# Share and Preserve Your Code

Publishing your code offers many benefits. In addition to **preserving** your code and making it **accessible** to others, publishing also ensures others can **cite** it, **reproduce** it, and helps you contribute to the **open science** movement.

This guide will show you how to use <u>Github</u> to publish your code and <u>Zenodo</u> to archive it and create a citable DOI for your software.

## First: Set Up a GitHub Repository

A GitHub repository can house anything relevant to your project (including code, API documentation, data sets, spreadsheets, etc.) It will have a unique URL you can share with others.

- 1. Log in to <u>GitHub</u>.
- 2. Click the green "Create Repository" button



- 3. Choose a descriptive name and write a brief description for your repository.
- 4. Make the repository public (this allows you to archive it).
- 5. Add a README file now or add it later (just make sure you include one!)
- 6. Choose which files not to track (if applicable).
- 7. <u>Choose a license</u> for your repository.
- 8. Create your repository.

Owner *	Repository name *			Name and describe vou
Great repository nam	es are short and memorable. Need insp	ration? How about	glowing-telegram?	repository
Description (optional)				
			Make it public	io it
Public     Anyone on the	internet can see this repository. You choose w	ho can commit.	can be archive	ed
○ A Private You choose with the private	n can sue and commit to this superitors			
	o can see and commit to this repository.			
Initialize this reposit	or with:			
I <b>nitialize this reposit</b> Skip this step if you'r	ory with: a importing an existing repository.			
Initialize this reposit Skip this step if you'r ] Add a README fi	or an see and commit to this repository. Pry with: Proporting an existing repository.			ur
Initialize this reposit Skip this step if you'r Add a README fi This is where you ca	or with: e importing an existing repository. le write a long description for your project. Lear	n more.	Make yo	ur for
Initialize this reposit Skip this step if you'r Add a README fi This is where you car Add .gitignore	or with: e importing an existing repository. le write a long description for your project. Lear	n more.	Make yo selections README, fil	ur for les to
Initialize this reposit Skip this step if you'r Add a README fi This is where you car Add .gitignore Choose which files not t	or with: e importing an existing repository. le write a long description for your project. Lear p track from a list of templates. Learn more.	n more.	Make yo selections README, fil ignore	ur for les to nd
Initialize this reposit Skip this step if you'r Add a README fi This is where you car Add .gitignore Choose which files not t .gitignore template: N	or y with: e importing an existing repository. le write a long description for your project. Lear o track from a list of templates. Learn more. one	n more.	Make yo selections README, fil ignore, a license	ur for les to nd
Initialize this reposit Skip this step if you'r Add a README fi This is where you car Add .gitignore Choose which files not t .gitignore template: N Choose a license	by with: e importing an existing repository. le write a long description for your project. Lear track from a list of templates. Learn more. one	n more.	Make yo selections README, fil ignore, a license	ur for les to nd
Initialize this reposit Skip this step if your) Add a READNE fi This is where you can Add .gitignore Choose which files not t .gitignore template: N Choose a license A license tells others wh	ory with: e importing an existing repository. le write a long description for your project. Lear track from a list of templates. Learn more. one	n more.	Make yo selections README, fil ignore, a license	ur for les to nd
Initialize this reposit Skip this step if you'r Add a README fi This is where you car Add .gitignore Choose which files not t .gitignore template: N Choose a license A license tells others wh License: None ▼	or variable and contain to this repository. in importing an existing repository. in the along description for your project. Learn track from a list of templates. Learn more. one • it they can and can't do with your code. Learn	n more.	Make yo selections README, fil ignore, a license	ur for les to nd
Initialize this reposit Skip this step if you'r Add a README fi This is where you car Add.gitignore Choose which files not t .gitignore template: N Choose a license A license tells others wh License: None •	or variate and contain to this repository. ie importing an existing repository. ie write a long description for your project. Learn or track from a list of templates. Learn more. one • it they can and can't do with your code. Learn	n more.	Make yo selections README, fil ignore, a license	ur for les to nd
Initialize this reposit Skip this step if you'r Add a README fi This is where you car Add .gitignore Choose which files not t .gitignore template: N Choose a license A license tells others wh License: None ¥ 3) You are creating a	ory with: e importing an existing repository. Where a long description for your project. Learn track from a list of templates. Learn more. one - t they can and can't do with your code. Learn public repository in your personal accord	n more.	Make yo selections README, fil ignore, a license	ur for les to nd
Initialize this reposit Skip this step if you'r Add a README fi This is where you car Add.gitignore Choose which files not t .gitignore template: N Choose a license A license tells others wh License: None • 3 You are creating a	ory with: e importing an existing repository. le write a long description for your project. Lear strack from a list of templates. Learn more. one • it they can and can't do with your code. Learn public repository in your personal acco	n more.	Make yo selections README, fil ignore, a license	ur for les to nd

## Next: Archive Your Repository in Zenodo

Zenodo is an open repository that preserves your code and will archive your GitHub repository each time you create a new release. Each submission in Zenodo will be assigned a DOI (digital object identifier), meaning your code can be cited by others.

Archiving in Zenodo requires two steps: linking your GitHub repository with Zenodo and then creating and publishing a release of your repository.

#### Link GitHub with Zenodo:

1. Log in to Zenodo with your GitHub account. (Zenodo may prompt you to authorize GitHub).

Log in to account C Log in with GitHub C Log in with ORCID - OR -
Log in with GitHub     Cog in with ORCID     OR -
Log in with ORCID
- OR -
nail Address
assword
+Ð Log In

2. From the drop-down menu next to your email address, select GitHub.

zenodo 📼	L Upload Communities		1	e@uiowa.edu -
Featured communiti	ES Transform to Open Science		Browse	Change password     Security     Linked accounts     Applications     Shared linke
TOPS	Transform to OPen Science (TOPS) is a \$40 million, 5-year mi Source Science initiative. Within the TOPS mission, NASA is o initiative to spark change and inspire open science Curated by: nasatransformtoopen	ssion, led by N. lesignating 202	ASA's Science Mission Directora 3 as the Year Of Open Science, :	G GitHub     G Log out
Recent uploads			Need help?	
September 26, 2022 (vv0.4:2rc1) Software Open	Access	View	Contac	tus
dfm/python-fsps: python-fsps v0. Ben Johnson; Dan Foreman-Mackey; Jonat Spencer Scott.	4.2rc1 han Sick; Joel Leja; Nell Byler; Mike Walmsley; Erik Tollerud; Henry Lei	ing;	Zenodo prioritizes all reques COVID-19 outbreak. We can help with:	ted related to the

3. You will see your GitHub repositories. If needed, choose "Sync Now" to update.

Home / Account / GitHub		nunnues	and y ware out owared
Settings	O GitHub Repositories		(updated now) Sync now
🌲 Profile		O Get started	
& Change password			
<b>V</b> Security	<b>1</b> Flip the switch	2 Create a release	<b>3</b> Get the badge
& Linked accounts	Select the repository you want to	Go to GitHub and create a release.	After your first release, a DOI badge that
Applications	turn on automatic preservation of your	zerodo will actornatically download a .zip-ball of each new release and register a DOI	appear next to your repository below.
A Shared links	Solution		DOI: 10.5281/zepodo.8475
O GitHub	ON		(example)
	Repositories		
1	If your organization's repositories do not show up i are not supported.	in the fist, please ensure you have enabled third party ac	ccess to the Zenodo application. Private repositorie
	(RDS_sample		OFF

### Archive Your Repository

1. Toggle the "on" button next to the repository you want to archive.



- 2. Click on the name of the repository.
- 3. Choose the "Create Release" button. This redirects you back to GitHub's repository page.

tHub / Releases	/RDS_sample	ON • Create release
tHub / Releases		Create release
	Cot otortor	11
	Get Startet	ן: ג
	Go to GitHub and make your first re	lease.
	RDS_sample	
		GO TO GITHUD and make your first re

- 4. Complete the fields (title, description, version number.) If this is your first release, use version number v1.0.0.
- 5. Click "Publish Release" at the bottom of the page.

Releases Tags	
ြာ Choose a tag ເ⇒ မြို Target: main ເ∽	
Choose an existing tag, or create a new tag when you publish this release.           Title your release	
Write Preview	
HBI ≣<>∂ ≔ ≡ ≡ @ ₽ ∽	Generate release notes
Provide a brief description	//
Attach files by dragging & dropping, selecting or pasting them.	
$\bigvee$ Attach binaries by dropping them here or selecting them.	
This is a pre-release We'll point out that this release is identified as non-production ready. Publish release Save draft	

# Add Your Repository to the University of Iowa Community on Zenodo

Uploading your repository to the Ulowa community will allow other Ulowa researchers to easily find your code (and for you to find theirs!)

1. From your list of Zenodo repositories, click the DOI link for the repo you want to add.

/RDS_sample	ON
GitHub / Releases	O Create release
♦ v1.0.0	✓ Published
IIII DOI: 10.5281/zenodo.7094174	13 days ago
O Sample Release	

## 2. Choose "edit."

		1	
September 19, 2022	Software Open Access	C	Edit
RDS_sample: Sample R	Release	New	version
This is a sample to show how to link GitHub and Zenodo.		6	0
Preview	♥	<ul> <li>views</li> </ul>	📥 downloads
RDS_sample-v1.0.0.zip	8	See mo	re details
■ RDS_sample-0e36df4 <ul> <li>□ LICENSE</li> <li>□ README.md</li> </ul>	1.1 kB 90 Bvtes		

3. Search for and choose the University of Iowa community.

Edit upload		
structions: (i) Upload minimum one file or fill in require	ed fields (marked with a red star ). (ii) Press "Save" to save your upload for editing later. (iii) When rez	ady, press "Publish" to finalize and make your upload public.
Files		*
Filename (1 files)	Size	Checksum @
RDS_sample-v1.0.0.zip	1 kB	md5aee0bf9a8d58477ec4d77b75761e7a44
Note: File addition, removal or modification are not allo please contact us.	wed after an upload has been published. This is because a Digital Object Identifier (DGI) is registere	d with 🕑 DataCite for each upload. If you've made a mistake
If you ha	ave an updated version of your files, you can create a new record version, with a com	pletely new DOI.
	inew version	
Communities O		recommended 💙
Specify communities which you wish your up complies with the content policy of the comm	load to appear in. The owner of the community will be notified, and can either accept nu	t or reject your request. Please make sure your record
	Search for "University of Iowa" and	
University of Iowa	choose the Ulowa community	٩
University of Iowa A Zenodo community for Univ	ensity of Iowa research data and related materials such as code/scripts.	

#### 4. Save

× Discard changes			🗅 Save 🗸 Put sh
Edit upload			$\smile$
Instructions: (i) Upload minimum one file or fill-in required fields (mark	ked with a red star ). (ii) Press 'Save' to save your upload for	r editing later. (iii) When read	y, press "Publish" to finalize and make your upload public.
Files			*
Filename (1 files)		Size	Checksum @
/RDS_sample-v1.0.0.zip		1 kB	md5;aee0bf9a8d58477ec4d77b75761e7a44
Note: File addition, removal or modification are not allowed after an please contact us,	upload has been published. This is because a Digital Object	Identifier (DOI) is registered	with C DataCite for each upload. If you've made a mistake
If you have an upda	ted version of your files, you can create a new reco	rd version, with a compl	etely new DOI.
Communities Ø			recommended 👻
Specify communities which you wish your upload to app complies with the content policy of the communities you	ear in. The owner of the community will be notified add; reported abuse will be followed by account in	, and can either accept c nactivation.	ir reject your request.Please make sure your record
Start typing a community name			Q
X	×		

#### What Now?

If you return to Zenodo and access GitHub through Zenodo, you should see your repository listed under "Enabled Repositories" with a blue DOI button next to it. (If it's not there, choose "Sync Now").

Now you can:

- 1. Edit the archive and/or publish a new version.
- 2. Add a description of the repository and write the metadata.
- 3. Click the blue DOI button to copy the badge in Markdown and add it to your README in GitHub.

	anla	ON
() Hancyne / RDS_Sal	ipie	
DOI 10.5281/zenodo.7094174		
	Click the badge	
Repositories		

DOI Badge	
his badge points to the latest released version of your repository. If you want a DOI badge for a specific elease, please follow the DOI link for one of the specific releases and grab badge from the archived record.	
1arkdown	
[![DOI](https://zenodo.org/badge/538669181.svg)](https://zenodo.org/badge/lat	e
(	
eStructedText	Add it to your
<pre> image:: https://zenodo.org/badge/538669181.svg     :target: https://zenodo.org/badge/latestdoi/538669181</pre>	README in GitHub
ITML	
<pre><a href="https://zenodo.org/badge/latestdoi/538669181">&lt;img src="https://zeno&lt;/pre&gt;</a></pre>	d
<>	
nage URL	
https://zenodo.org/badge/538669181.svg	
arget URL	
https://zenodo.org/badge/latestdoi/538669181	