "VerySecretKey",

secret = "EvenMoreImportantSecret")

With the S3 board registered, we can now pin the indicators dataset with pin():

pin(indicators, name = "worldbank/indicators", board = "rpins")

That’s about it! We can now find and retrieve this dataset from S3 using pin\_find(), pin\_get() or view the uploaded resources in the S3 management console:

To make this even easier for others to consume, we can make this S3 bucket public; which means you can now connect to this board without even having to configure S3, making it possible to retrieve this dataset with just one line of R code!

pins::pin\_get("worldbank/indicators", "<https://rpins.s3.amazonaws.com>")

# A tibble: 5,656,458 x 6

CountryName CountryCode IndicatorName IndicatorCode Year Value

1 Arab World ARB Adolescent fertility rate (births per… SP.ADO.TFRT 1960 1.34e+2

2 Arab World ARB Age dependency ratio (% of working-ag… SP.POP.DPND 1960 8.78e+1

3 Arab World ARB Age dependency ratio, old (% of worki… SP.POP.DPND.OL 1960 6.63e+0

4 Arab World ARB Age dependency ratio, young (% of wor… SP.POP.DPND.YG 1960 8.10e+1

5 Arab World ARB Arms exports (SIPRI trend indicator v… MS.MIL.XPRT.KD 1960 3.00e+6

6 Arab World ARB Arms imports (SIPRI trend indicator v… MS.MIL.MPRT.KD 1960 5.38e+8

7 Arab World ARB Birth rate, crude (per 1,000 people) [SP.DYN.CBRT.IN](http://SP.DYN.CBRT.IN) 1960 4.77e+1

8 Arab World ARB CO2 emissions (kt) EN.ATM.CO2E.KT 1960 5.96e+4

9 Arab World ARB CO2 emissions (metric tons per capita) EN.ATM.CO2E.PC 1960 6.44e-1

10 Arab World ARB CO2 emissions from gaseous fuel consu… [EN.ATM.CO2E.GF](http://EN.ATM.CO2E.GF)… 1960 5.04e+0

# … with 5,656,448 more rows

This works since pins 0.3 automatically register URLs as a [website board](https://rstudio.github.io/articles/boards-websites.html) to save you from having to explicitly call board\_register\_datatxt().

It’s also worth mentioning that pins stores the dataset using an R native format, which requires only 72MB and loads much faster than the original 2GB dataset.

**Pin Information**

Boards like [Kaggle](https://rstudio.github.io/articles/boards-kaggle.html) and [RStudio Connect](https://rstudio.github.io/articles/boards-rsconnect.html), store additional information for each pin which you can now easily retrieve with pin\_info().

For instance, we can retrieve additional properties from the indicators pin from Kaggle as follows,

pin\_info("worldbank/world-development-indicators", board = "kaggle")

# Source: kaggle [files]

# Description: World Development Indicators

# Properties:

# - id: 23

# - subtitle: Explore country development indicators from around the world

# - tags: (ref) business, economics, international relations, business finance...

# - creatorName: Megan Risdal

# - creatorUrl: mrisdal

# - totalBytes: 387054886

# - url: <https://www.kaggle.com/worldbank/world-development-indicators>

# - lastUpdated: 2017-05-01T17:50:44.863Z

# - downloadCount: 42961

# - isPrivate: FALSE

# - isReviewed: TRUE

# - isFeatured: FALSE

# - licenseName: World Bank Dataset Terms of Use

# - ownerName: World Bank

# - ownerRef: worldbank

# - kernelCount: 422

# - topicCount: 7

# - viewCount: 254379

# - voteCount: 1121

# - currentVersionNumber: 2

# - usabilityRating: 0.7647

# - extension: zip

And from RStudio Connect boards as well,

pin\_info("worldnews", board = "rsconnect")

# Source: rsconnect [table]

# Properties:

# - id: 6446

# - guid: 1b9f04c5-ddd4-43ca-8352-98f6f01a7034

# - access\_type: all

# - url: <https://beta.rstudioconnect.com/content/6446/>

# - vanity\_url: FALSE

# - bundle\_id: 16216

# - app\_mode: 4

# - content\_category: pin

# - has\_parameters: FALSE

# - created\_time: 2019-09-30T18:20:21.911777Z

# - last\_deployed\_time: 2019-11-18T16:00:16.919478Z

# - build\_status: 2

# - run\_as\_current\_user: FALSE

# - owner\_first\_name: Javier

# - owner\_last\_name: Luraschi

# - owner\_username: jluraschi

# - owner\_guid: ac498f34-174c-408f-8089-a9f10c630a37

# - owner\_locked: FALSE

# - is\_scheduled: FALSE

# - rows: 44

# - cols: 1

To retrieve all the extended information when discovering pins, pass extended = TRUE to pin\_find().

Thank you for reading this post!