Getting started with shinyapps.io

ADDED: 18 MAR 2014 BY: ANDY KIPP

Shinyapps.io is a platform as a service (PaaS) for hosting Shiny web apps (applications). This guide will show you how to create a shinyapps.io account and deploy your first application to the cloud.

Before you get started with shinyapps.io, you will need:

- An R development environment, such as the RStudio IDE
- (for Windows users only) RTools (http://cran.r-project.org/bin/windows/Rtools/) for building packages
- (for Mac users only) XCode Command Line Tools for building packages
- (for Linux users only) GCC
- The devtools (https://github.com/hadley/devtools) R package (version 1.4 or later)
- The latest version of the rsconnect (https://github.com/rstudio/rsconnect) R package

How to install devtools

Shinyapps.io uses the latest improvements to the devtools package. To use shinyapps.io, you must update devtools to version 1.4 or later. To install devtools from CRAN, run the code below. Then restart your R session.

install.packages('devtools')

How to install rsconnect

The rsconnect package deploys applications to the shinyapps.io service. Currently, you need to install the rsconnect package from its development page at Github. You can do this by running the R command:

devtools::install_github('rstudio/rsconnect')

After the rsconnect package has been installed, load it into your R session:

library(rsconnect)

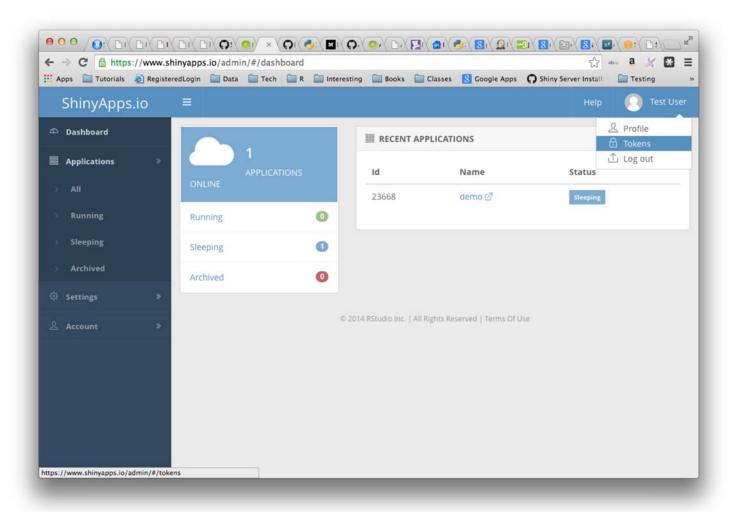
Create a shinyapps.io account

Go to shinyapps.io (https://www.shinyapps.io) and click "Log In." The site will ask you to sign in using your Google Account.

The first time you sign in, shinyapps.io prompts you to setup your account. Shinyapps.io uses the account name as the domain name for all your apps. Account names must be between four and 63 characters and can contain only letters, numbers, and dashes (-). Account names may not begin with a number or a dash, and they can not end with a dash (see RFC 952 (http://tools.ietf.org/html/rfc952)). Some account names may be reserved.

Configure rsconnect

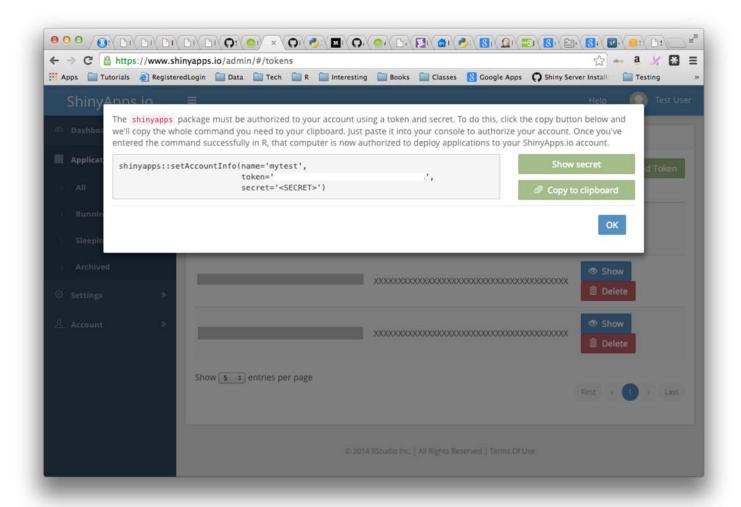
Once you set up your account in shinyapps.io, you can configure the rsconnect package to use your account. Shinyapps.io automatically generates a token and secret for you, which the rsconnect package can use to access your account. Retrieve your token from the shinyapps.io dashboard. Tokens are listed under Tokens in the menu at the top right of the shinyapps dashboard (under your avatar).



You can configure the rsconnect package to use your account with two methods:

Method 1

Click the show button on the token page. A window will pop up that shows the full command to configure your account using the appropriate parameters for the rsconnect::setAccountInfo function. Copy this command to your clip board, and then paste it into the command line of RStudio and click enter.



Method 2

Run the 'setAccountInfo' function from the rsconnect package passing in the token and secret from the Profile / Tokens page.

```
rsconnect::setAccountInfo(name="<ACCOUNT>", token="<TOKEN>", secret="<SECRET>")
```

Once you have configured your rsconnect installation, you can use it to upload applications to shinyapps.io. In the second part of this guide, we will build a demo application, upload it to shinyapps.io, and create a password for the application.

If you're using the RStudio IDE, you can manage your shinyapps.io accounts by going to Tools -> Global Options -> Publishing.

A Demo app

For this guide, we created an RStudio project named "demo" that contains a Shiny application to upload to shinyapps.io. Follow these steps to create your own Shiny app.

Install application dependencies

The demo application we will deploy requires the ggplot2 package and the shiny package. Ensure that any package required by your application is installed locally before you deploy your application:

```
install.packages(c('ggplot2', 'shiny'))
```

ui.R and server.R

We placed two Shiny source files, ui.R and server.R, in our demo application. You can cut and paste the code below to make your own Shiny application:

server.R

```
library(shiny)
library(ggplot2)
function(input, output) {
  dataset <- reactive({</pre>
    diamonds[sample(nrow(diamonds), input$sampleSize),]
  })
  output$plot <- renderPlot({</pre>
    p <- ggplot(dataset(), aes_string(x=input$x, y=input$y)) + geom_point()</pre>
    if (input$color != 'None')
      p <- p + aes_string(color=input$color)</pre>
    facets <- paste(input$facet_row, '~', input$facet_col)</pre>
    if (facets != '. ~ .')
      p <- p + facet_grid(facets)</pre>
    if (input$jitter)
      p <- p + geom_jitter()</pre>
    if (input$smooth)
      p <- p + geom_smooth()</pre>
    print(p)
  }, height=700)
}
```

ui.R

```
library(shiny)
library(ggplot2)
dataset <- diamonds
fluidPage(
 titlePanel("Diamonds Explorer"),
 sidebarPanel(
   sliderInput('sampleSize', 'Sample Size', min=1, max=nrow(dataset),
                value=min(1000, nrow(dataset)), step=500, round=0),
   selectInput('x', 'X', names(dataset)),
    selectInput('y', 'Y', names(dataset), names(dataset)[[2]]),
   selectInput('color', 'Color', c('None', names(dataset))),
   checkboxInput('jitter', 'Jitter'),
   checkboxInput('smooth', 'Smooth'),
   selectInput('facet_row', 'Facet Row', c(None='.', names(dataset))),
   selectInput('facet_col', 'Facet Column', c(None='.', names(dataset)))
 ),
 mainPanel(
   plotOutput('plot')
)
```

Test your application

Test that your application works by running it locally. Set your working directory (http://www.rstudio.com/ide/docs/using/workspaces) to your app directory, and then run:

```
library(shiny)
runApp()
```

If you're using the RStudio IDE, you can also run your application by clicking the Run App button on the editor toolbar.

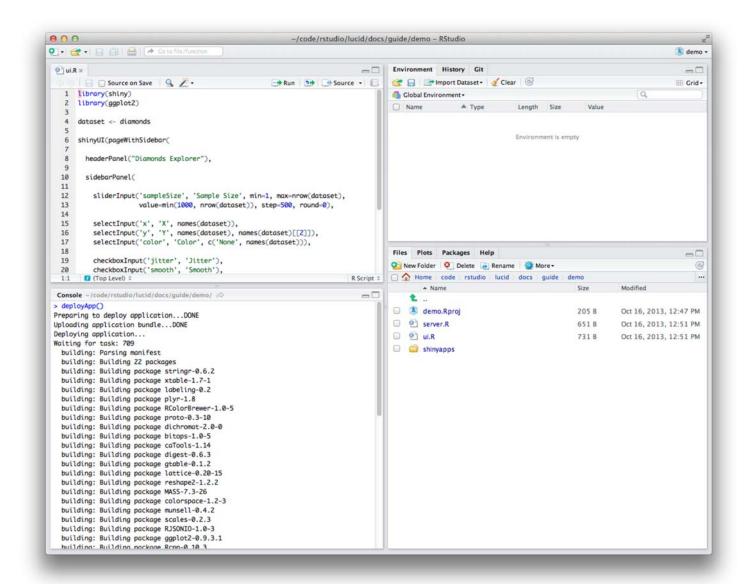


Now that the application works, let's upload it to shinyapps.io.

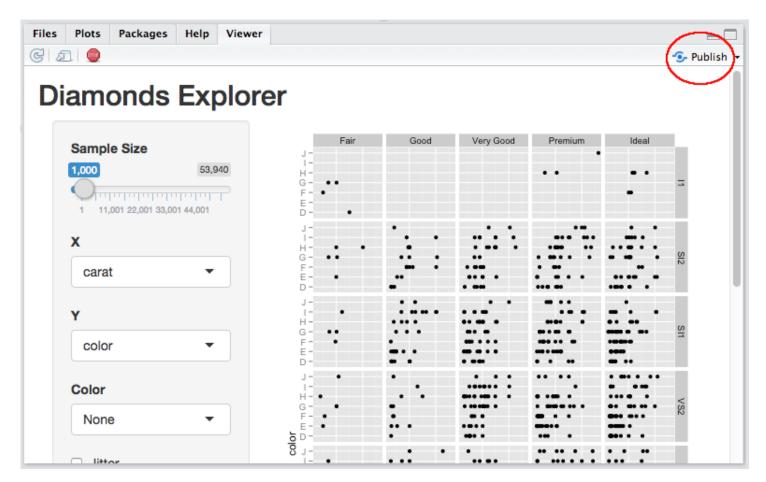
Deploying apps

To deploy your application, use the deployApp command from the rsconnect packages.

library(rsconnect) deployApp()



If you're using the RStudio IDE, you can also deploy your application by clicking the Publish button while viewing the application.



Once the deployment finishes, your browser should open automatically to your newly deployed application.

Congratulations! You've deployed your first application. :-)

Feel free to make changes to your code and run deployApp again. rsconnect can deploy an app much more quickly after the first deployment.

Package dependencies

When you deploy your application, the rsconnect package attempts to detect the packages that your application uses. rsconnect sends this list of packages and their dependencies along with your application to the shinyapps.io service. Then shinyapps.io builds and installs the packages into the R library for your application. The first time you deploy your application, it may take some time to build these packages (depending on how many packages are used). However, you will not wait for these packages to build during future deployments (unless you upgrade or downgrade a package).

Package sources

Currently the shinyapps.io service supports deploying packages installed from CRAN, GitHub, and BioConductor. We will look to add support for R-Forge packages in the future.

Important note on GitHub packages

Only packages installed from GitHub with devtools::install_github in version 1.4 (or later) of devtools are supported. Packages installed with an earlier version of devtools must be reinstalled before you can deploy your application. If you get an error such as "PackageSourceError" when you attempt to deploy, check that you

have installed any package from Github with devtools 1.4 or later.

Application instances

Shinyapps.io hosts each app on its own virtualized server, called an instance. Each instance runs an identical copy of the code and packages that you deployed (called the image).

When you deploy an app, shinyapps.io creates a new image with the updated code and packages, and starts one or more instances with the new image. If the app was previously deployed, shinyapps.io shuts down and destroys the old instances. Consider a few implications of this arrangement:

- 1) Data written by an application to the local filesystem of an instance will be lost when you re-deploy the app. Additionally, the distributed nature of the shinyapps.io platform means that instances may be shut down and re-created at any time for maintenance or to recover from server failures.
- 2) It is possible to have more than one instance of an application. This situation means that **multiple instances of an application do not share a local filesystem**. A file written to one instance will not be available to another instance.

Shinyapps.io limits the amount of system resources an instance can consume. The amount of resources available to an instance will depend on its type. The table below outlines the various instance types and how much memory is allowed. By default, shinyapps.io deploys all applications on 'medium' instances, which are allowed to use 512 MB of memory.

Instance Type Memory

small (default) 256 MB medium 512 MB large 1024 MB xlarge 2048 MB

xxlarge 4096 MB

Note: Instance types and limits are not finalized; RStudio may change them in the future.

Application logging

If you're having problems with your application, it may be helpful to be able to see the log messages it's producing. You can use the rsconnect::showLogs() function to show the log messages of a deployed application. This log will include both stdout (log lines producted via print or cat) and stderr (log lines produced by message, warning, stop). You can even use the streaming=TRUE option to specify that you want to continuously monitor the file for changes; this will listen for log messages until you interrupt R (typically by pressing Escape). If you deployed your application using an older version of the rsconnect package, you will need to redeploy it (deployApp(upload=FALSE)) before you can use logging.

Configuring applications

You can change the instance type used by an application with the configureApp function from the rsconnect package. To change the instance type of your application (here from medium to small), run:

rsconnect::configureApp("APPNAME", size="small")

This change will redeploy your application using the small instance type.

You can also change the instance type used by an application from the shinyapps.io dashboard. To do this, log in to shinyapps.io, select the application that you wish to configure, and then open the Settings tab.

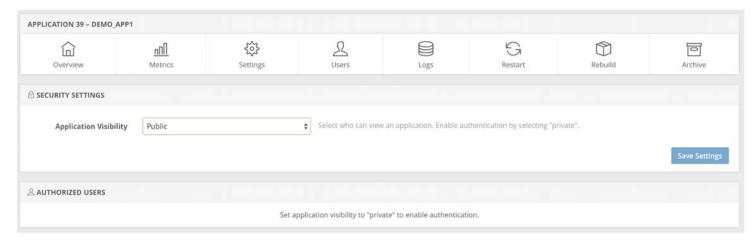
To learn more about instances and other details of the shinyapps.io architecture, read Scaling and Performance Tuning (scaling-and-tuning.html). The guide will also show you several advanced options for fine tuning the performance of your apps on shinyapps.io.

Application authentication

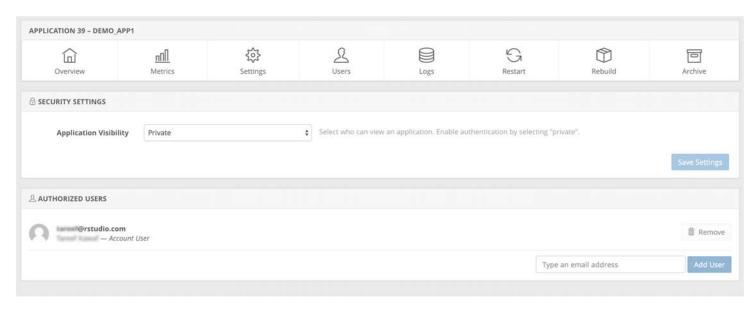
With shinyapps.io, you can limit the access to your application by enabling authentication. Only users who log-in with valid credentials will be able to view or use the app.

To enable authentication in the administrative UI, select the application to modify and click on the Users tab.

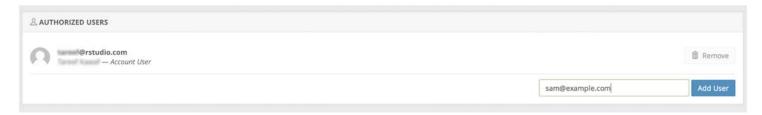
Here is a sample application with the default visibility settings:



Change the Application Visibility to Private and click on Save Settings. Changing the visibility of your application *will* require a restart of the application. The Owner of the account and other members of the account will automatically be included in the list of authorized users.



After the application is restarted you can add authorized users by entering their email addresses and clicking on Add User.



Each user will receive an email from shinyapps.io with an invite to view your application. If a user does not already have an authenticated account on shinyapps.io, they will be able to create one by authenticating through one of the following three methods:

- Google Authorization
- GitHub authorization
- Shinyapps.io authentication

Shinyapps.io will prompt each visitor to your app for a username and password if they have not been authenticated. Only users who log-in with valid credentials will be able to view or use the app.

If you currently use the pre-beta authentication scheme, please upgrade to the new system by January 28, 2015 as we will be deprecating support for the old authentication system during the beta. For instructions on how to upgrade, please read the guide here (migration.html).

Terminate an app

You can remove an app on shinyapps.io from the web with the terminateApp command. To use it, run

terminateApp("<your app's name>")

terminateApp requires one argument, the name of the app that you would like to terminate (as a character string). This name should correspond with one of the apps in your shinyapps.io account.

When you run terminateApp shinyapps.io will close your app, but the app will remain archived in your shinyapps.io account. This creates efficiencies if you later decide to redeploy your app with deployApp.

You can also terminate an app from your shinyapps.io dashboard. To do this, log in to shinyapps.io, select the app that you wish to terminate and then click "Archive."

Getting help

To seek and share advice about shinyapps.io, please visit the Shinyapps.io google group (https://groups.google.com/forum/?hl=en#!forum/shinyapps-users).

Recap

Shinyapps.io is an online service for hosting Shiny apps in the cloud. RStudio takes care of all of the details of hosting the app and maintaining the server, which lets you focus on writing great apps!

To use shinyApps.io

- Install the shinyapps (https://github.com/rstudio/shinyapps) R package from github
- Create an account at shinyapps.io (https://www.shinyapps.io)
- Use the tokens generated by shinyapps.io to configure your rsconnect package.
- Deploy apps with rsconnect::deployApp
- Terminate apps with rsconnect::terminateApp

You can also use shinyapps.io to create secure apps, and manage your authorized users.

We love it when R users help each other, but RStudio does not monitor or answer the comments in this thread. If you'd like to get specific help, we recommend the Shiny Discussion Forum

(https://groups.google.com/forum/#lforum/chiny discuss) for in donth discussion of Shiny related questions and

(https://groups.google.com/forum/#!forum/shiny-discuss) for in depth discussion of Shiny related questions and How to get help (http://shiny.rstudio.com/articles/help.html) for a list of the best ways to get help with R code.



Join the discussion...



Andrew · a year ago

How do we deploy with helpers.R files and data not hosted on the web?





Dean Attali · a year ago

Another question - is there a way to get the name of the currently logged in authorized user? If



someone logs in with username "andy" I want to be able to have something like getAuthorizedUser()

2 A V · Reply · Share >



Dean Attali → Dean Attali · a year ago

As before - found the solution and will post here for anyone else who has this question. You use the variable session\$user (I don't believe it is documented anywhere, I only found out by debugging the session variable)

1 ^ V · Reply · Share >



Garrett Mod → Dean Attali · a year ago

Dean, Thanks for sharing! You're a great help.

Reply • Share >



afzal · 3 months ago

HI, I am getting following error while installing shinyapps.io:

Downloading github repo rstudio/shinyapps@master

Error in function (type, msg, asError = TRUE):

Failed to connect to api.github.com port 443: Connection refused

why am getting this error and what is its resolution?

1 ^ V · Reply · Share >



vishal lakha → afzal · 2 months ago

hey, i m also having the same problem..

i m over a proxy network though.

can anyone help me with the solution

1 ^ V • Reply • Share >



Dean Attali · a year ago

Is there a way to disable authentication? I assumed that if you remove all authenticated users so that there are 0 authenticated users, authentication will automatically be disabled, but that doesn't seem to be the same. I was looking for some function to disable/enable authentication but I couldn't find that either.

1 ^ V · Reply · Share >



Dean Attali → Dean Attali · a year ago

I found the solution (though it seems a sub-optimal solution): the user accounts are stored in a "passwords" file under the shinyapps directory, so I just needed to delete that file.

Though it feels like a bug that removing all users keeps the passwords file around with a username of FALSE

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Garrett Mod → Dean Attali · a year ago

Dean, I agree. This is an open issue that the developers are working one. If you like, you can follow their progress or leave comments here.

1 ^ V · Reply · Share >



Herimanitra · a year ago

Ηi,

I'm trying to deploy a shiny application with rCharts (re-installed with the latest devtools) then get the following error: (I re-installed base64enc but It didn't solved the problem)
What should I do? (I'm on win7 64bits)

Error in loadNamespace(name): there is no package called 'base64enc'

Error: unable to load R code in package 'rCharts'

ERROR: lazy loading failed for package 'rCharts'

* removing '/usr/local/lib/R/site-library/rCharts'

Error: Unhandled Exception: Child Task 57928 failed: Error building image: Error building rCharts (0.4.2). Build exited with non-zero status: 1

1 ^ V · Reply · Share >



Garrett Mod → Herimanitra · a year ago

Herimanitra.

I'm not sure what went wrong, but I've compiled some links that can help you find someone who would know here. In general, I'd like to avoid using the comment section as a support forum.

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Brenticus • a month ago

I noticed a bug, where if you copy+paste from the code on this page into an R script, it strips out the "<" characters. I attached an image showing where for the first couple. Maybe allow us to download the example files, either by hosting on Github, or on this site?



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Sam · 2 months ago

Does anyone have some example code of what I need to do to get API calls working on the shinyapps.io. I can get most things to work locally but when I deploy they seem to break or don't

seem to authenticate properly - doesn't seem to be any documentation on best practices.

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Stephen Parker · 2 months ago

I'm brand new to R Studio, and I see these posts are old. Maybe something has changed, but when I set up the demo above in the latest version (Version 0.99.467), I'm getting the following error on a local test: ERROR: argument "output" is missing, with no default Any ideas?

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Doug · 2 months ago

Is there any reason my app would run perfectly locally and get a gray screen when hosted? I check memory usage and the hosted version claims to only be using ~90mb of the 512mb available to free users. Thanks.



Akbari Wafridh · 3 months ago

Hi, great apps. i got a problem, i have copy and paste my token in consol, but when i deploy, my account is not recognize in deploy to shinyapps's pop up dialog. Account box just present [object Object]

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veromora · 4 months ago

How does one redirect an spark.rstudio link to the new deployment of the same shiny app in shinyapps.io?

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xmflower · 4 months ago

I came across some problem in this step: STEP 3 – AUTHORIZE ACCOUNT I copied and pasted the command to RStudio, I got below error. Please help!

Error in function (type, msg, asError = TRUE):

error setting certificate verify locations:

CAfile: C:/Users/xmflower/Documents/R/win-library/3.1/shinyapps/cert/cacert.pem CApath:

R version 3.1.2

Platform: windows 8

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Francis Nsafoah Opoku · 4 months ago

Listening on http://127.0.0.1:3504

Warning in file(con, "r"):

cannot open file 'ui R'. No such file or directory

Carmor open me am vilto caeri me er an ectory

Error in file(con, "r"): cannot open the connection

is the error message I get everytime I run my app which is in a single-file app.R, eventhough I have both ui object and the server object.



Vinay · 4 months ago

Hi,

I am trying to deploy the demo app. But I got this message:

Waiting for task: 32998003

error: Parsing manifest

Error: Unhandled Exception: Child Task 32998005 failed: Error parsing manifest: Unsupported

locale: 4009 4009.UTF-8

Is this a server/firewall issue or something else.

How can we resolve/overcome it. I can accordingly speak to our IT department.



destiny → Vinay • 4 months ago

Dear, I found solution to similar problem ... It may help you

http://stackoverflow.com/quest...



destiny → Vinay • 4 months ago

Have got the similar problem, Please let me know the answer if u solved it. Thanks



Luke Hankins • 5 months ago

Error showed up today:

building: Parsing manifest

###Begin Log##

Error: You must register an account using setAccountInfo prior to proceeding.

App was deploying fine earlier in the day. Only thing that changed was the addition of .docx files to the app directory. They were there for storage but were not used in the app (bad habit I realize now). I move the word files out, and the app deployed fine. This seemed like a strange side effect, so I thought I would share.

```
Reply • Share >
```



SpatialRBing • 5 months ago

When deploy to the shinyapps, i got the error: "Package leaflet not avariable in respository or locally and Package shinyDash not avariable in respository or locally". However, i just install the latest vesion the two pacgakes. How could i slove the problem? Thanks!

∧ V • Reply • Share >



Anil Maharjan ⋅ 6 months ago

The shiny app with R version 3.1.3 is not supported in shinyapps.io while publishing shinny app. I got the error message as :

I think it currently supports only R v 3.1.2 only ,so shinyapps.io should support the latest version of R.

Thanks,

Anil Maharjan



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This comment is awaiting moderation. Show comment.



Bhomia

Any luck with the error? I am getting the same error

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jjmerelo · 7 months ago

I understand here you're using a default data set, diamonds. Any pointer on how to use a different one? Sorry, I'm a newbie here...

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Josi • 9 months ago

I need some help here..I tried to create a ShinyApps.io account after login. However whatever the domain names I used to enter after http://, I was not able to "save" to proceed..I have followed the rule of not starting with hyphen or a numbers..why is that?



Sukhdeep Singh · 10 months ago

I have deployed an app from my home computer. How, can I pull the same app instance from the shinyapps.io to my current working directory in another computer. I have already added the token and have permissions to my account. Is there cloneApp() or pullApp() function? Thanks

Crosspost: nttp://stackovernow.com/quest...



Sukhdeep Singh · 10 months ago

Error: Unhandled Exception: Child Task failed: Error parsing manifest: Maximum supported R version is: 3,1,1

Hi, when does the support for the newer version will be available.

Thanks



Nerp · a year ago

Awesome stuff, but receiving this error on deploy, using Windows 8.1 R 3.2.1:

Error: Unhandled Exception: Child Task 2643913 failed: Error parsing manifest: Maximum supported R version is: 3.1.1



Dong Liang ⋅ a year ago

Is it possible to completely delete an archive app?



samsr · a year ago

Is there a way I can deploy an R app which runs a python script within it (using the rPython package)?



Marcin Kopaczynski ⋅ a year ago

hi there,

thx for the great tutorial. all worked well for me except for the authentication part. my problem lies with the devtools::install_github('rstudio/rscrypt') command. it produces an error which looks like this:

WARNING: this package has a configure script

It probably needs manual configuration

*** arch - i386

Warning: running command 'make -f "Makevars.win" -f "C:/PROGRA~1/R/R-31~1.1/etc/i386/Makeconf" -f "C:/PROGRA~1/R/R-31~1.1/share/make/winshlib.mk" SHLIB_LDFLAGS='\$(SHLIB_CXXLDFLAGS)' SHLIB_LD='\$(SHLIB_CXXLD)' SHLIB="scrypt.dll" ' had status 127

^{**} libs

ERROR: compilation failed for package 'scrypt'

* removing 'C:/Users/Marcin/Documents/R/win-library/3.1/scrypt'

see more

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Jonathan Nelson ⋅ a year ago

Hi there. First off, thanks for this tutorial! It's very helpful. I am having issues, however, with the showLogs() function due to not having the most recent version of the shinyapps package. When I try to re-install the package I get a message that says:

package 'shinyapps' is not available (for R version 3.1.1)

How can I install the latest package?

NVM, I was attempting to install the package the wrong way.

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Garrett Mod → Jonathan Nelson · a year ago

Jonathan, you need to install the shinyapps package from github because it is not on cran. Don't worry, it is easy to do:) Just run this code in R (and make sure you are connected to the internet):



aquacalc · a year ago

Will there (later) be a way to delete an archived app?

(I have no need of my early demos after having terminated them.)

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Garrett Mod → aquacalc · a year ago

I think so.

1 ^ V · Reply · Share >



Francisco ME · a year ago

SHINY IS GREAT. but still a problem. the App running in the local memory works ok but when i type the "deployApp()" it in the console i get:

Error: /v1/applications/?filter=account_id:13432&count=100&offset=0 403 - Forbidden

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Garrett Mod → Francisco ME · a year ago



Francisco, this conversation in the shinyapps io google group might help. The errors sound similar.



Xu · a year ago

Hi, when I pasted the following codes in Rstudio, it gave me error message. Do you know what is going on?

> shinyapps::setAccountInfo(name='aaaa', token='aaa', secret='aaaaa')

#Error in function (type, msg, asError = TRUE) : couldn't connect to host

#Timing stopped at: 0 0 21.26

Thanks!

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Garrett Mod → Xu · a year ago

Xu, that usually means that your proxy or firewall settings are preventing you from connecting to www.shinyapps.io



Macchiato Macc ⋅ a year ago

How long does it normally take to deploy an application? I've been waiting about 20 minutes so far. There's just "rollforward: Activating new instances" in R studio console.



Jeff Allen → Macchiato Macc · a year ago

It depends on the number of packages you take a dependency on, and the first time will always take longer than subsequent builds. But on average, we'd expect 3-5 minutes for the first build; certainly not twenty. Go ahead and post a message on the mailing list (https://groups.google.com/foru... with the URL or task/app ID and we'll be able to investigate.



singco · a year ago

Hi, I try to authorize my account, and I paste the code in my R console, it tells me this: error: /v1/users/current/ 403 - bad signature, how can I get through? thanks



Dave Guarino → singco · a year ago

Hey Singco,

I got this error too — try clicking the "Copy to clipboard" button and then pasting that into R.

(If you were actually highlighting the code snippet there, like I did at first, it gives you that error because of the line breaks and spaces.)

Cheers!

Dave



Garrett Mod → singco · a year ago

singco, it sounds like you might have an incorrect token. We're also working on a known bug for non-english locales. The best place to get help for technical issues with ShinyApps.io is https://groups.google.com/forum/#!forum/shinyapps-users



Raymond · a year ago

Hi, how do I remove an app from Shinyapps.io once deployed? Thank you.

Regards, Raymond



Garrett Mod → Raymond · a year ago

"You can remove an app on ShinyApps.io from the web with the terminateApp command. To use it, run terminateApp("your app's name")."

Load more comments

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