Bioconductor submission

Physalia course 2023

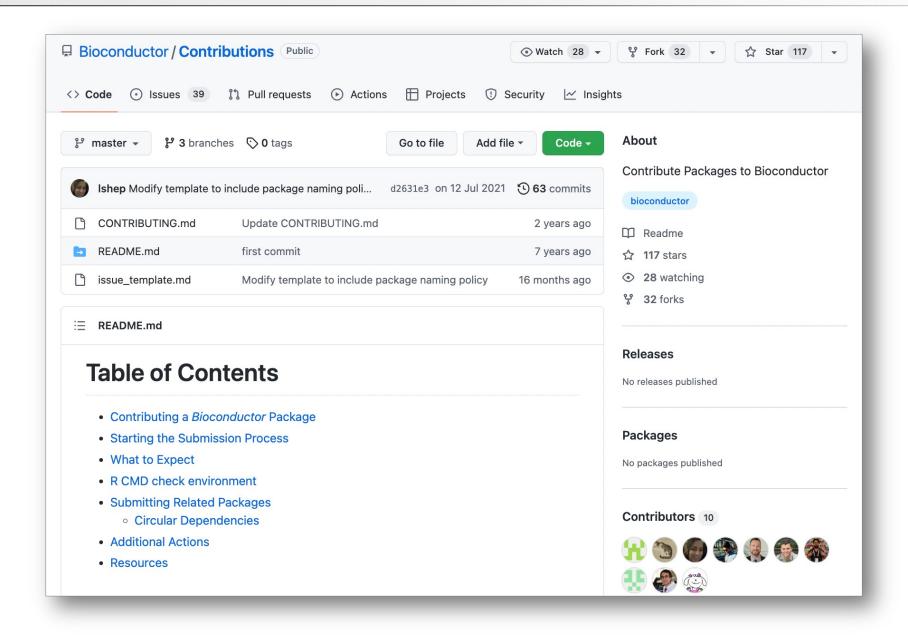
Instructor: Jacques Serizay

This is the main page (I recommend) to get information regarding submission process:

→ https://contributions.bioconductor.org/bioconductor-package-submissions.html

TL;DR:

→ https://github.com/Bioconductor/Contributions



0. Make sure your package works fine

> devtools::check()

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0b. Make sure your package works fine

> BiocCheck:: BiocCheck()

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Od. Make sure your package works fine

Github Actions

- 0. Make sure your package works fine
- > devtools::check()
- Ob. Make sure your package works fine
- > BiocCheck:: BiocCheck()
- Oc. Make sure your package works fine
- > rcmdcheck::rcmdcheck()
- 0d. Make sure your package works fine

Github Actions

- 0e. Few other check-ups:
 - Version number? HAS TO BE 0.99.0
 - o Your SSH key?

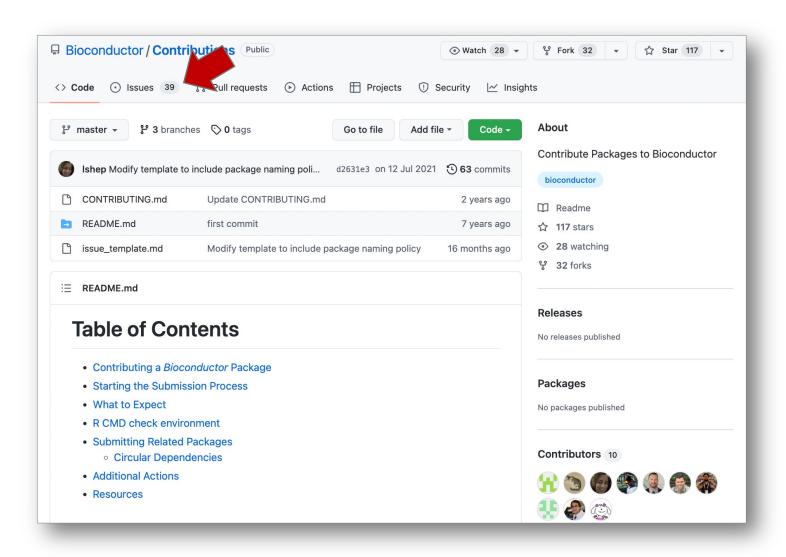
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Github Actions

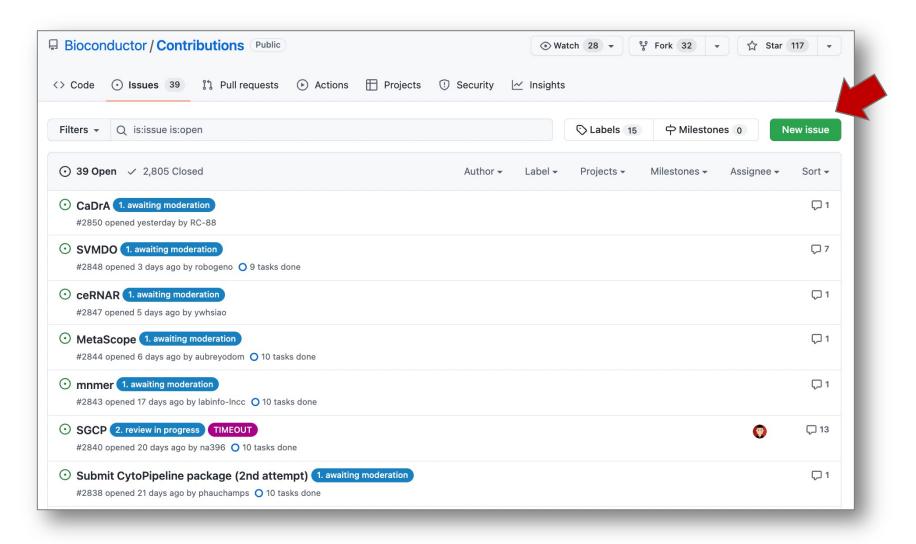
- 0e. Few other check-ups:
 - Version number?
 - o Your SSH key?

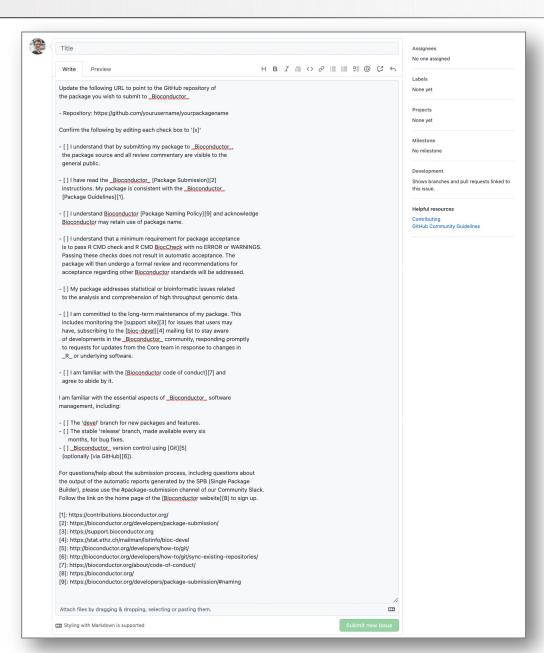
And then...

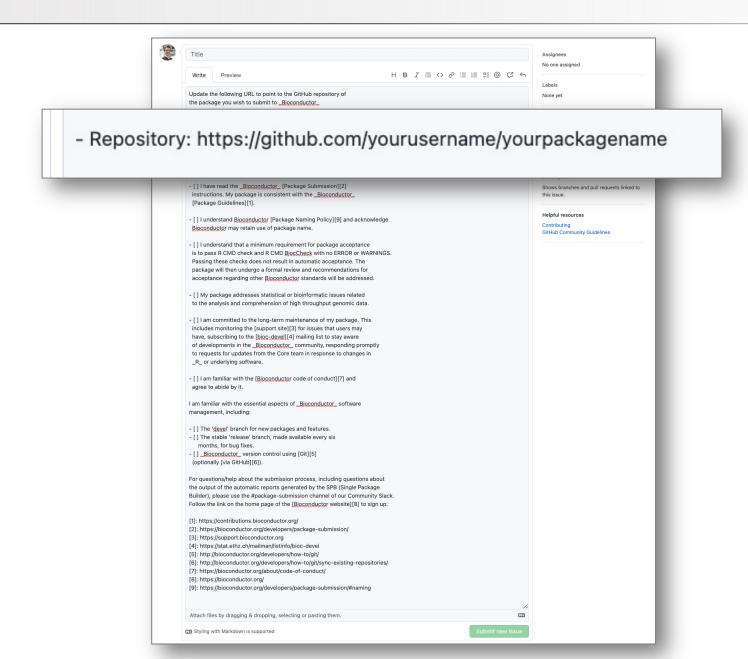
1. Submit an <u>issue</u> to <u>Bioconductor/Contributions</u>

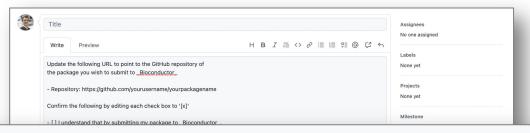


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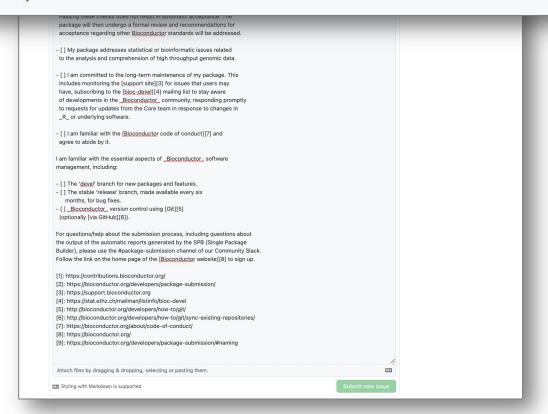


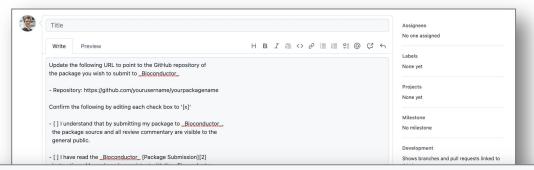




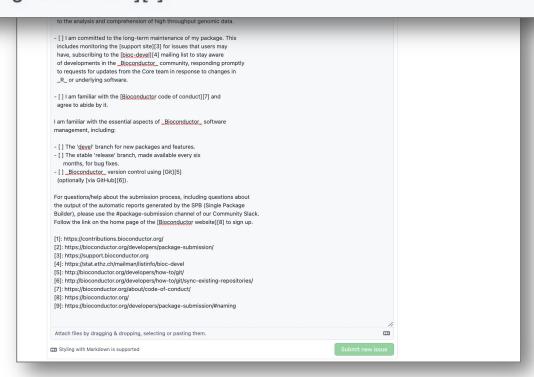


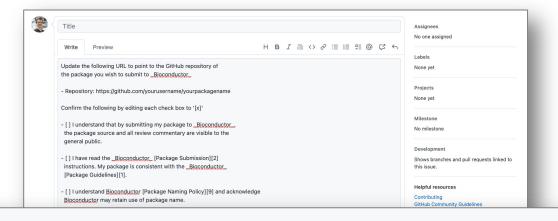
 [] I understand that by submitting my package to _Bioconductor_, the package source and all review commentary are visible to the general public.



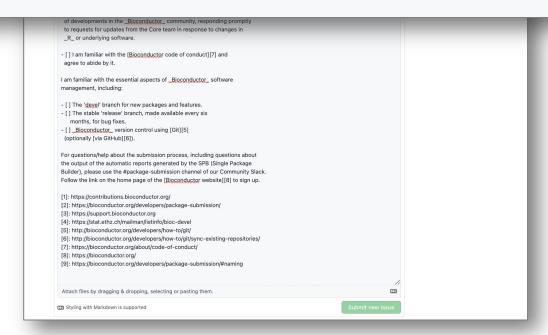


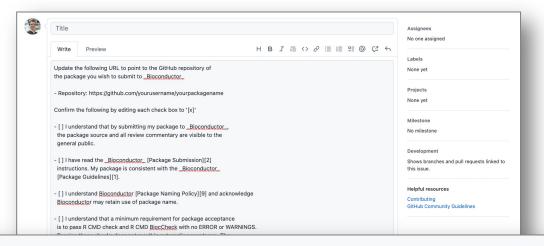
[] I have read the _Bioconductor [Package Submission][2] instructions. My package is consistent with the _Bioconductor [Package Guidelines][1].



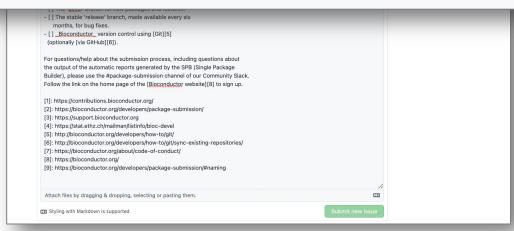


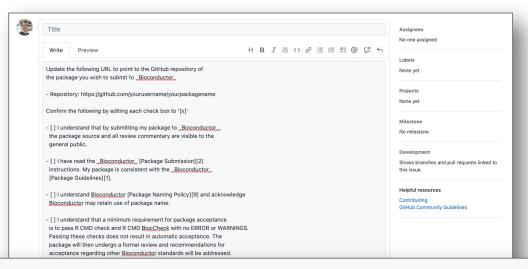
- [] I understand Bioconductor [Package Naming Policy][9] and acknowledge Bioconductor may retain use of package name.



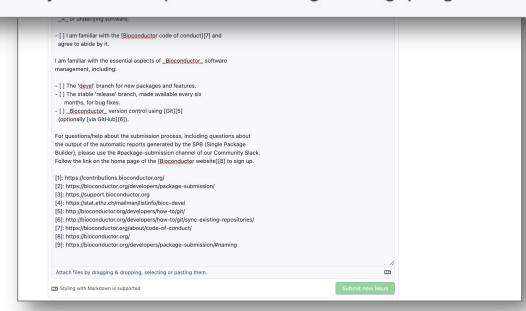


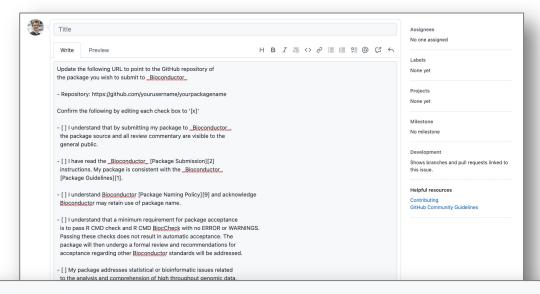
- [] I understand that a minimum requirement for package acceptance is to pass R CMD check and R CMD BiocCheck with no ERROR or WARNINGS. Passing these checks does not result in automatic acceptance. The package will then undergo a formal review and recommendations for acceptance regarding other Bioconductor standards will be addressed.





- [] My package addresses statistical or bioinformatic issues related to the analysis and comprehension of high throughput genomic data.



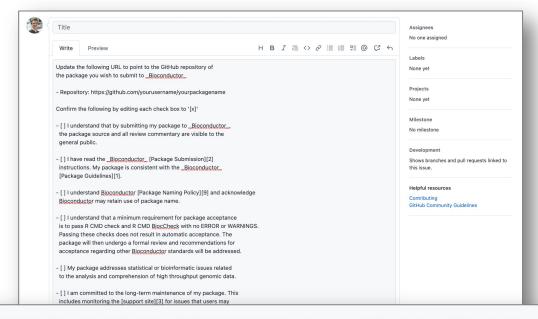


- [] I am committed to the long-term maintenance of my package. This includes monitoring the [support site][3] for issues that users may have, subscribing to the [bioc-devel][4] mailing list to stay aware of developments in the _Bioconductor_ community, responding promptly to requests for updates from the Core team in response to changes in _R_ or underlying software.

Follow the link on the home page of the [Bjogonductor website] (8) to sign up.

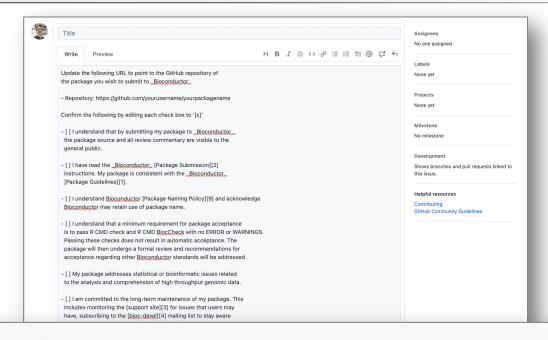
[1]: https://contributions.bloconductor.org/
[2]: https://sloconductor.org/developers/package-submission/
[3]: https://support.bloconductor.org/developers/package-submission/
[4]: https://support.bloconductor.org/developers/how-to/git/
[5]: http://bloconductor.org/developers/how-to/git/sync-existing-repositories/
[7]: https://bloconductor.org/about/code-of-conduct/
[8]: https://bloconductor.org/developers/package-submission/#naming

Attach files by dragging & dropping, selecting or pasting them.



- [] I am familiar with the [Bioconductor code of conduct][7] and agree to abide by it.





I am familiar with the essential aspects of _Bioconductor_ software management, including:

- [] The 'devel' branch for new packages and features.
- [] The stable 'release' branch, made available every six months, for bug fixes.
- [] Bioconductor version control using [Git][5] (optionally [via GitHub][6]).

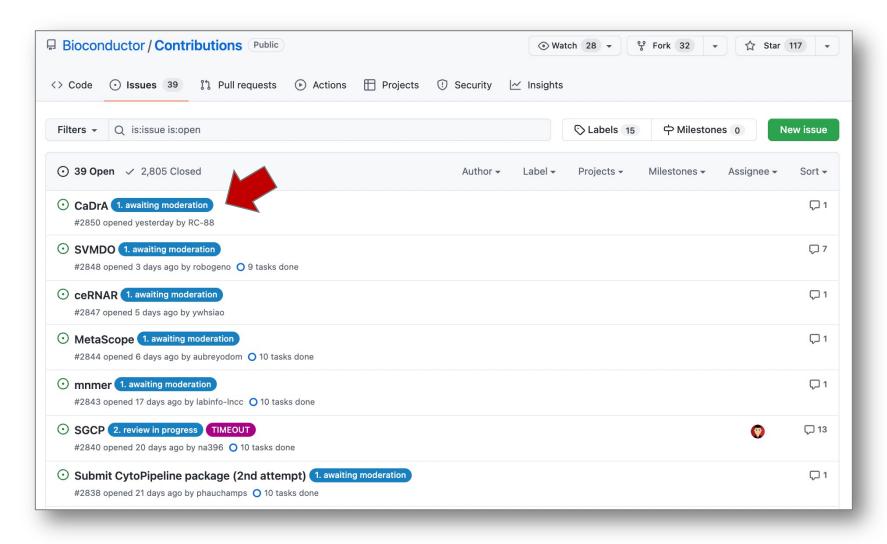
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CD

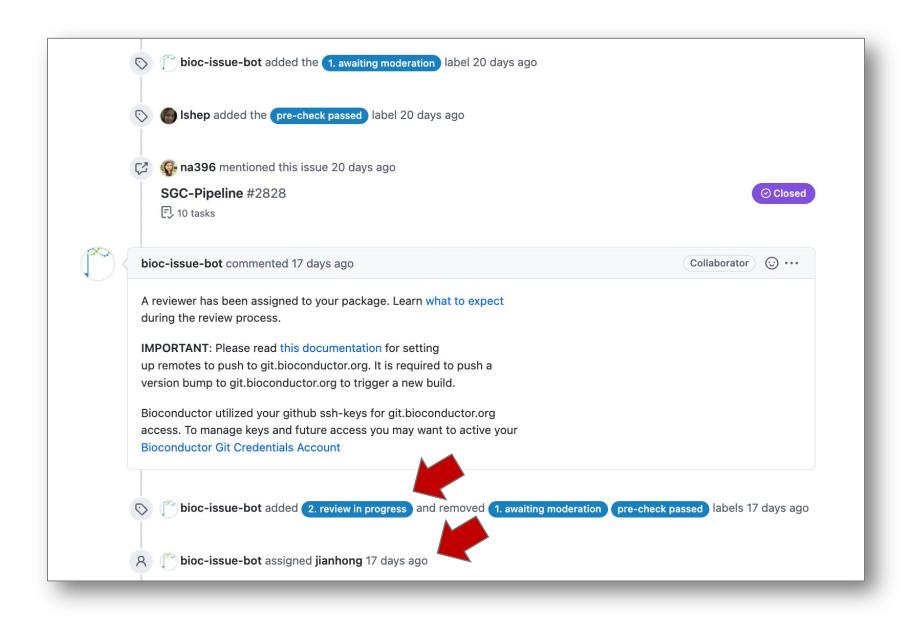
Submit new issue

Await for a Bioconductor team member to be selected to review your package

2. Patiently await for moderators to pre-check your package



Await for a Bioconductor team member to be selected to review your package



Moving to (pre-)review process

The "2. review in progress" tag is slightly mis-leading.

Your reviewer is not likely to have a look at your package as soon as they are assigned to review it.

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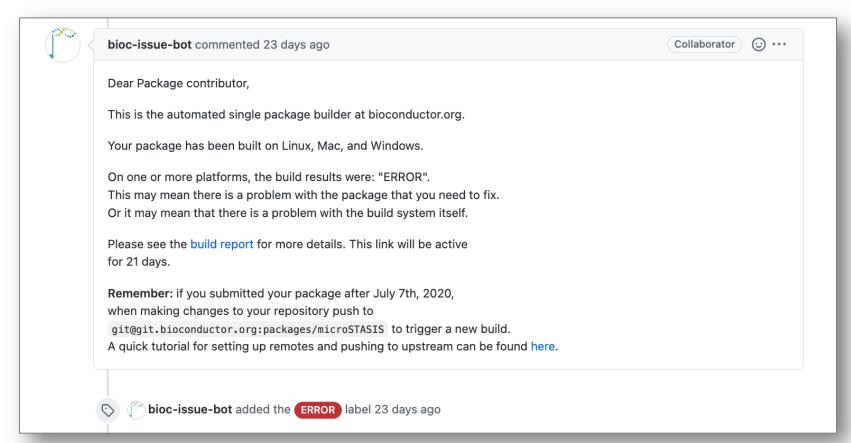
And this is because of...

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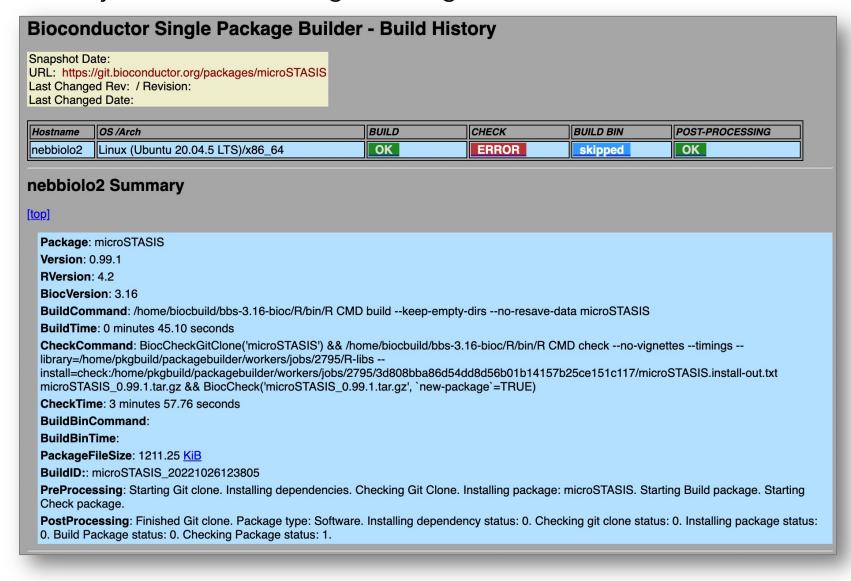
And this is because of...



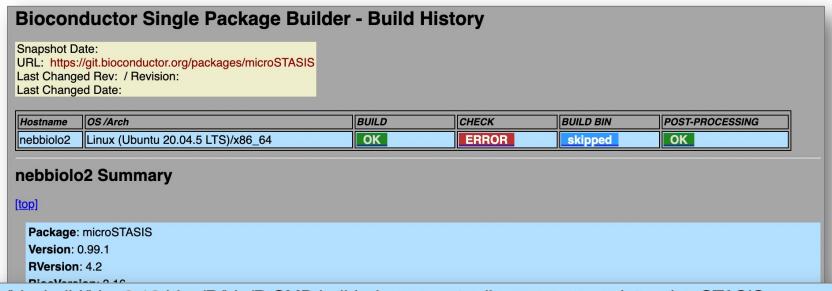
Once your package is in review, a new "sub-repo" is created in Bioconductor's GitHub (in the `packages` repo), synchronized with your own GitHub.

```
> git clone git@git.bioconductor.org:packages/microSTASIS.git
Cloning into 'microSTASIS'...
remote: Enumerating objects: 283, done.
remote: Counting objects: 100% (283/283), done.
remote: Compressing objects: 100% (164/164), done.
remote: Total 283 (delta 183), reused 154 (delta 103), pack-
reused 0
Receiving objects: 100% (283/283), 1012.15 KiB | 2.80 MiB/s,
done.
Resolving deltas: 100% (183/183), done.
```

Then Bioconductor heavy machines (the Single Package Builder) run-run-run.



Then Bioconductor heavy machines (the Single Package Builder) run-run-run.



BuildCommand: /home/biocbuild/bbs-3.16-bioc/R/bin/R CMD build --keep-empty-dirs --no-resave-data microSTASIS

CheckCommand: BiocCheckGitClone('microSTASIS') && /home/biocbuild/bbs-3.16-bioc/R/bin/R CMD check --no-vignettes --timings -library=/home/pkgbuild/packagebuilder/workers/jobs/2795/R-libs -install=check:/home/pkgbuild/packagebuilder/workers/jobs/2795/3d808bba86d54dd8d56b01b14157b25ce151c117/microSTASIS.install-out.txt
microSTASIS_0.99.1.tar.gz && BiocCheck('microSTASIS_0.99.1.tar.gz', `new-package`=TRUE)

CheckTime: 3 minutes 57.76 seconds

BuildBinCommand:

BuildBinTime:

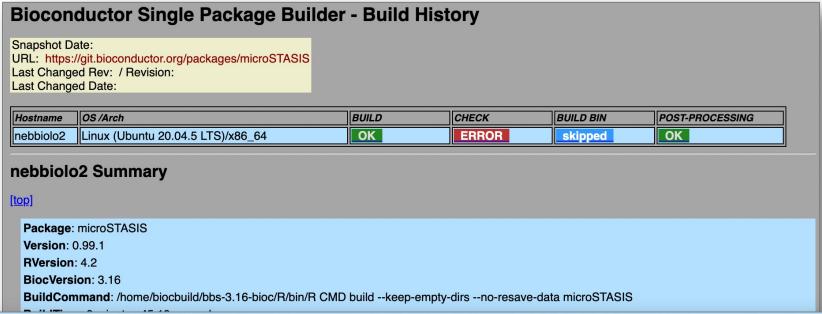
PackageFileSize: 1211.25 KiB

BuildID:: microSTASIS_20221026123805

PreProcessing: Starting Git clone. Installing dependencies. Checking Git Clone. Installing package: microSTASIS. Starting Build package. Starting
Check package.

PostProcessing: Finished Git clone. Package type: Software. Installing dependency status: 0. Checking git clone status: 0. Installing package status: 0. Build Package status: 0. Checking Package status: 1.

Then Bioconductor heavy machines (the Single Package Builder) run-run-run.



CheckCommand: BiocCheckGitClone('microSTASIS') && /home/biocbuild/bbs-3.16-bioc/R/bin/R CMD check --no-vignettes --timings --library=/home/pkgbuild/packagebuilder/workers/jobs/2795/R-libs --install=check:/home/pkgbuild/packagebuilder/workers/jobs/2795/3d808bba86d54dd8d56b01b14157b25ce151c117/microSTASIS.install-out.txt microSTASIS_0.99.1.tar.gz && BiocCheck('microSTASIS_0.99.1.tar.gz', `new-package`=TRUE)

BuildBinTime:
PackageFileSize: 1211.25 KiB
BuildID:: microSTASIS_20221026123805
PreProcessing: Starting Git clone. Installing dependencies. Checking Git Clone. Installing package: microSTASIS. Starting Build package. Starting Check package.
PostProcessing: Finished Git clone. Package type: Software. Installing dependency status: 0. Checking git clone status: 0. Installing package status: 0. Build Package status: 0. Checking Package status: 1.

```
nebbiolo2 BUILD SRC output
[top]
  R CMD BUILD
  ______
  * checking for file microSTASIS/DESCRIPTION ... OK
  * preparing microSTASIS:
  * checking DESCRIPTION meta-information ... OK
  * installing the package to build vignettes
  * creating vignettes ... OK
  * checking for LF line-endings in source and make files and shell scripts
  * checking for empty or unneeded directories
  * looking to see if a data/datalist file should be added
  * building microSTASIS 0.99.1.tar.gz
```

nebbiolo2 CHECK output [top] ______ BiocCheckGitClone('microSTASIS') ______ BiocCheckVersion: 1.33.20 BiocVersion: 3.16 Package: microSTASIS PackageVersion: 0.99.1 sourceDir: /home/pkgbuild/packagebuilder/workers/jobs/2795/3d808bba86d54dd8d56b0 platform: unix isTarBall: FALSE * Checking valid files... * Checking for stray BiocCheck output folders... * Checking DESCRIPTION... * Checking if DESCRIPTION is well formatted... * Checking for valid maintainer... * Checking CITATION... * Checking that provided CITATION file is correctly formatted... BiocCheck results 0 ERRORS | 0 WARNINGS | 0 NOTES For more details, run browseVignettes(package = 'BiocCheck')

```
_____
 R CMD CHECK
* using log directory /home/pkgbuild/packagebuilder/workers/jobs/2795/3d808bba86d5
* using R version 4.2.1 (2022-06-23)
* using platform: x86_64-pc-linux-gnu (64-bit)
* using session charset: UTF-8
* using option --no-vignettes
* checking for file microSTASIS/DESCRIPTION ... OK
* this is package microSTASIS version 0.99.1
* package encoding: UTF-8
* checking package namespace information ... OK
* checking package dependencies ... OK
* checking if this is a source package ... OK
* checking if there is a namespace ... OK
* checking for hidden files and directories ... OK
* checking for portable file names ... OK
* checking for sufficient/correct file permissions ... OK
* checking whether package microSTASIS can be installed ... OK
* checking installed package size ... OK
* checking package directory ... OK
* checking for future file timestamps ... OK
* checking build directory ... OK
* checking DESCRIPTION meta-information ... OK
* checking top-level files ... OK
* checking for left-over files ... OK
* checking index information ... OK
* checking package subdirectories ... OK
* checking R files for non-ASCII characters ... OK
* checking R files for syntax errors ... OK
* checking whether the package can be loaded ... OK
* checking whether the package can be loaded with stated dependencies ... OK
* checking whether the package can be unloaded cleanly ... OK
* checking whether the namespace can be loaded with stated dependencies ... OK
* checking whether the namespace can be unloaded cleanly ... OK
* checking loading without being on the library search path ... OK
* checking use of S3 registration ... OK
* checking dependencies in R code ... OK
* checking S3 generic/method consistency ... OK
* checking replacement functions ... OK
* checking foreign function calls ... OK
* checking R code for possible problems ... [2s/2s] OK
* checking Rd files ... [0s/0s] OK
* checking Rd metadata ... OK
* checking Rd line widths ... OK
* checking Rd cross-references ... OK
* checking for missing documentation entries ... OK
* checking for code/documentation mismatches ... OK
* checking Rd \usage sections ... OK
* checking Rd contents ... OK
* checking for unstated dependencies in examples ... OK
* checking contents of data directory ... OK
* checking data for non-ASCII characters ... OK
* checking data for ASCII and uncompressed saves ... OK
* checking files in vignettes ... OK
* checking examples ... [82s/63s] OK
Examples with CPU (user + system) or elapsed time > 5s
                       user system elapsed
                     13.953 0.409 9.917
mSerrorCV
                     13.667 0.303 9.674
iterativeClusteringCV 13.071 0.308 9.127
plotmSdvnamics
                      6.323 0.216 5.616
                      6.293 0.240 5.493
plotmSheatmap
plotmSscatter
                      6.327 0.204 5.597
iterativeClustering
                    6.164 0.256 5.529
                      6.131 0.179 5.391
mSpreviz
mSmetadataGroups
                      6.118 0.176 5.383
* checking for unstated dependencies in tests ... OK
* checking tests ...
 Running testthat.R [247s/157s]
 [248s/157s] OK
* checking for unstated dependencies in vignettes ... OK
* checking package vignettes in inst/doc ... OK
* checking running R code from vignettes ... SKIPPED
* checking re-building of vignette outputs ... SKIPPED
* checking PDF version of manual ... OK
* DONE
Status: OK
```

```
BiocCheck('microSTASIS 0.99.1.tar.gz')
  BiocCheckVersion: 1.33.20
  BiocVersion: 3.16
  Package: microSTASIS
  PackageVersion: 0.99.1
  sourceDir: /tmp/RtmpnTRI6L/file299866123c1cb6/microSTASIS
  installDir: /tmp/RtmpnTRI6L/file2998665a5c8c08
  BiocCheckDir: ./microSTASIS.BiocCheck
  platform: unix
  isTarBall: TRUE
* Installing package...
* Checking package dependencies...
* Checking if other packages can import this one...
* Checking to see if we understand object initialization...
* Checking for deprecated package usage...
* Checking for remote package usage...
* Checking for 'LazyData: true' usage...
* Checking version number...
* Checking for version number mismatch...
* Checking new package version number...
* Checking R version dependency...
* Checking package size...
* Checking individual file sizes...
* Checking biocViews...
* Checking that biocViews are present...
* Checking package type based on biocViews...
    Software
* Checking for non-trivial biocViews...
* Checking that biocViews come from the same category...
* Checking biocViews validity...
* Checking for recommended biocViews...
* Checking build system compatibility...
* Checking for blank lines in DESCRIPTION...
* Checking if DESCRIPTION is well formatted...
* Checking for proper Description: field...
* Checking for whitespace in DESCRIPTION field names...
* Checking that Package field matches directory/tarball name...
* Checking for Version field...
* Checking for valid maintainer...
* Checking License: for restrictive use...
* Checking for pinned package versions...
* Checking DESCRIPTION/NAMESPACE consistency...
* Checking .Rbuildignore...
* Checking for stray BiocCheck output folders...
* Checking vignette directory...
* Checking whether vignette is built with 'R CMD build'...
* Checking package installation calls in R code...
* Checking for library/require of microSTASIS...
* Checking coding practice...
* Checking parsed R code in R directory, examples, vignettes...
* Checking function lengths...
* Checking man page documentation...
* Checking package NEWS...
* Checking unit tests...
* Checking skip_on_bioc() in tests...
 * Checking formatting of DESCRIPTION, NAMESPACE, man pages, R source,
  and vignette source...
    * NOTE: Consider shorter lines; 70 lines (5%) are > 80 characters
    * NOTE: Consider multiples of 4 spaces for line indents; 307 lines
      (20%) are not.
    See https://contributions.bioconductor.org/r-code.html
    See styler package: https://cran.r-project.org/package=styler as
      described in the BiocCheck vignette.
 * Checking if package already exists in CRAN...
    * ERROR: Package must be removed from CRAN.
 * Checking if new package already exists in Bioconductor...
* Checking for bioc-devel mailing list subscription...
    Maintainer is subscribed to bioc-devel.
  * Checking for support site registration...
    Maintainer is registered at support site.
    Package name is in support site watched tags.
  BiocCheck results
1 ERRORS | 0 WARNINGS | 2 NOTES
See the microSTASIS.BiocCheck folder and run
   browseVignettes(package = 'BiocCheck')
for details.
```

```
BiocCheck('microSTASIS_0.99.1.tar.gz')
  BiocCheckVersion: 1.33.20
  BiocVersion: 3.16
  Package: microSTASIS
  PackageVersion: 0.99.1
  sourceDir: /tmp/RtmpnTRI6L/file299866123c1cb6/microSTASIS
  installDir: /tmp/RtmpnTRI6L/file2998665a5c8c08
  BiocCheckDir: ./microSTASIS.BiocCheck
  platform: unix
  isTarBall: TRUE
* Installing package...
* Checking package dependencies...
* Checking if other packages can import this one...
* Checking to see if we understand object initialization...
* Checking for deprecated package usage...
* Checking for remote package usage...
* Checking for 'LazyData: true' usage...
* Checking version number...
* Checking for version number mismatch...
* Checking new package version number...
* Checking R version dependency...
* Checking package size...
* Checking individual file sizes...
* Checking biocViews...
* Checking that biocViews are present...
* Checking package type based on biocViews...
    Software
* Checking for non-trivial biocViews...
* Checking that biocViews come from the same category...
* Checking biocViews validity...
* Checking for recommended biocViews...
* Checking build system compatibility...
* Checking for blank lines in DESCRIPTION...
* Checking if DESCRIPTION is well formatted...
* Checking for proper Description: field...
* Checking for whitespace in DESCRIPTION field names...
* Checking that Package field matches directory/tarball name...
* Checking for Version field...
* Checking for valid maintainer ...
* Checking License: for restrictive use.
```

- * Checking formatting of DESCRIPTION, NAMESPACE, man pages, R source, and vignette source...
 - * NOTE: Consider shorter lines; 70 lines (5%) are > 80 characters long.
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See https://contributions.bioconductor.org/r-code.html
See styler package: https://cran.r-project.org/package=styler as
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See styler package: https://cran.r-project.org/package=styler as
described in the BiocCheck vignette.

* Checking if package already exists in CRAN...

* ERROR: Package must be removed from CRAN.

* Checking if new package already exists in Bioconductor...

* Checking for bioc-devel mailing list subscription...

Maintainer is subscribed to bioc-devel.

* Checking for support site registration...

Maintainer is registered at support site.
Package name is in support site watched tags.

BiocCheck results

1 ERRORS | 0 WARNINGS | 2 NOTES

See the microSTASIS.BiocCheck folder and run
browsevignettes(package = 'BiocCheck')

for details.
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```
BiocCheck('microSTASIS 0.99.1.tar.gz')
  BiocCheckVersion: 1.33.20
  BiocVersion: 3.16
  Package: microSTASIS
  PackageVersion: 0.99.1
  sourceDir: /tmp/RtmpnTRI6L/file299866123c1cb6/microSTASIS
  installDir: /tmp/RtmpnTRI6L/file2998665a5c8c08
  BiocCheckDir: ./microSTASIS.BiocCheck
  platform: unix
  isTarBall: TRUE
* Installing package...
* Checking package dependencies...
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* Checking for 'LazyData: true' usage...
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    See https://contributions.bioconductor.org/r-code.html
```

* Checking if package already exists in CRAN...
* ERROR: Package must be removed from CRAN.

```
Maintainer is subscribed to bioc-devel.

* Checking for support site registration...
Maintainer is registered at support site.
Package name is in support site watched tags.

BiocCheck results
1 ERRORS | 0 WARNINGS | 2 NOTES

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```

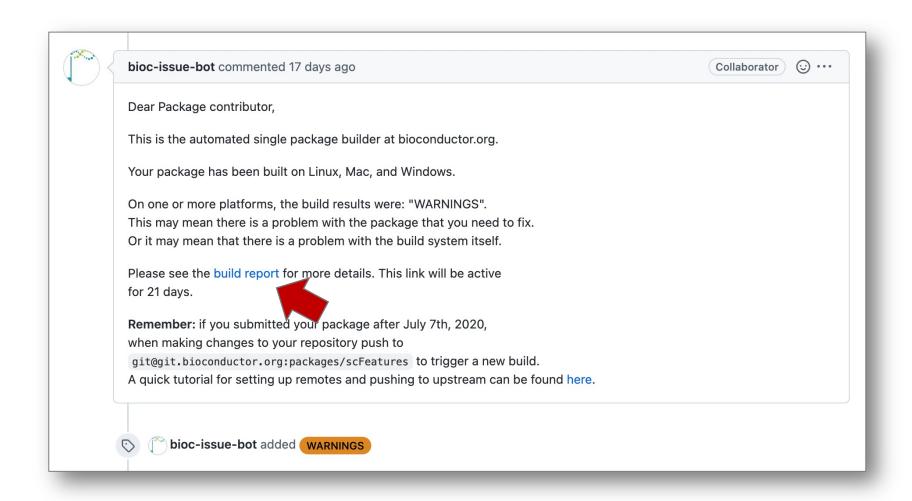
Moving to (pre-)review process

3. Fix errors!

4. Fix errors!

5. Fix errors!

a. Check the build reports.



- a. Check the build reports.
- b. Identify where the problem(s) occurred.

```
R CMD CHECK
* using log directory /home/pkgbuild/packagebuilder/workers/jobs/2815/494098d7b6b9d1e31b3ece63b88af3160e4d6
* using R version 4.2.1 (2022-06-23)
* using platform: x86 64-pc-linux-qnu (64-bit)
* using session charset: UTF-8
* using option --no-vignettes
* checking for file scFeatures/DESCRIPTION ... OK
* this is package scFeatures version 0.99.4
* package encoding: UTF-8
* checking package namespace information ... OK
* checking package dependencies ... OK
* checking if this is a source package ... OK
* checking if there is a namespace ... OK
* checking for hidden files and directories ... OK
* checking for portable file names ... OK
* checking for sufficient/correct file permissions ... OK
* checking whether package scFeatures can be installed ... WARNING
```

Found the following significant warnings:
Warning: replacing previous import 'dplyr::select' by 'ensembldb::select' when loading 'scFeatures'

```
- checking package unfectory ... Ok -
* checking for future file timestamps ... OK
* checking build directory ... OK
* checking DESCRIPTION meta-information ... OK
* checking top-level files ... OK
* checking for left-over files ... OK
* checking index information ... OK
* checking package subdirectories ... OK
* checking R files for non-ASCII characters ... OK
* checking R files for syntax errors ... OK
* checking whether the package can be loaded ... OK
* checking whether the package can be loaded with stated dependencies ... OK
* checking whether the package can be unloaded cleanly ... OK
* checking whether the namespace can be loaded with stated dependencies ... OK
* checking whether the namespace can be unloaded cleanly ... OK
* checking loading without being on the library search path ... OK
* checking use of S3 registration ... OK
* checking dependencies in R code ... OK
* checking S3 generic/method consistency ... OK
* checking replacement functions ... OK
* checking foreign function calls ... OK
* checking R code for possible problems ... [41s/41s] OK
* checking Rd files ... [0s/0s] OK
* checking Rd metadata ... OK
* checking Rd line widths ... OK
* checking Rd cross-references ... OK
* checking for missing documentation entries ... OK
* checking for code/documentation mismatches ... OK
* checking Rd \usage sections ... OK
* checking Rd contents ... OK
* checking for unstated dependencies in examples ... OK
* checking files in vignettes ... OK
* checking examples ... [112s/105s] OK
Examples with CPU (user + system) or elapsed time > 5s
                        user system elapsed
                      34.378 0.573 33.016
scFeatures
run pathway gsva
                       9.004 0.340 9.345
run pathway prop
                       7.626 0.098 7.724
run pathway mean
                       6.568 0.118 6.686
run gene cor celltype 4.954 1.286 3.519
* checking for unstated dependencies in vignettes ... OK
* checking package vignettes in inst/doc ... OK
* checking running R code from vignettes ... SKIPPED
* checking re-building of vignette outputs ... SKIPPED
* checking PDF version of manual ... OK
* DONE
Status: 1 WARNING
```

b. Identify where the problem(s) occurred.

c. Optional: ask Bioconductor people!!

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o Please don't: ask directly in the issue...

o Please do: ask on bioc-devel mailing list!

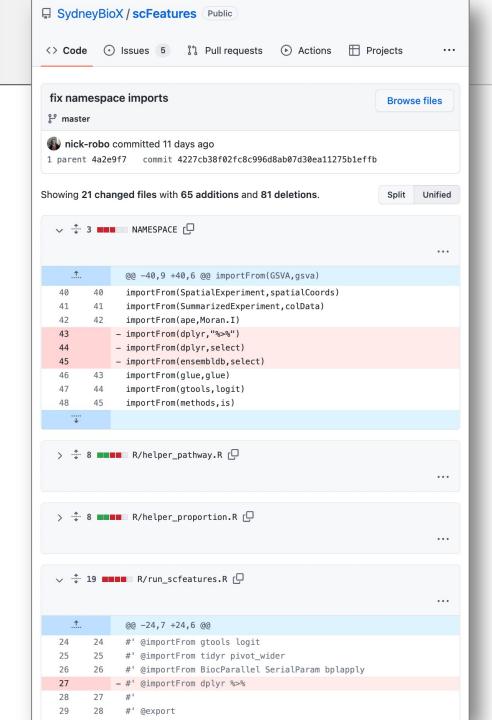
- a. Check the build reports.
- b. Identify where the problem(s) occurred.
- c. Optional: ask Bioconductor people!!



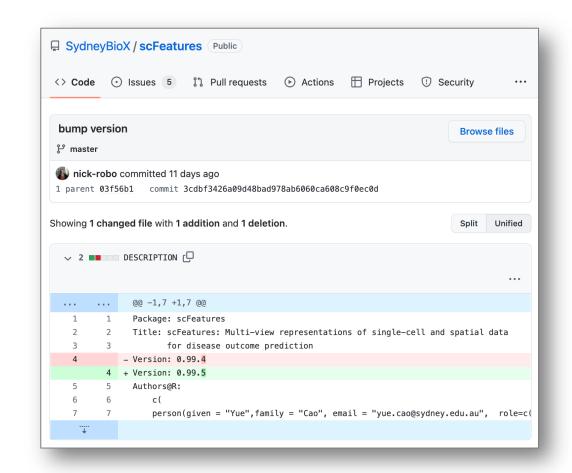
a. Check the build reports.

- b. Identify where the problem(s) occurred.
- c. Optional: ask Bioconductor people!!
- d. Attempt to fix your errors
 - o Change your code locally
 - o Check locally

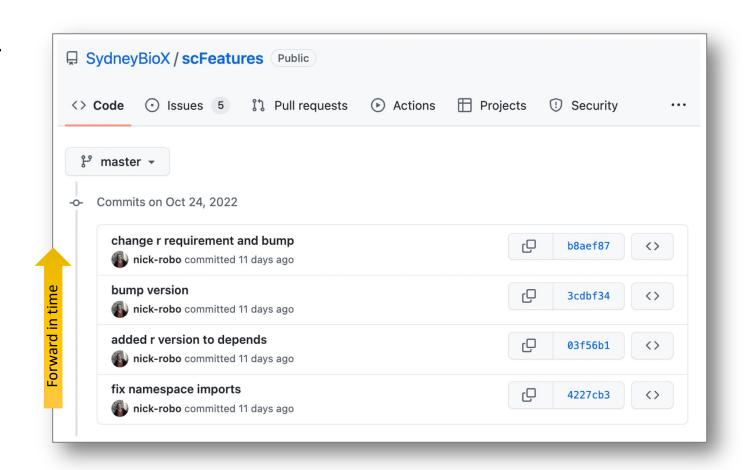
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 - o Push to your own GitHub repo



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 - Bump package version!



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- a. Check the build reports.
- b. Identify where the problem(s) occurred.
- c. Optional: ask Bioconductor people!!
- d. Attempt to fix your errors
 - Change your code locally
 - o Check locally
 - o Push to <u>your own</u> GitHub repo
 - Bump package version!
 - Push to Bioc upstream branch!!!!

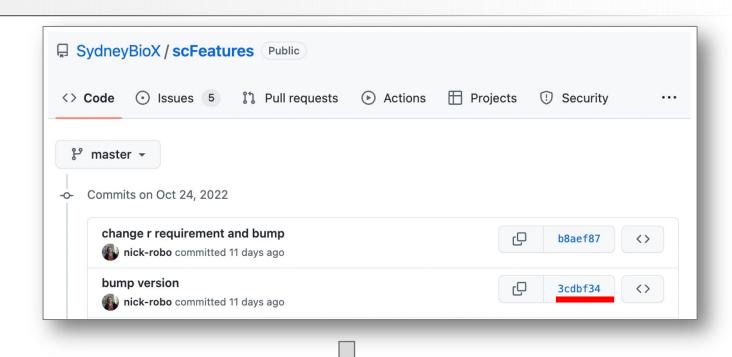
```
## Add Bioconductor upstream remote
> git remote add upstream
git@git.bioconductor.org:packages/<YOUR-REPOSITORY-NAME>.git

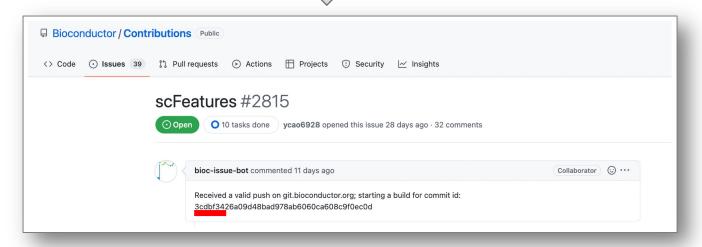
## Commit changes
> git add <files changed>
> git commit -m "<informative commit message>"

## Bump package version
> git add DESCRIPTION
> git commit -m "bump to 0.99.4"

## Push to BioC upstream remote and your own remote
> git push
> git push upstream master
```

- a. Check the build reports.
- b. Identify where the problem(s) occurred.
- c. Optional: ask Bioconductor people!!
- d. Attempt to fix your errors
- e. Version bumping will trigger a newSingle Package Builder run

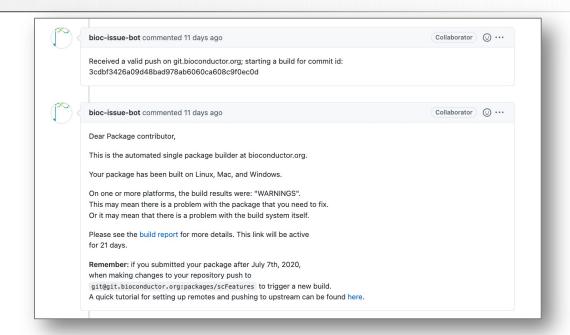




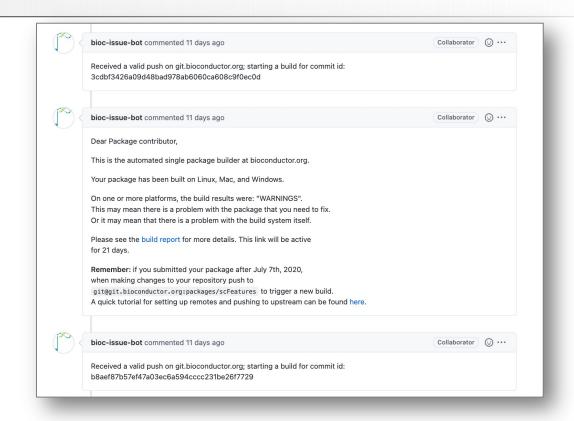
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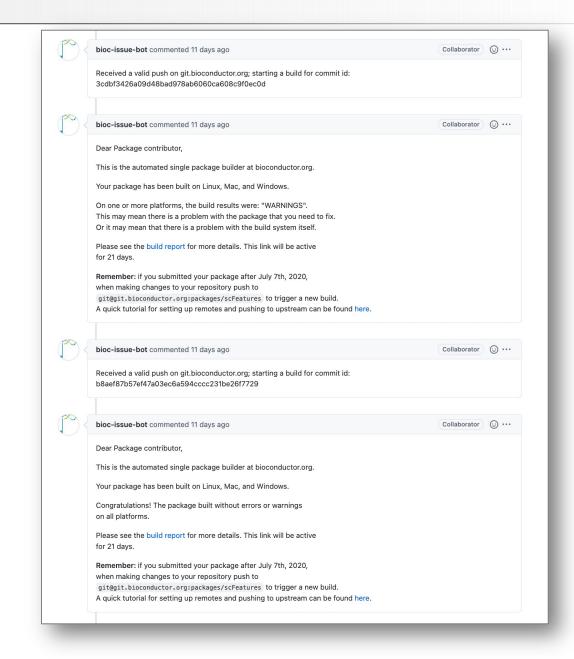
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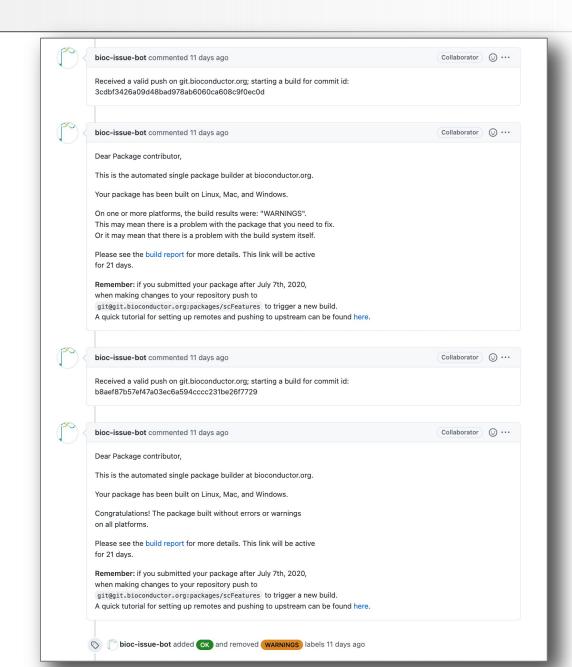
- a. Check the build reports.
- b. Identify where the problem(s) occurred.
- c. Optional: ask Bioconductor people!!
- d. Attempt to fix your errors
- e. Version bumping will trigger a new Single Package Builder run
- f. Repeat...



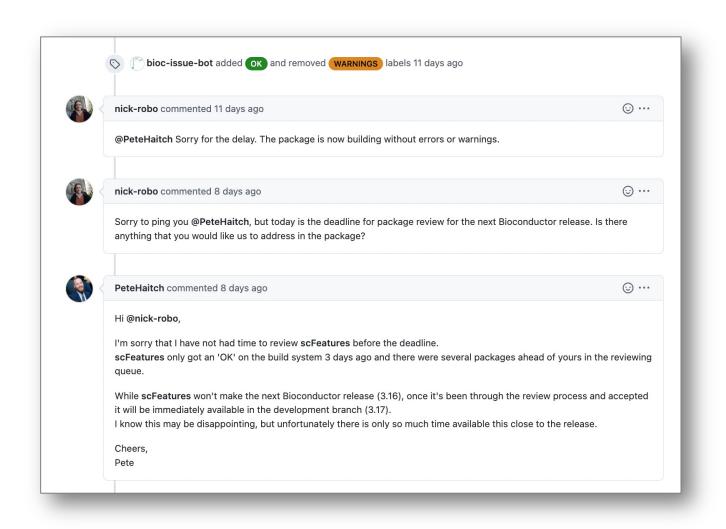
- a. Check the build reports.
- b. Identify where the problem(s) occurred.
- c. Optional: ask Bioconductor people!!
- d. Attempt to fix your errors
- e. Version bumping will trigger a new Single Package Builder run
- f. Repeat...



- a. Check the build reports.
- b. Identify where the problem(s) occurred.
- c. Optional: ask Bioconductor people!!
- d. Attempt to fix your errors
- e. Version bumping will trigger a new Single Package Builder run
- f. Repeat...
- g. Hurray



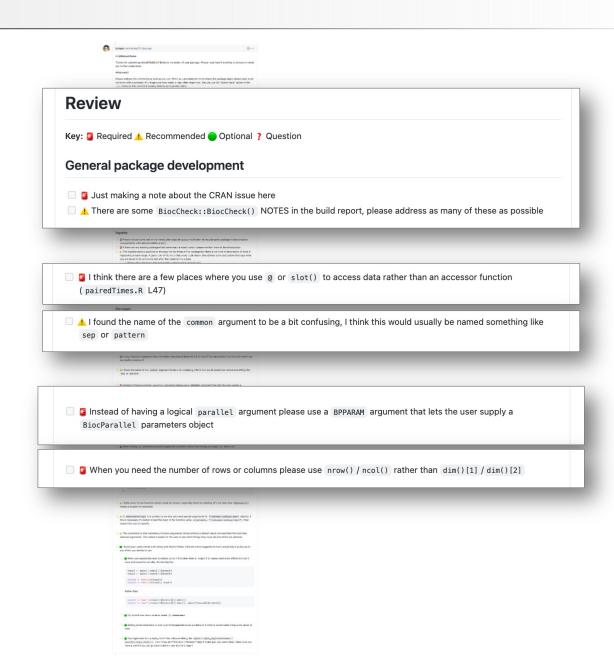
- a. Check the build reports.
- b. Identify where the problem(s) occurred.
- c. Optional: ask Bioconductor people!!
- d. Attempt to fix your errors
- e. Version bumping will trigger a new Single Package Builder run
- f. Repeat...
- g. Hurray 🎾
- h. Well not so fast...



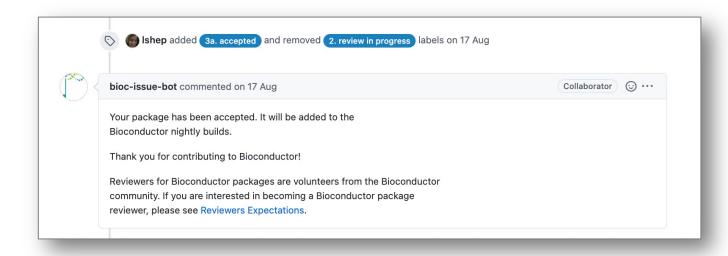
6. Addressing reviewer's comments



6. Addressing reviewer's comments



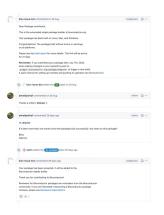
6. Addressing reviewer's comments



As a general principle, reviews are largely unfair/unhomogenized across reviewers. Sounds familiar?



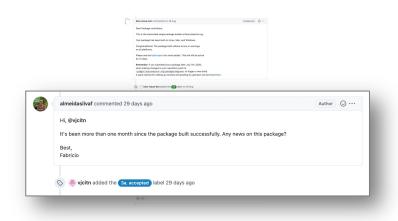




As a general principle, reviews are largely unfair/unhomogenized across reviewers. Sounds familiar?







Once your package is accepted, you will have to maintain it, e.g. to fix bugs/implement new functionalities.

Full instructions: https://contributions.bioconductor.org/git-version-control.html

Maintaining a Bioconductor package will require to:

1. Pull upstream changes (There will be some!!! Don't mess that up!)

```
## Check remotes
> git remote -v
origin    git@github.com:<YOUR-GH-ID>/<YOUR-REPOSITORY-NAME>.git (fetch)
origin    git@github.com:<YOUR-GH-ID>/<YOUR-REPOSITORY-NAME>.git (push)
upstream    git@git.bioconductor.org:packages/<YOUR-REPOSITORY-NAME> (fetch)
upstream    git@git.bioconductor.org:packages/<YOUR-REPOSITORY-NAME> (push)
```

```
## Pull upstream changes and sync remote origin
> git checkout master
> git fetch upstream
> git merge upstream/master

# ... Resolve merge conflicts if necessary... For more details, read
https://contributions.bioconductor.org/git-version-control.html#resolve-
merge-conflicts
> git push origin master
```

Maintaining a Bioconductor package will require to:

- 1. Pull upstream changes (There will be some!!! Don't mess that up!)
- 2. Commit changes to local master and push to remote origin & upstream (i.e. your GH and Bioconductor)

```
## Commit changes
> git checkout master
> git add <name of file changed>
> git commit -m "My informative commit message describing the change"

## Bump package version
> git add DESCRIPTION
> git commit -m "bump to 1.0.1"

## Push your local commits to the remote origin (your GitHub)
> git push origin master

## Push your local commits to the remote upstream (Bioconductor)
> git push upstream master
```

Maintaining a Bioconductor package will require to:

- 1. Pull upstream changes (There will be some!!! Don't mess that up!)
- 2. Commit changes to local master and push to remote origin & upstream (i.e. your GH and Bioconductor)
- 3. If you intend to work a new functionalities, it's recommended to do it in a separate local branch.

```
## Create new local branch and work there
> git checkout -b <NEW-FUNC-BRANCH>
# ...multiple rounds of edit, add, commit

## Merge with local master branch
> git checkout master
> git merge <NEW-FUNC-BRANCH>

## Bump package version
> git add DESCRIPTION
> git commit -m "bump to 1.0.1"

## Push your local commits to the remote origin (your GitHub)
> git push origin master

## Push your local commits to the remote upstream (Bioconductor)
> git push upstream master
```

At each Bioconductor release, a Bioconductor core member will:

Create a new branch for your package, in upstream remote (RELEASE_<#>)

```
## Locally clone your repository from Bioconductor (the "upstream" remote)
> git clone git@git.bioconductor.org:packages/<YOUR-REPOSITORY-NAME> && cd < YOUR-REPOSITORY-NAME>
Cloning into <YOUR-REPOSITORY-NAME>'...

## Check commits
> gitlog
* ad3c78e - (HEAD -> master, origin/master, origin/HEAD, origin/RELEASE 3 16) bump x.y.z version to even y prior to creation of
RELEASE_3_16 branch (3 days ago) <J Wokaty>
* 6ccb53e - bump 0.99.11 (3 weeks ago) <Js2264>
* ... previous commits ...
```

At each Bioconductor release, a Bioconductor core member will:

- 1. Create a new branch for your package, in upstream remote (RELEASE_<#>)
- 2. Update your package version (DESCRIPTION file) in this branch

```
## Check last commit
> git show
commit ad3c78e02c0b0210508ab3499a78f51e1fbdfcf0 (origin/RELEASE_3_16)
Author: J Wokaty <jennifer.wokaty@sph.cuny.edu>
Date: Tue Nov 1 11:27:34 2022 -0400

bump x.y.z version to even y prior to creation of RELEASE_3_16 branch

diff --git a/DESCRIPTION b/DESCRIPTION
index a9710ef..bda26ca 100644
--- a/DESCRIPTION
+++ b/DESCRIPTION
0@ -1,6 +1,6 @0
-Version: 0.99.11
+Version: 1.0.0
```

You <u>must</u> keep your local (and origin) repos in sync!

```
## Fetch changes from all remote branches (BioC upstream and your origin)
> git fetch --all

## Make sure you are working in master
> git checkout master

## Merge changes from BioC upstream and your origin
> git merge upstream/master
> git merge origin/master

# ... Resolve merge conflicts if any...

## Push your local commits to the remote origin (your GitHub) and remote upstream (Bioconductor)
> git push upstream master
> git push origin master
```

Don't forget to do that for the release branch as well.

```
## Fetch changes from all remote branches (BioC upstream and your origin)
> git fetch --all

## Make sure you are working in master
> git checkout RELEASE_<#>

## Merge changes from BioC upstream and your origin
> git merge upstream/RELEASE_<#>
> git merge origin/RELEASE_<#>
## ... Resolve merge conflicts if any...

## Push your local commits to the remote origin (your GitHub) and remote upstream (Bioconductor)
> git push upstream RELEASE_<#>
> git push origin RELEASE_<#>
```