

WEBVTT

1

00:00:00.000 --> 00:00:01.540

Nate Q: The pace was right.

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00:00:03.000 --> 00:00:09.799

Nate Q: who felt like the pace was right on few people that weren't here. Welcome. If you're joining us for the first time.

3

00:00:09.910 --> 00:00:31.779

Nate Q: and I appreciate folks are adding some just open, ended comments. They're underneath at the top. There, that's great. One other thing, too, Rachel. You might show them. At the bottom of this document we have the space at the very bottom. There's a space for folks to add their contact information. If you were here last week. You don't need to add your contact information again. That's fine. We've got that. But if you're just joining us today for the first time

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00:00:31.780 --> 00:00:42.190

Nate Q: feel free to add your name and email and your affiliation down there, just so that we have a sense of who's joining us for these pre hackathon trainings. So

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00:00:42.830 --> 00:00:52.150

Nate Q: yeah, I think you know. Maybe leave this up for another minute or so Rachel, and then I think we can probably hand it over to

6

00:00:52.420 --> 00:01:03.609

Nate Q: eric, and I think also are going to get us started for the first 30 min or so, as I understand it, and then we'll have the last 90 min of the day to hear from

7

00:01:03.650 --> 00:01:20.780

Nate Q: Sabelli and Ty from our analytics team to talk about data cubes and how to access and work with data cubes. We've also got a link to the Pre Hackathon training web page on that Google Doc, that we have up there, and I'll put a link to our

8

00:01:21.010 --> 00:01:40.500

Nate Q: pre hackathon training webpage in the chat as well. That has links to lots of resources that we'll be using throughout today's training. We'll have a couple of comments about perhaps a couple of

the things that aren't rendering properly right now, and we'll point you to a markdown or another place to see those. But

9

00:01:40.630 --> 00:01:44.669

Nate Q: that link that I just put in the chat is a link to our web page so

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00:01:46.680 --> 00:01:57.359

Nate Q: cool. I think, Rachel, I think we're ready to move on to the first part of the training. Ty and Eric and Elsa Sideli. What do our what do our instructors think you feeling ready to go?

11

00:01:58.230 --> 00:02:21.450

Rachel Lieber: And I have a quick announcement, too, for those of you who are attending the hackathon you should have received an email this morning for the Pre Hackathon survey. So be on the lookout from that for that, and then, if you haven't received it, you can send me a message as well. And I wanna welcome those people, too, who are not, who are here just for the training, too. So this one was open to everyone. So welcome everyone.

12

00:02:21.940 --> 00:02:22.990

Rachel Lieber: Alright.

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00:02:23.820 --> 00:02:43.609

Ty Tuff, Ph.D.: Okay, let me just give you the roadmap of where we're gonna go today. So the first half hour is going to be a review from last week. So you may have remembered this, quote little note, but I think some of you who emailed. This was probably the problem when we shut down the instance from last week that erases the whole key pairing that we did.

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00:02:43.610 --> 00:03:08.400

Ty Tuff, Ph.D.: And so when you go and start up a new instance, we have to go and do that whole key pairing a fresh, a new with a new key. Maybe if you try to do that with your old key that could have got some problems or some other things. So anyways, we're gonna spend the first half hour reviewing how to do that. We also last time didn't get quite through pushing your data back to Github. So in that first half hour we're gonna try to make sure to get you all wrapped up and back in that sort of process finished.

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00:03:08.400 --> 00:03:15.900

Ty Tuff, Ph.D.: and then we'll jump over and do a deep dive into data for the remaining of the time. Alright. So I'm gonna pass it off to, I think else is, gonna

16

00:03:15.980 --> 00:03:20.390

Ty Tuff, Ph.D.: take us back, or I also, or Eric. I don't know which one of you wants to go first

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00:03:20.620 --> 00:03:22.300

Ty Tuff, Ph.D.: to do some of that review.

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00:03:23.420 --> 00:03:30.420

Elsa Culler: Yeah, I'm gonna I'm gonna nominate Eric to go first so that we can get the get

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00:03:31.370 --> 00:03:33.630

authentication all set up again.

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00:03:36.340 --> 00:03:37.940

Erick Verleye: Great?

21

00:03:38.590 --> 00:03:47.290

Erick Verleye: Okay. So the first step is going to be to go to cybers again, and for anybody that wasn't here last week.

22

00:03:47.340 --> 00:03:54.270

Erick Verleye: and who does not have a cyber account you will need to sign up for one. So let me put the link

23

00:03:55.310 --> 00:04:00.350

Erick Verleye: in the chat here. It's going to be [user.cyrus.org](http://user.cyrus.org).

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00:04:06.000 --> 00:04:14.490

Erick Verleye: Once you go there again. If you have an account from last week, go ahead and log in if you don't. you should see the option to create an account.

25

00:04:16.240 --> 00:04:18.689

Erick Verleye: Let me share my screen here.

26

00:04:20.390 --> 00:04:25.889

Ty Tuff, Ph.D.: When you create account, you want to associate yourself with this workshop.

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00:04:26.940 --> 00:04:27.850

Erick Verleye: Yes.

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00:04:28.620 --> 00:04:34.860

Erick Verleye: Yup, if you can remember which email you provided us for your registration, please sign up with the same

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00:04:36.330 --> 00:04:37.750

Erick Verleye: female.

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00:04:41.360 --> 00:04:43.709

Erick Verleye: and then let's actually go

31

00:04:45.840 --> 00:04:49.330

Erick Verleye: here. And if you haven't yet.

32

00:04:49.340 --> 00:04:53.060

Erick Verleye: if you weren't here last week, and you still need to enroll.

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00:04:54.270 --> 00:05:05.599

Erick Verleye: I'll give everyone a few seconds to create an account first. but once your account is created, you're going to want to enroll for the workshop. Here

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00:05:06.720 --> 00:05:08.520

Erick Verleye: I just put the link in the chat

35

00:05:11.150 --> 00:05:12.450

Erick Verleye: and

36

00:05:13.880 --> 00:05:17.410

Erick Verleye: wait a few moments for everybody to catch up.

37

00:05:28.620 --> 00:05:42.250

Ty Tuff, Ph.D.: So just while people are thinking there are actually 2 different cybers, websites that you're gonna go to. You're going right now into this sort of user management portal where you sign up for website, sign up your user account. Make sure you're attached to the website

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00:05:42.260 --> 00:05:52.920

Ty Tuff, Ph.D.: are attached to the workshop. But then we're gonna go to a separate cybers website that actually houses all the virtual machines. So last week there was some confusion where people were trying to

39

00:05:53.050 --> 00:05:56.639

Ty Tuff, Ph.D.: do one thing on one website instead of go the other way.

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00:05:59.500 --> 00:06:03.770

Ty Tuff, Ph.D.: Eric will guide you there. It just there was a silence. And I thought I'd give some people some context.

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00:06:09.420 --> 00:06:12.279

Erick Verleye: Yes, I, yeah, we will be

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00:06:12.420 --> 00:06:17.420

Erick Verleye: accepting

43

00:06:17.710 --> 00:06:19.040

any incoming

44

00:06:19.350 --> 00:06:21.459

Erick Verleye: request to enroll.

45

00:06:29.120 --> 00:06:34.929

Erick Verleye: Okay, is anyone having any issues up to this point? Oh, yeah, sorry. Keep forgetting to

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00:06:35.950 --> 00:06:37.640

Erick Verleye: increase the size of mine.

47

00:06:40.460 --> 00:06:42.400

Erick Verleye: Okay.

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00:06:59.240 --> 00:07:03.940

Erick Verleye: okay. any issues. If not, I'm gonna

49

00:07:04.270 --> 00:07:06.880

Erick Verleye: move on to

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00:07:07.420 --> 00:07:12.530

Erick Verleye: getting into the Jupiter hub with the Jupiter lab so that we can start with the Ssh keys.

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00:07:14.380 --> 00:07:21.860

Erick Verleye: The next thing you're going to want to do is on the left side here. The cybers user portal. You should see services

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00:07:23.730 --> 00:07:27.310

Erick Verleye: press on the services tab, you should see discovery environment.

53

00:07:29.170 --> 00:07:31.870

Erick Verleye: And you're gonna want to click launch.

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00:07:33.690 --> 00:07:42.829

Erick Verleye: That's gonna take you to what I was talking about a separate domain. It's gonna be DE for discovery, environment cybers org.

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00:07:43.550 --> 00:07:46.729

Ty Tuff, Ph.D.: Tyson just put that link in the chat for anybody that needs it.

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00:07:55.170 --> 00:08:05.590

Erick Verleye: Okay? And once you're in the discovery environment, this is where we can launch all sorts of different applications. And for the hackathon we will be using.

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00:08:06.760 --> 00:08:08.680

Erick Verleye: The

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00:08:08.980 --> 00:08:30.929

Ty Tuff, Ph.D.: can. I make one note real quick? Eric, yeah, for those of you that came straight to this website. You might be logged out again. So see at the top. Right it, says E. Eric, with a green. That means he's logged in. Mine has a T with a green, but you might still have an unlocked, you might be logged out. So if you're logged out, click on that, put in your credentials and you'll actually get into the system.

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00:08:31.600 --> 00:08:32.450

Erick Verleye: Yep.

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00:08:34.679 --> 00:08:39.109

Erick Verleye: yep, once you're logged in, you should be able to go get on the left side to apps.

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00:08:39.720 --> 00:08:42.499

Erick Verleye: and you should see this list of applications.

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00:08:49.060 --> 00:08:52.610

Erick Verleye: Make the font, Baker. Yep.

63

00:08:52.790 --> 00:08:54.660

Erick Verleye: I'll try to.

64

00:08:56.720 --> 00:08:57.780

Erick Verleye: There we go.

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00:09:01.770 --> 00:09:10.269

Erick Verleye: Okay. So once you see this list of applications, you're going to want to choose Jupiter Lab Earthlab

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00:09:10.680 --> 00:09:11.990

Erick Verleye: from the list.

67

00:09:15.610 --> 00:09:19.000

Erick Verleye: and the version should be Hackathon 2023.

68

00:09:23.390 --> 00:09:25.049  
Erick Verleye: Once you have that

69  
00:09:25.410 --> 00:09:36.539  
Erick Verleye: you will be able to name your analysis. I usually keep it as a default, but you can name it whatever you'd like. Bar any special characters, I think. See, underscores are fine.

70  
00:09:37.800 --> 00:09:39.810  
Erick Verleye: keep the output folder the same.

71  
00:09:41.130 --> 00:09:43.090  
Erick Verleye: and then you're just gonna go to next

72  
00:09:45.430 --> 00:09:57.830  
Erick Verleye: here. You can configure the hardware for the virtual machine. So you can say for this, let's just go with 4 minimum CPU cores. Minimum memory will go with 8

73  
00:09:58.760 --> 00:10:03.789  
Erick Verleye: and minimum disk disk space 32 should be

74  
00:10:04.410 --> 00:10:05.840  
Erick Verleye: just fine.

75  
00:10:07.440 --> 00:10:13.819  
Erick Verleye: You can leave maximum CPU cores blank for now. So once you have this all set.

76  
00:10:15.140 --> 00:10:19.870  
Erick Verleye: go ahead and go to next. We should be on. Step 3. Now review and launch.

77  
00:10:22.710 --> 00:10:23.790  
Erick Verleye: and

78  
00:10:24.040 --> 00:10:30.529  
Erick Verleye: to launch the analysis. Go ahead. And all the way on the right and the bottom right here. Just click this launch analysis button.



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00:10:32.970 --> 00:10:37.350

Erick Verleye: And I've already launched this application. So

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00:10:39.950 --> 00:10:45.049

Erick Verleye: you should see a screen after you've launched it. That looks very much like this.

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00:10:48.490 --> 00:10:51.750

Erick Verleye: It's gonna take a few moments for it to provision and start up.

82

00:10:51.870 --> 00:10:58.279

Erick Verleye: But once you get to this screen so you'll click launch analysis right here, and then this screen will pop up.

83

00:10:59.280 --> 00:11:02.439

Erick Verleye: and then you're going to want to click, go to analysis.

84

00:11:08.350 --> 00:11:09.470

Erick Verleye: and

85

00:11:09.680 --> 00:11:13.729

Erick Verleye: once you click this, a loading bar will probably come up.

86

00:11:15.350 --> 00:11:17.080

Erick Verleye: showing you the progress

87

00:11:17.660 --> 00:11:20.560

Erick Verleye: as it provisions the application.

88

00:11:25.770 --> 00:11:41.610

Erick Verleye: yeah, Tyson, can you explain a little bit more about the create? Okay, yeah. So the the saved launches are the way that Eric just set the minimum number of cpus and the RAM

89

00:11:41.700 --> 00:11:52.200

Tyson Swetnam: with other apps and cybers. You can also add data when

you launch them. And so we're setting up these parameters or configuration, environment variables.

90

00:11:52.610 --> 00:12:02.450

Tyson Swetnam: And if you wanted to create a save launch that would save those specific variables for you as a unique URL. And you can even create like a badge for a web page.

91

00:12:02.670 --> 00:12:10.389

Tyson Swetnam: We're just launching an app to day, so there's no need to go and create a saved launch to make it a little bit faster next time.

92

00:12:17.720 --> 00:12:21.929

Erick Verleye: Yup and it it's gonna take a few moments to load.

93

00:12:23.110 --> 00:12:24.559

Erick Verleye: So don't worry if it's

94

00:12:24.570 --> 00:12:28.360

Erick Verleye: if it's starting up for a little bit here

95

00:12:31.670 --> 00:12:34.869

Erick Verleye: once it's done loading, though, you will see

96

00:12:36.030 --> 00:12:39.389

Erick Verleye: Jupyterlab interface like this. Let me try that.

97

00:12:39.740 --> 00:12:40.850

It's larger.

98

00:12:43.150 --> 00:12:45.050

Erick Verleye: and we're going to be using these

99

00:12:45.200 --> 00:12:50.279

Erick Verleye: applications today, so I'll wait a little bit. I'll wait till

100

00:12:50.310 --> 00:12:53.939

Erick Verleye: loading is done for a lot of people.

101

00:12:54.570 --> 00:13:16.269

Tyson Swetnam: Eric, can you go back to your discovery environment and just wanna explain a couple of things. I think everybody in the workshop has access to only 2 running applications concurrently. So if if Eric clicks on his analyses tab, launching another app, there's fine So

102

00:13:16.800 --> 00:13:46.619

Tyson Swetnam: the hamburger menu on the left there. If Eric, can you click on the 3 bars at the top, so when you open it up you can see what all those icons mean. So if he clicks on analysis, you can see, has 2 analyses that say, submitted. If you try to start more than 2 apps at a time, you may get an error. So you're only allowed to start. Some is so many apps on your current account. We can change that in the future. But this is where you'll see that your apps are running are stopped.

103

00:13:50.160 --> 00:13:54.209

Erick Verleye: Yep, so you can see the Jupiter lab earth lab analysis. One

104

00:13:54.990 --> 00:13:58.850

Erick Verleye: is running right now and have the option to terminate it. But

105

00:14:00.780 --> 00:14:01.640

okay.

106

00:14:04.200 --> 00:14:10.179

Erick Verleye: okay, so has anybody successfully loaded the Jupiter Web interface? Yet

107

00:14:10.670 --> 00:14:13.140

Erick Verleye: some indication in the chat? If you have

108

00:14:22.120 --> 00:14:24.590

Erick Verleye: okay, cool. sweet.

109

00:14:25.410 --> 00:14:29.569

Ty Tuff, Ph.D.: How about folks that are struggling? You have some people that are not getting it.

110

00:14:43.390 --> 00:14:44.310

Erick Verleye: Okay.

111

00:14:45.420 --> 00:14:47.749

Ty Tuff, Ph.D.: see a lot of thumbs up which is really nice.

112

00:14:48.270 --> 00:14:54.990

Ty Tuff, Ph.D.: Could you talk real quick about? I saw there was a version for Hackathon 2023.

113

00:14:55.010 --> 00:14:59.810

Ty Tuff, Ph.D.: Does this mean that we could go back to this same container at some point.

114

00:15:00.440 --> 00:15:04.020

Erick Verleye: Yes. when you're launching

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00:15:05.600 --> 00:15:09.760

Erick Verleye: a new discovery environment app.

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00:15:09.860 --> 00:15:18.469

Erick Verleye: you will be able to come back to this Hackathon 2023. It's gonna have all the packages that we use today, and throughout the hackathon already preinstalled.

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00:15:18.980 --> 00:15:24.449

Erick Verleye: so and you can see there's

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00:15:25.500 --> 00:15:37.659

Erick Verleye: I believe, latest, and hackathon 23, for now will be the same, because Hackathon 23 is the latest version. But you could go back to 3.5. For instance, if there was some packages you wanted there.

119

00:15:38.770 --> 00:15:43.589

Erick Verleye: But yes, you will be able to return and reuse this container

120

00:15:44.210 --> 00:15:52.910

Ty Tuff, Ph.D.: down the road, so I would make. I would have everybody note that for themselves, because in 2 years or 3 years.

121

00:15:52.940 --> 00:15:58.329

Ty Tuff, Ph.D.: or 10 years, when you want to go back and run the code that you developed in the hackathon

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00:15:58.400 --> 00:16:11.260

Ty Tuff, Ph.D.: and it's not working because technology has moved on. You should be able to go back to this, and it should have this encapsulation of all the software in the state that it was at when you did the heck of fun and all of your software should be able to run and you could build it again.

123

00:16:12.830 --> 00:16:13.620

Erick Verleye: Yup.

124

00:16:19.310 --> 00:16:27.599

Erick Verleye: okay. so let's configure our Github Ssh key pair. So

125

00:16:27.920 --> 00:16:33.340

Erick Verleye: when you're dealing with private repositories or repositories that you own on Github.

126

00:16:34.260 --> 00:16:41.900

Erick Verleye: you can no longer use a username and password to authenticate with Github for pushing and polling.

127

00:16:42.060 --> 00:16:44.940

Erick Verleye: Private repos, you have to add

128

00:16:45.720 --> 00:16:50.849

Erick Verleye: one option, and the easiest option is to add an Ssh key pair.

129

00:16:51.180 --> 00:17:01.819

Erick Verleye: So that's what we're gonna do right now, this Ssh key pair. It's 2 files that you're going to create on the virtual machine

that you just spun up on cybers. You're going to transfer one of these files to Github

130

00:17:02.390 --> 00:17:08.739

Erick Verleye: that's going to allow you to transfer your private repositories back and forth.

131

00:17:11.210 --> 00:17:19.310

Erick Verleye: yeah, so you can only have 2 analyses running at a time.

132

00:17:19.359 --> 00:17:25.849

Erick Verleye: So if it's something that your Java was reached. You'll just need to terminate one of your running instances.

133

00:17:26.230 --> 00:17:33.930

Ty Tuff, Ph.D.: Go back and show that I know you just showed this a couple of minutes ago. But people are probably staring at their own computers. Did you show that step on time?

134

00:17:35.420 --> 00:17:37.620

Erick Verleye: Yeah, for the

135

00:17:38.100 --> 00:17:42.730

Erick Verleye: So on the left side, if you need to manage the jobs that you have running.

136

00:17:43.090 --> 00:17:47.750

Erick Verleye: you press on this menu here. and then go down to analyses.

137

00:17:49.510 --> 00:17:51.169

Erick Verleye: You will see

138

00:17:51.820 --> 00:17:56.820

Erick Verleye: all of your completed and currently running analyses.

139

00:17:57.390 --> 00:17:58.540

Erick Verleye: So

140

00:17:58.890 --> 00:18:09.409

Erick Verleye: on the right side here, any of your running analyses will have this red terminate button. and you can click that to terminate before you reprovision another application.

141

00:18:13.700 --> 00:18:14.670

Erick Verleye: Okay?

142

00:18:16.770 --> 00:18:32.809

Erick Verleye: So all right. So this is the point where things are, gonna get a little bit more complicated. So I'll try to go at a correct pace, but please follow along here and be sure to ask any questions if you start to fall behind.

143

00:18:34.160 --> 00:18:41.439

Erick Verleye: So this Jupiter lab has a git extension here on the left side of the toolbar.

144

00:18:41.710 --> 00:18:45.720

Erick Verleye: So when you're in your home folder, so before you do anything.

145

00:18:45.920 --> 00:18:49.990

Erick Verleye: go to your file, browser. and just click this.

146

00:18:51.470 --> 00:18:55.710

Erick Verleye: click this little folder here a couple times. It'll take you all the way back up

147

00:18:55.980 --> 00:18:57.729

Erick Verleye: in the file structure

148

00:18:58.940 --> 00:19:02.899

Erick Verleye: and then go ahead and click on home.

149

00:19:05.000 --> 00:19:06.230

Erick Verleye: So you're here

150

00:19:07.760 --> 00:19:10.450

Erick Verleye: and then go ahead and press on your username.

151

00:19:12.510 --> 00:19:17.939

Erick Verleye: Okay? So you should be in your home folder before you start doing anything.

152

00:19:18.190 --> 00:19:25.460

Erick Verleye: If anyone from last week already went ahead with some stuff and they went in their home folder. That's it's not a big deal.

153

00:19:25.720 --> 00:19:27.340

Erick Verleye: It'll still work. But

154

00:19:29.560 --> 00:19:37.139

Erick Verleye: this is where we're going to start today. So once you're there, you can go to the git extension. It's the third one down.

155

00:19:37.990 --> 00:19:48.179

Erick Verleye: and you should see these buttons open the file browser, initialize a repository and clone a repository. So we're gonna want to click clone repository.

156

00:19:49.330 --> 00:19:53.979

Erick Verleye: And the first thing we're going to do is Columbus public repository?

157

00:19:55.670 --> 00:20:06.929

Erick Verleye: which is, gonna give us some code that allows us to create an Ssh. Keeper that was too small for anybody to read. You might not get the link in the chat.

158

00:20:07.080 --> 00:20:08.080

Sorry, Yup.

159

00:20:08.780 --> 00:20:10.700

Erick Verleye: I'll put the link in the chat right now.

160

00:20:18.530 --> 00:20:22.810

Erick Verleye: Okay, so the link I just put in the chat is the link to



the git repo.

161

00:20:23.490 --> 00:20:28.399

Erick Verleye: That's gonna give us the code that let us create an Ssh key pair easily.

162

00:20:29.420 --> 00:20:42.819

Elsa Culler: I just wanted to jump in, Eric. I'm making right now a page that will eventually go up on our web page, but for now people can see it in the repository for the webpage that has all these instructions with screenshots.

163

00:20:42.910 --> 00:20:46.810

Elsa Culler: So if folks see this and see anything wrong. Let me know.

164

00:20:47.380 --> 00:20:48.200

Erick Verleye: Cool.

165

00:20:49.270 --> 00:20:50.749

Erick Verleye: Yeah, we will.

166

00:20:50.880 --> 00:20:53.229

Erick Verleye: give a link to that as well.

167

00:21:13.200 --> 00:21:14.220

Erick Verleye: Okay.

168

00:21:14.960 --> 00:21:20.910

Erick Verleye: so it'll have a little spinning, cloning widget up there for a second, but

169

00:21:20.980 --> 00:21:27.289

Erick Verleye: when you go back to your file, Browser, after you've cloned that repo, you should see this innovation summit utils

170

00:21:27.580 --> 00:21:31.279

Erick Verleye: folder. Go ahead and press on that.

171

00:21:35.830 --> 00:21:38.840

Erick Verleye: and then there should be a file in here.

172

00:21:54.080 --> 00:21:57.940

Ty Tuff, Ph.D.: Apparently it was a field clone. Mine worked nicely.

173

00:21:58.790 --> 00:22:01.819

Oh, okay, let me try again. Maybe there's just some

174

00:22:02.560 --> 00:22:03.510

Erick Verleye: weird.

175

00:22:05.120 --> 00:22:07.779

Erick Verleye: something weird going on.

176

00:22:09.180 --> 00:22:27.069

Tyson Swetnam: Make sure you don't have any spaces in your in your file path like at the front and the back sometimes that can be there. I have also had problems with lookalike characters specifically copying.

177

00:22:27.080 --> 00:22:32.560

Elsa Culler: I think, from Zoom chat to the terminal. So

178

00:22:33.020 --> 00:22:40.970

Ty Tuff, Ph.D.: asking about Ssh. Or Https. I use the Https link when I was cloning the

179

00:22:41.040 --> 00:22:45.530

Ty Tuff, Ph.D.: innovation Summit one. and it worked for me. Yes.

180

00:22:45.770 --> 00:22:56.139

Erick Verleye: yes, so public repositories. You can use the Https link for private repositories. You must use the Ssh link.

181

00:22:57.940 --> 00:23:00.529

Erick Verleye: All right, let me try. Different

182

00:23:13.100 --> 00:23:14.509

Erick Verleye: also failed.

183

00:23:19.320 --> 00:23:28.760

Ty Tuff, Ph.D.: We have a lot of people joining you in a failed clone. So everybody feel some camaraderie. We'll get through this. Sorry.

184

00:23:29.420 --> 00:23:30.800

Erick Verleye: That's so weird.

185

00:23:31.570 --> 00:23:38.239

Erick Verleye: okay, let me try

186

00:23:39.240 --> 00:23:40.750

Erick Verleye: one thing.

187

00:23:48.550 --> 00:23:49.380

Erick Verleye: Hmm.

188

00:23:52.100 --> 00:24:02.909

Elsa Culler: I think when I did this before, and just now it worked for me. I selected the check mark that was just download the repository instead of clone it.

189

00:24:04.760 --> 00:24:05.960

Erick Verleye: Okay?

190

00:24:06.040 --> 00:24:07.310

Elsa Culler: So

191

00:24:07.350 --> 00:24:13.350

Erick Verleye: also, yours has the dot get at the end of it. And I was just using the one I put in which just the

192

00:24:14.230 --> 00:24:16.810

Ty Tuff, Ph.D.: just, the whole repository. Http.

193

00:24:19.640 --> 00:24:23.040

Erick Verleye: okay. let me try that

194

00:24:31.510 --> 00:24:32.740  
Ty Tuff, Ph.D.: weird.

195  
00:24:39.180 --> 00:24:40.640  
Erick Verleye: oh.

196  
00:25:01.790 --> 00:25:03.090  
Erick Verleye: interesting

197  
00:25:05.740 --> 00:25:08.119  
Ty! Where did you clone it to?

198  
00:25:08.290 --> 00:25:15.210  
Ty Tuff, Ph.D.: I clung to the home. But one of my suspicions is that you have a folder in there, and you might need to go delete

199  
00:25:15.280 --> 00:25:19.580  
Ty Tuff, Ph.D.: the the empty folder. It might not be liking that you already have a folder in there.

200  
00:25:19.800 --> 00:25:20.950  
Erick Verleye: Yeah.

201  
00:25:20.980 --> 00:25:26.810  
Tyson Swetnam: hang on. I see what the problem is. So, Eric, you're trying to clone it into the data store folder

202  
00:25:27.060 --> 00:25:30.709  
Tyson Swetnam: and that's the fuse mount. So true.

203  
00:25:31.050 --> 00:25:36.789  
Tyson Swetnam: Go back to the CD into the Jovian Directory.

204  
00:25:38.230 --> 00:25:51.570  
Tyson Swetnam: Yeah. So as you guys can see in Eric's terminal. It says data store. And then I plan home. So the the folder on the the virtual machine you're using called data store is a network mount.

205  
00:25:51.650 --> 00:25:56.650

Tyson Swetnam: And so that network Mount has some different permissions under the covers.

206

00:25:57.020 --> 00:26:10.620

Tyson Swetnam: And if you try to do a git clone into that directory, you're gonna run into some weird, networking issues. So let's give it one more. Try, Eric, on the in your personal folder or in the just in the home. Jovian folder.

207

00:26:10.820 --> 00:26:11.880

Erick Verleye: Okay.

208

00:26:13.070 --> 00:26:16.889

Erick Verleye: actually, you know, home built in data stores should be fine.

209

00:26:16.920 --> 00:26:20.819

Tyson Swetnam: That way, you can see it in the path. But

210

00:26:21.480 --> 00:26:22.639

okay.

211

00:26:26.020 --> 00:26:35.469

Tyson Swetnam: yeah, okay, so that that did work. I guess it's the iplant folder is the one that it becomes like that network. Mount.

212

00:26:37.600 --> 00:26:38.810

Erick Verleye: Okay?

213

00:26:41.130 --> 00:26:41.810

Erick Verleye: Hmm.

214

00:26:42.880 --> 00:26:46.880

Tyson Swetnam: and this is specific to just working in this kind of discovery environment.

215

00:26:50.380 --> 00:26:51.440

Erick Verleye: Okay.

216

00:26:59.890 --> 00:27:21.710

Ty Tuff, Ph.D.: alright. Let me give a little context to the people who are watching. So in the cybers, in the discovery environment. You have 2 places. It's sort of connected to 2 big file systems, one, there's an internal file which is sort of your stuff, and it's private to you, and when you run out of space you privately run a space

217

00:27:21.830 --> 00:27:24.430

Ty Tuff, Ph.D.: and then separately, there is a data store.

218

00:27:24.580 --> 00:27:31.399

Ty Tuff, Ph.D.: and that data store is sort of intended to feed your virtual machine data.

219

00:27:31.530 --> 00:27:39.930

Ty Tuff, Ph.D.: But not really meant to have your machine feed it data. It's a data store, not a data repository, really. And so if

220

00:27:40.130 --> 00:27:56.229

Ty Tuff, Ph.D.: your code gets confused and tries to send data to the data store, the data store says we don't really want that. Thank you. and we'll and we'll say no. And so you just have to change your path. So you're saving you're saving to the folders that you have access to, and that you're allowed to save to

221

00:27:56.510 --> 00:28:02.199

Ty Tuff, Ph.D.: and here, obviously, Eric's been doing lots of stuff that has made his machine a little confused.

222

00:28:08.800 --> 00:28:11.290

Erick Verleye: Yeah. Hmm.

223

00:28:12.980 --> 00:28:18.349

Ty Tuff, Ph.D.: alright. Well, do you wanna unshare? And I will. Just show people what it looks like

224

00:28:19.060 --> 00:28:26.329

Ty Tuff, Ph.D.: you. You can just go fix it. Try to fix it on the side real quick, and I'll take over perfect. Oh, you're not stressing out in front of everybody.

225

00:28:27.800 --> 00:28:30.740

Ty Tuff, Ph.D.: But alright

226

00:28:32.170 --> 00:28:43.669

Ty Tuff, Ph.D.: So here we are, after I have just run that code. So in

227

00:28:43.900 --> 00:28:52.170

Ty Tuff, Ph.D.: on the side over here, I open that folder. It had a python code for me. I just double click that. And it just opened this python code for me.

228

00:28:52.500 --> 00:28:58.449

Ty Tuff, Ph.D.: And this python code has not been run yet. So I'm just gonna go up here and hit play and it's gonna run.

229

00:28:58.560 --> 00:29:11.570

Ty Tuff, Ph.D.: I'm going to give give it a little bit of information here. My username is tough and you can leave these blank if you want. But the nice thing about this is that this is how you get credit on the

230

00:29:11.860 --> 00:29:13.630

Ty Tuff, Ph.D.: contributor page.

231

00:29:18.010 --> 00:29:21.230

Ty Tuff, Ph.D.: And now it has created my public key for me.

232

00:29:23.710 --> 00:29:24.920

Ty Tuff, Ph.D.: and that

233

00:29:24.960 --> 00:29:28.230

Ty Tuff, Ph.D.: we're going to now copy

234

00:29:28.350 --> 00:29:30.270

Ty Tuff, Ph.D.: that whole thing.

235

00:29:31.910 --> 00:29:36.010

Ty Tuff, Ph.D.: And we're gonna go over to Github

236

00:29:39.300 --> 00:29:53.029

Ty Tuff, Ph.D.: over here and my personal user profile. I'm going to go down to settings here. I'm pausing for a second so everybody can see where I'm at. Let me cancel that for 1 s again up here.

237

00:29:53.170 --> 00:30:05.390

Ty Tuff, Ph.D.: My user profile down in my settings. pull up my settings. And now I'm gonna go over here to Ssh keys.

238

00:30:07.380 --> 00:30:16.589

Ty Tuff, Ph.D.: And I'm going to say I have a new 10, it was behind everybody's faces. New Ssh. Key right here at the top.

239

00:30:17.500 --> 00:30:18.210

Name.

240

00:30:18.650 --> 00:30:25.980

Ty Tuff, Ph.D.: Zoom in right there. Boom! New Ssh key. Okay. Title

241

00:30:27.610 --> 00:30:30.460

Ty Tuff, Ph.D.: hack 2023.

242

00:30:30.830 --> 00:30:43.069

Ty Tuff, Ph.D.: I should be act on a 23, 2, because I had one from last time. So I'm just giving myself a new one right here at the bottom. I'm gonna add that Ssh key.

243

00:30:43.930 --> 00:30:46.610

Ty Tuff, Ph.D.: I'm gonna have to authenticate with Mobile.

244

00:30:57.380 --> 00:31:03.810

Ty Tuff, Ph.D.: So I'm just going to the Github app, and it's gonna just come up and ask me for the digits that I'm seeing on that screen.

245

00:31:05.540 --> 00:31:07.279

Ty Tuff, Ph.D.: Just confirm that it's me

246

00:31:10.270 --> 00:31:10.960

each



247

00:31:15.600 --> 00:31:17.030

Ty Tuff, Ph.D.: E is invalid.

248

00:31:21.020 --> 00:31:22.440

Ty Tuff, Ph.D.: See what I did here.

249

00:31:47.680 --> 00:31:49.130

Ty Tuff, Ph.D.: Ssh, key

250

00:31:51.000 --> 00:31:51.750

Ty Tuff, Ph.D.: back!

251

00:31:53.120 --> 00:31:53.909

Ty Tuff, Ph.D.: Pretty good

252

00:31:55.510 --> 00:31:56.880

Ty Tuff, Ph.D.: location key.

253

00:32:02.890 --> 00:32:08.689

Ty Tuff, Ph.D.: There we go. I hadn't actually copied and pasted it appropriately into the thing.

254

00:32:09.180 --> 00:32:10.110

Ty Tuff, Ph.D.: Alright.

255

00:32:13.510 --> 00:32:17.250

Ty Tuff, Ph.D.: Eric, how are we doing you ready to take back over? You have me?

256

00:32:17.630 --> 00:32:27.719

Erick Verleye: yeah. Yeah. Let me to clear up my confusion for anyone. Still, no worries. If you need more time, I'm happy to just check it in again.

257

00:32:28.420 --> 00:32:35.550

Erick Verleye: It! It should be all good now. Just for anybody that can't clone.

258

00:32:36.840 --> 00:32:40.780

Erick Verleye: go to this. Go to your file, browser on the top left here.

259

00:32:43.180 --> 00:32:50.010

Erick Verleye: and click this file, icon as many times as you can until you see

260

00:32:50.310 --> 00:32:53.999

Erick Verleye: data and home. This way you'll be in your root directory.

261

00:32:55.460 --> 00:33:02.479

Erick Verleye: this is where you're going to need to be before you can clone that repository.

262

00:33:04.810 --> 00:33:10.789

Erick Verleye: So once you're here again, you'll see data home. You shouldn't see any file paths right here to just be this slash.

263

00:33:11.930 --> 00:33:15.029

Erick Verleye: then you can go to your git

264

00:33:15.600 --> 00:33:22.610

Erick Verleye: extension. click, clone, repository and paste that

265

00:33:23.940 --> 00:33:25.820

Erick Verleye: the URL.

266

00:33:29.440 --> 00:33:30.430

Erick Verleye: So.

267

00:33:34.250 --> 00:33:38.389

Erick Verleye: okay, cool. Yep. So we got some people. Yeah, so

268

00:33:39.410 --> 00:33:43.520

Erick Verleye: yes, I will.

269

00:33:48.620 --> 00:33:52.310

Erick Verleye: So again, everyone. Just make sure you are

270

00:33:53.680 --> 00:34:01.040

Erick Verleye: in the folder with data and home again. Just click on this folder as many times as possible

271

00:34:01.570 --> 00:34:03.090

Erick Verleye: until you get to root.

272

00:34:04.000 --> 00:34:08.360

Erick Verleye: and then yep cool. So then I'll go through what Ty went through one more time.

273

00:34:09.580 --> 00:34:15.069

Erick Verleye: okay, so it looks like it's working for some people. Now that's great.

274

00:34:15.389 --> 00:34:29.120

Ty Tuff, Ph.D.: If you're still yeah. Where Eris, when he finishes this one little last bit, if there's still people struggling, we can pull out a breakout group and work with people in a separate room to help you get caught up. Okay? So don't panic.

275

00:34:29.500 --> 00:34:37.909

Ty Tuff, Ph.D.: We obviously want you to know how to do this is why we're doing it over and over and over again and doing it slowly. So please just stick with us. We're gonna get everybody where they need to be.

276

00:34:38.679 --> 00:34:39.420

Erick Verleye: Nope.

277

00:34:39.639 --> 00:34:42.430

Ty Tuff, Ph.D.: how nice is it they were not doing this during the hackathon

278

00:34:46.199 --> 00:34:51.250

Nate Q: cool. Yeah. I think also had a comment last week that I wanna circle back to like we did it last week.

279

00:34:51.860 --> 00:35:03.520

Nate Q: so that when we did it the next time it will go a little bit more quickly, and now we're doing it this week. So then we we do it. Next time it will go a little bit more quickly, and so there will be some some struggling along the way, but

280

00:35:03.550 --> 00:35:14.040

Nate Q: it looks like folks are starting to get it figured out, and we can post links to the steps. That also is creating and like Ty mentioned. We'll have a breakout room set up here shortly for folks to join

281

00:35:14.090 --> 00:35:15.190

Nate Q: if you need help.

282

00:35:18.520 --> 00:35:19.630

Erick Verleye: Okay.

283

00:35:20.290 --> 00:35:29.759

Erick Verleye: when you open. Okay? So before I get to this page, everybody should see this innovation summit utils folder. Now in their file, browser.

284

00:35:30.570 --> 00:35:39.469

Erick Verleye: and okay, questions about the kernel. Choose the earth analytics, python kernel.

285

00:35:40.420 --> 00:35:46.900

Erick Verleye: Yes, you should do that.

286

00:35:47.600 --> 00:35:49.040

Elsa Culler: It's the default.

287

00:35:49.320 --> 00:35:52.049

Elsa Culler: but it still makes you choose the first time.

288

00:35:52.550 --> 00:35:53.340

Erick Verleye: Yup.

289

00:35:54.680 --> 00:35:56.830

Erick Verleye: when the kernel can be selected.

290

00:35:58.080 --> 00:36:00.429

Erick Verleye: In the top right here.

291

00:36:05.670 --> 00:36:17.550

Erick Verleye: Okay. so inside this innovation summit, util's folder. you should see this configure. Github Ssh notebook file.

292

00:36:19.130 --> 00:36:21.179

Erick Verleye: So go ahead and double click that.

293

00:36:21.450 --> 00:36:24.179

Erick Verleye: and it should open and look like this.

294

00:36:24.400 --> 00:36:28.440

Erick Verleye: So I'll make sure everybody can get to that point.

295

00:36:40.120 --> 00:36:43.329

Erick Verleye: If anyone has any trouble getting to hear

296

00:36:43.480 --> 00:36:46.369

Erick Verleye: if I'm having trouble right now, let us know.

297

00:36:58.090 --> 00:36:59.030

Erick Verleye: Okay.

298

00:37:01.110 --> 00:37:02.540

Erick Verleye: alright. So once this

299

00:37:02.670 --> 00:37:10.820

Erick Verleye: notebook is open, you can run it 2 ways, one with this play button here on the top toolbar

300

00:37:11.580 --> 00:37:17.790

Erick Verleye: or pressing. You can click on the cell to highlight it. and then you can

301

00:37:19.070 --> 00:37:22.649

Erick Verleye: hold, shift and press enter.

302

00:37:25.410 --> 00:37:27.579

Erick Verleye: and that will run this entire cell.

303

00:37:28.970 --> 00:37:34.870

Erick Verleye: Once it runs at the very bottom, you should be prompted for your Github username.

304

00:37:36.300 --> 00:37:40.899

Erick Verleye: I'll make sure. Okay, cool. So Brian was able to create a keeper.

305

00:37:42.740 --> 00:37:47.659

Erick Verleye: Okay, so you're prompted for your github username. Go ahead and

306

00:37:48.220 --> 00:37:50.000

Erick Verleye: type in whatever that is.

307

00:37:50.440 --> 00:37:57.010

Erick Verleye: your email. And as Ty said earlier, this isn't

308

00:37:57.110 --> 00:38:00.029

Erick Verleye: so really, just to give your your commits

309

00:38:01.260 --> 00:38:07.750

Erick Verleye: credit to your email. So it's nothing like authentication, wise or anything like that.

310

00:38:09.130 --> 00:38:12.569

Erick Verleye: So it's not incredibly important. But

311

00:38:13.280 --> 00:38:21.279

Erick Verleye: okay, once you input, your username and email, you will see all this output, it's telling you that your Ssh

312

00:38:21.710 --> 00:38:26.099

Erick Verleye: key pair files were saved to home. Jovian dot ssh!

313

00:38:28.160 --> 00:38:30.219

Erick Verleye: And then at the very bottom.

314

00:38:31.180 --> 00:38:43.179

Erick Verleye: it will show you your actual public key again. So this is a key pair. There's a private key, and there's a public key private key you don't want to share anywhere. You don't want anybody else to see it most of the time. You don't even need to see it yourself.

315

00:38:43.740 --> 00:38:52.439

Erick Verleye: The public key, however, is, is okay to share, and it's okay for other people to see it because they don't have your private key. So

316

00:38:54.170 --> 00:39:01.049

Erick Verleye: okay, let's make sure. Everybody is up to this point is anyone having issues getting to this point where they can see their public key output.

317

00:39:04.860 --> 00:39:07.450

Erick Verleye: I'll wait just a just a moment here.

318

00:39:19.610 --> 00:39:20.550

Erick Verleye: Okay.

319

00:39:21.950 --> 00:39:34.640

Erick Verleye: okay, so go ahead. At this point. If you see this output and copy this entire line all the way from the encryption type, which is which is Ssh. ED. 2, 5, 5, 1, 9,

320

00:39:34.740 --> 00:39:38.090

Erick Verleye: and then your key. And then it will be

321

00:39:39.260 --> 00:39:40.300

Erick Verleye: your

322

00:39:40.330 --> 00:39:43.090

Erick Verleye: current username, local username.

323

00:39:45.380 --> 00:39:47.510

Erick Verleye: Let's go ahead and copy that.

324

00:39:51.650 --> 00:39:53.260

Okay, so chat.

325

00:40:02.240 --> 00:40:03.270

Erick Verleye: Yeah.

326

00:40:04.670 --> 00:40:07.919

Erick Verleye: okay, I'll come back to that. Just a second.

327

00:40:07.940 --> 00:40:10.409

Erick Verleye: Okay, so if everyone has this copied.

328

00:40:11.710 --> 00:40:14.909

Erick Verleye: you want to copy this, and then you're going to want to go to your github.

329

00:40:15.680 --> 00:40:22.620

Erick Verleye: Okay, so if you're logged into your github, you should see your profile

330

00:40:22.990 --> 00:40:29.689

Erick Verleye: settings on the right side here. So you just click on your profile picture.

331

00:40:30.920 --> 00:40:33.729

Erick Verleye: Then you're going to want to go down to settings.

332

00:40:37.630 --> 00:40:40.910

Erick Verleye: Okay? So you're in your profile settings.

333

00:40:42.480 --> 00:40:44.950

Erick Verleye: And on the left side.

334



00:40:46.690 --> 00:40:51.929

Erick Verleye: You're going to see under access. Ssh, and Gpg keys.

335

00:41:05.160 --> 00:41:15.890

Erick Verleye: Okay? And then you'll see your list of Ssh keys if you have any but the most important thing on this page is going to be this new Ssh key button.

336

00:41:18.750 --> 00:41:20.769

Erick Verleye: So go ahead and click that

337

00:41:21.710 --> 00:41:25.240

Erick Verleye: and give it a title

338

00:41:26.910 --> 00:41:29.510

Erick Verleye: and post hackathon

339

00:41:30.240 --> 00:41:32.319

Erick Verleye: factory training

340

00:41:33.380 --> 00:41:41.450

Erick Verleye: and then paste that output from your Jupyter notebook into this box here. So again, all the way from encryption type

341

00:41:41.540 --> 00:41:43.730

Erick Verleye: key, and then your username.

342

00:41:45.150 --> 00:41:50.480

Erick Verleye: Go ahead and do add Ssh keys and ask for you to authenticate again. Most likely.

343

00:41:54.180 --> 00:41:54.900

Erick Verleye: Cool.

344

00:41:56.230 --> 00:41:57.650

Erick Verleye: All goes well.

345

00:41:58.180 --> 00:42:01.559

Erick Verleye: You will see the key in the list here.

346

00:42:17.880 --> 00:42:28.409

Erick Verleye: Yeah. If you have Ssh keys for many old analyses, those will be, you know, the private key and the public key. Public key were destroyed when the analysis was destroyed.

347

00:42:28.770 --> 00:42:31.640

Erick Verleye: yeah, and I'll run through again.

348

00:42:32.430 --> 00:42:39.229

Erick Verleye: So you can delete those any old keys, many old analyses they won't be able to be used again.

349

00:42:40.990 --> 00:42:52.010

Erick Verleye: so just a run through how to get to this page one more time. So you log into your github once you're logged in, you should see your profile picture on the top right are your avatar.

350

00:42:52.690 --> 00:42:54.790

Erick Verleye: If you click on that.

351

00:42:57.310 --> 00:43:01.749

Erick Verleye: then you will see this toolbar come up

352

00:43:02.930 --> 00:43:04.419

Erick Verleye: and the the snap

353

00:43:05.650 --> 00:43:11.219

Erick Verleye: bar. and then you can go to settings. So it's going to be here

354

00:43:11.690 --> 00:43:12.970

Erick Verleye: and settings.

355

00:43:14.030 --> 00:43:15.760

Erick Verleye: Let's see where you're gonna wanna go.

356

00:43:17.680 --> 00:43:23.379

Erick Verleye: So once you're in your profile settings, you can go to

access on the left side.

357

00:43:24.540 --> 00:43:28.089

Erick Verleye: and you'll see Ssh and Gpg. Keys.

358

00:43:36.670 --> 00:43:39.980

Erick Verleye: and then you'll see your list of Ssh keys.

359

00:43:42.030 --> 00:43:48.790

Erick Verleye: What you're gonna want to click when you get to this page is the new Ssh key buttons here.

360

00:43:51.780 --> 00:43:58.880

Erick Verleye: and you can go ahead and give it a title like Hackathon training

361

00:43:59.910 --> 00:44:02.930

Erick Verleye: and then

362

00:44:03.480 --> 00:44:05.279

Erick Verleye: for the actual key.

363

00:44:05.820 --> 00:44:14.099

Erick Verleye: If you don't have it copied in your in your clipboard yet, you can go back to the Jupiter notebook and you're gonna want to copy this entire line. Here.

364

00:44:17.240 --> 00:44:18.899

Erick Verleye: go ahead and copy that.

365

00:44:22.190 --> 00:44:23.750

Erick Verleye: paste it here

366

00:44:24.670 --> 00:44:28.910

Erick Verleye: and then click, add ssh, key. I've already added this key.

367

00:44:28.960 --> 00:44:32.000

Erick Verleye: So it's probably won't let me add it again.

368

00:44:33.150 --> 00:44:43.149

Erick Verleye: But once you've done that, you should be, that should be the last thing you have to do.

369

00:44:48.020 --> 00:44:49.350

Erick Verleye: Okay.

370

00:44:52.410 --> 00:44:53.280

Erick Verleye: cool.

371

00:44:54.780 --> 00:45:07.270

Erick Verleye: And just to make sure if you're still stuck on cloning, or you've cloned from the terminal. The only thing about the terminal is that if you clone into home, Jovian.

372

00:45:07.520 --> 00:45:12.150

Erick Verleye: I don't know that you can actually see home, Jovian.

373

00:45:12.900 --> 00:45:15.650

Erick Verleye: from the file browser on the left.

374

00:45:16.260 --> 00:45:19.689

Erick Verleye: so that might not be the best thing to do.

375

00:45:20.140 --> 00:45:24.249

Erick Verleye: I would say they're still having trouble cloning.

376

00:45:25.010 --> 00:45:29.460

Erick Verleye: The first step is going to be to go to your file, browser

377

00:45:29.900 --> 00:45:38.300

Erick Verleye: on the top left here. and then click this folder as many times as possible until you get to root

378

00:45:40.150 --> 00:45:47.569

Erick Verleye: and you should just see data and home. Those should be the only 2 folders. If you haven't been able to clone yet

379

00:45:48.610 --> 00:45:57.350

Erick Verleye: once you're here. then you can go to the git widget.  
click clone repository

380

00:45:58.600 --> 00:46:07.040

Erick Verleye: and then

381

00:46:07.630 --> 00:46:11.519

Erick Verleye: clone copy the https, URL,

382

00:46:12.230 --> 00:46:15.349

Erick Verleye: for the innovation summit utils.

383

00:46:17.140 --> 00:46:22.140

Erick Verleye: And if you're curious about how to accomplish all of  
this without using this file.

384

00:46:22.370 --> 00:46:28.979

Erick Verleye: We try to make it easy by. There's a few different  
steps to creating an Ssh key pair, configuring your Ssh config file.

385

00:46:29.100 --> 00:46:34.379

Erick Verleye: adding Github to the IP address for Github to your  
known host automatically.

386

00:46:34.640 --> 00:46:38.530

Erick Verleye: If you're curious about how to do that, it's an  
important skill.

387

00:46:38.960 --> 00:46:45.920

Erick Verleye: You're certainly welcome to like, always use this file  
on your local computer anywhere else. You want to create a key pair.

388

00:46:46.130 --> 00:46:47.510

Erick Verleye: but it is a

389

00:46:47.760 --> 00:46:50.950

Erick Verleye: that is useful to know how to do this from scratch. So

390

00:46:51.300 --> 00:46:54.030

Erick Verleye: there's plenty of resources online, or, if you just want to.

391

00:46:54.340 --> 00:47:00.249

Erick Verleye: you know, read through this file, and you can see all the different commands you'd have to run in. In which order, so

392

00:47:00.410 --> 00:47:03.310

Ty Tuff, Ph.D.: kind of hard to believe that this is the easy version. Right?

393

00:47:03.490 --> 00:47:21.609

Erick Verleye: Yeah. Just a note to people that. There were some questions in the comments about how in the world do we not? How do we do this again? And why is this not documented? And it's just because we're a tiny bit behind. But Elsa is working on an amazing document

394

00:47:21.640 --> 00:47:37.170

Ty Tuff, Ph.D.: that has the screenshots to walk you through all this, and we're going to have this up before the actual hackathon. So the day of you'll be able to go and look at things and walk through them. You're just seeing sort of seeing us develop what we need for people to be able to do this

395

00:47:37.310 --> 00:47:49.529

Ty Tuff, Ph.D.: the way we want them to be able to do it. So if you guys are still having problems, I think we need to move on to work on Github, so else is going to take us through now. The push, pull part of the next step.

396

00:47:49.570 --> 00:47:53.669

Ty Tuff, Ph.D.: But if you're still having problems, why don't you?

397

00:47:53.820 --> 00:48:18.070

Ty Tuff, Ph.D.: message, Rachel? And she can help pull you out into a breakout room with Eric, and he can just sort of walk people through one on one and help them get up to speed. But anybody that feels like they're ready to move on. Let's go ahead and pass it off. Well, thank Eric, cause he did an amazing job and pass it off to Elsa to work on Github. Eric, did I cut you off before you had any last words to say.

I wanted to make sure you had a last last word if you wanted.

398

00:48:18.400 --> 00:48:26.020

Erick Verleye: Yeah, no, that's great. Yeah, please. If you're having issues. Let's try to get those resolves right now go ahead and

399

00:48:26.320 --> 00:48:35.640

Erick Verleye: into a breakout room, and we'll get everything going for you. Yeah. And there's a breakout room open, so called tech support if you all want to join. But if you have trouble, let me know.

400

00:48:39.200 --> 00:48:43.140

Elsa Culler: Cool. Yeah, let's get started.

401

00:48:43.580 --> 00:48:55.069

Elsa Culler: yeah, just like everybody else is saying, we're of course, very ambitious with what we want to get through with you guys. But we want everybody to get through it. So

402

00:48:55.300 --> 00:48:57.880

Elsa Culler: yeah, don't feel like we're

403

00:48:58.340 --> 00:49:03.679

Elsa Culler: I don't know. Lagging behind or not getting enough done just because

404

00:49:04.110 --> 00:49:09.179

Elsa Culler: we prepared more material than we actually have time for. So

405

00:49:10.090 --> 00:49:13.150

Elsa Culler: yeah, I think let's go ahead.

406

00:49:14.680 --> 00:49:20.619

Elsa Culler: Sabelli. Maybe I can show folks how to clone.

407

00:49:20.980 --> 00:49:24.029

Elsa Culler: They reposit the data cube

408

00:49:24.440 --> 00:49:31.889

Elsa Culler: repository that we're working with today instead of the one from last week, so that people will be all set up when we get to that.

409

00:49:33.450 --> 00:49:39.120

Ty Tuff, Ph.D.: that would be amazing. Yeah, the whole, the just the Hackathon repository has everything on it.

410

00:49:41.200 --> 00:49:42.429

Elsa Culler: Okay, great.

411

00:49:43.490 --> 00:49:47.729

Elsa Culler: So I will share my screen.

412

00:49:52.820 --> 00:50:02.600

Elsa Culler: oh, sorry. I have a lot of windows open, as I don't know about you, but I want to share the one that doesn't have a million tabs.

413

00:50:02.680 --> 00:50:03.690

Elsa Culler: Huh?

414

00:50:03.770 --> 00:50:05.780

Elsa Culler: Okay, here we go.

415

00:50:09.000 --> 00:50:13.079

Elsa Culler: And now it's shared. But I can't see it. Okay, here you go.

416

00:50:13.360 --> 00:50:21.880

Elsa Culler: Can everybody see my Ssh keys? Which again, I can show to the world, because this is only my public keys.

417

00:50:22.480 --> 00:50:32.940

Elsa Culler: cool. So this is my github account. And we're gonna go to

418

00:50:33.430 --> 00:50:42.700

Elsa Culler: the Hackathon repository. Here, I'm just clicking on.



This is the document that I just made. So it's got

419

00:50:42.880 --> 00:50:44.890

Elsa Culler: all of the steps for you all.

420

00:50:45.010 --> 00:50:56.560

Elsa Culler: We also have on here, like the training documents from last week, and those will all eventually be up on the Github page that's linked to this repository.

421

00:50:56.810 --> 00:51:00.779

Elsa Culler: so this is a this is a

422

00:51:01.490 --> 00:51:08.170

Elsa Culler: really great feature of Github is that you can turn your repositories into websites.

423

00:51:08.390 --> 00:51:12.540

Elsa Culler: Really, very easily. And so

424

00:51:13.560 --> 00:51:25.780

Elsa Culler: that's something to think about as you're working on your hackathon, too. If you want to present your work as a website, then Github makes that super easy. But what we're gonna do right now is we're going to

425

00:51:26.080 --> 00:51:32.910

Elsa Culler: go to the main page of this repository. which I will put in the chat

426

00:51:36.480 --> 00:51:41.369

Elsa Culler: and hope that's the same as the one that I just put in the chat. Perfect.

427

00:51:42.260 --> 00:51:51.710

Elsa Culler: And we're going to get the URL in order to download this, and we are all set up with our Ssh keys. Now. as long as you can see

428

00:51:52.760 --> 00:52:08.510

Elsa Culler: your Ssh key that you just created today in your

authentication keys here on Github, you should be able to do anything. Using Ssh, that requires authentication on Github as long as you have permission for it in your account.

429

00:52:09.200 --> 00:52:10.370

Elsa Culler: So

430

00:52:10.550 --> 00:52:25.639

Elsa Culler: instead of selecting the https like we needed to beforehand when we didn't have authentication setup, we can select Ssh instead. And this is going to use that public key to encrypt things, and so that only

431

00:52:25.850 --> 00:52:34.989

Elsa Culler: only my cyber analysis that has the private key is going to be able to decrypt it, and therefore I'm only I'm the only one who's going to be able to see it.

432

00:52:35.960 --> 00:52:39.450

Elsa Culler: So you can click this copy button right here

433

00:52:41.180 --> 00:52:42.670

Elsa Culler: and then

434

00:52:43.620 --> 00:52:50.959

Elsa Culler: I'm going to head over to the discovery environment.

435

00:52:56.890 --> 00:53:01.569

Elsa Culler: well, sorry I have mine open in a different tab, but I'm going to show how to get there again.

436

00:53:07.560 --> 00:53:12.529

Elsa Culler: I think. Nope, not it, not it, guys.

437

00:53:12.680 --> 00:53:35.450

Elsa Culler: I'm heading back to. I'm gonna have back to my instructions. Actually, because the link to the discovery environment is there? So? And I'll also show you how to get that. So here and get on the Cloud Github cybers. And we've got these 2 sites. We've got the user site here. But also

438

00:53:36.120 --> 00:53:41.380

Elsa Culler: we've got de.cyvers.org very important.

439

00:53:43.700 --> 00:53:52.799

Elsa Culler: So I'm gonna go over here. And initially, we went here, and we did the analysis, and we opened up a new one here.

440

00:53:52.910 --> 00:53:53.980

Elsa Culler: But

441

00:53:54.150 --> 00:54:03.400

Elsa Culler: if I open up a new analysis now, it's not going to have my authentication. So what I want to do is I want to go over to my analysis and see this one that's running right here.

442

00:54:04.000 --> 00:54:06.340

Elsa Culler: and for some reason my window got closed.

443

00:54:06.380 --> 00:54:11.880

Elsa Culler: and then this little button with the square and the arrow in it, is going to take me

444

00:54:13.320 --> 00:54:16.260

Elsa Culler: to that Jupiter lab page.

445

00:54:19.920 --> 00:54:21.150

Elsa Culler: Okay?

446

00:54:21.550 --> 00:54:30.180

Elsa Culler: So I still have this notebook open. I'm going to close that. And I'm going to go back to that data store folder by clicking on the folder here.

447

00:54:31.620 --> 00:54:46.690

Elsa Culler: and then I'm gonna head over to the Github extension panel. Here the little we've got our little graph network logo, github, logo.

448

00:54:46.880 --> 00:54:50.089

Elsa Culler: And I'm going to click on clone or repository.

449

00:54:51.900 --> 00:54:57.089

Elsa Culler: And I'm going to go ahead and clone the data queue repository here.

450

00:54:59.150 --> 00:55:00.290

Elsa Culler: So

451

00:55:02.070 --> 00:55:06.269

Elsa Culler: moment of truth. Everybody did it work.

452

00:55:10.490 --> 00:55:14.660

Elsa Culler: It's waiting here. It worked. Okay.

453

00:55:15.690 --> 00:55:19.189

Elsa Culler: And so now I have the hackathon folder here.

454

00:55:21.270 --> 00:55:24.460

Elsa Culler: So let's pause for a second. Here.

455

00:55:24.740 --> 00:55:28.299

Elsa Culler: alright, I want to put

456

00:55:28.750 --> 00:55:35.730

Elsa Culler: that discovery environment. Yeah. URL, yeah. URL, in the chat. in case you're looking for that.

457

00:55:36.110 --> 00:55:39.679

Elsa Culler: And I'm going to put the Ssh

458

00:55:41.130 --> 00:55:43.060

Elsa Culler: authentication.

459

00:55:43.280 --> 00:55:51.779

Elsa Culler: Yeah, URL, for the repository in the chat in case you weren't able to find that on Github.

460

00:55:51.790 --> 00:56:00.850

Elsa Culler: But it's gonna be this green code button, making sure the local tab is selected, and then Ssh is selected and the copy button.

461

00:56:04.160 --> 00:56:06.820

Elsa Culler: So that's what we'll go in

462

00:56:06.940 --> 00:56:11.399

Elsa Culler: your little window. Can

463

00:56:13.160 --> 00:56:16.179

Elsa Culler: we get an idea of.

464

00:56:17.220 --> 00:56:21.889

Elsa Culler: What folks where folks are with that

465

00:56:22.130 --> 00:56:26.080

Elsa Culler: like I'm going to open up so I can see

466

00:56:26.410 --> 00:56:38.579

Elsa Culler: everybody. I see one thumbs up. Let me get like a thumbs up, thumbs down kinda symbol from you all, just to see if you were able to clone that repository.

467

00:56:40.230 --> 00:56:47.480

Ty Tuff, Ph.D.: See? A question about someone use the https instead of the ssh, could you go over that point again.

469

00:56:51.810 --> 00:56:57.130

Elsa Culler: yeah, so if you use https.

470

00:56:57.450 --> 00:57:00.390

Elsa Culler: because, github I am.

471

00:57:00.910 --> 00:57:15.019

Elsa Culler: I don't want to say, for, like absolute sure about this, but my understanding of the current situation is that Github has deprecated the use of Htp Tps for any kind of authentication?

472

00:57:15.180 --> 00:57:18.570

Elsa Culler: Unless you are using a

473

00:57:19.130 --> 00:57:23.880

Elsa Culler: personal authentication token which we did not go over. How to do that.

474

00:57:24.040 --> 00:57:32.650

Elsa Culler: so you can't authenticate with your password. So you should be able to clone this repository using https.

475

00:57:33.120 --> 00:57:37.180

Elsa Culler: But. you will not be able to

476

00:57:37.790 --> 00:57:48.000

Elsa Culler: push back to Github any changes that you make using https. So I think for the purposes of what we're doing today. That is fine.

477

00:57:48.440 --> 00:57:59.000

Elsa Culler: But when you are working with your repository for the hackathon, you are going to want to make changes, and so you will need to use the Ssh. Or

478

00:57:59.030 --> 00:58:02.310

Elsa Culler: set yourself up with an authentication token, which again, we're not

479

00:58:02.330 --> 00:58:13.640

Elsa Culler: really going over. The Ssh is harder to set up, but once it's set up, it's much easier to deal with. And so that is why we are going with that type of authentication.

480

00:58:14.430 --> 00:58:19.699

Ty Tuff, Ph.D.: Yeah, let me show you how to delete

481

00:58:20.130 --> 00:58:29.489

Elsa Culler: in there. Because I ran into that earlier, too. I'm seeing in the chat. So let me share. Wait.

482

00:58:29.530 --> 00:58:31.440  
Elsa Culler: Is my screen still shared?

483  
00:58:31.840 --> 00:58:34.810  
Elsa Culler: Yes, okay. They got Blair for a second, then came in

484  
00:58:34.900 --> 00:58:36.940  
Elsa Culler: alright. Now I'm going to like

485  
00:58:37.210 --> 00:58:43.400  
Elsa Culler: I had everybody's faces in front of it. Which is always much nicer. Okay? So here I am.

486  
00:58:44.390 --> 00:58:49.810  
Elsa Culler: If I click on this folder here and go back to the main folder. I'm going to.

487  
00:58:50.330 --> 00:59:02.029  
Elsa Culler: For for my purposes. Yeah, I'm going to delete this so you have kind of you have options, right? We we could go in here and rename this

488  
00:59:03.330 --> 00:59:04.699  
Elsa Culler: something like this

489  
00:59:04.790 --> 00:59:10.729  
Elsa Culler: that'd probably be okay, and then you'd be able to call in the Ssh. One, and it wouldn't be trying to write over that

490  
00:59:11.330 --> 00:59:13.329  
Elsa Culler: if you really want to get rid of it.

491  
00:59:13.380 --> 00:59:23.089  
Elsa Culler: You've got to go to the terminal. so I'll show that again down here in other. The the terminal is this black box with the dollar sign?

492  
00:59:23.500 --> 00:59:37.129  
Elsa Culler: Because, you'll probably notice that if you try to go in here and delete like oh, are you sure you want to permanently delete

that. And then you say yes, and then it's like delete failed. So that's no good.

493

00:59:37.970 --> 00:59:49.099

Elsa Culler: So we can go in here. We can type the command Ls to list everything out, and we see all of the same folders here or directories that we see over here.

494

00:59:50.710 --> 00:59:54.790

Elsa Culler: And so I am going to use this command.

495

00:59:55.140 --> 00:59:56.270

Elsa Culler: RM.

496

00:59:56.280 --> 00:59:58.000

Elsa Culler: Space dash

497

00:59:58.340 --> 01:00:05.580

Elsa Culler: for recursive. That's what we use to delete a whole folder instead of a file. And F, because when you

498

01:00:05.700 --> 01:00:14.420

Elsa Culler: have a git repository there are some write protected files, and so we need the F for force option in order to delete them.

499

01:00:15.450 --> 01:00:18.860

Elsa Culler: Be real careful with this guys. This is not your trash, can.

500

01:00:19.020 --> 01:00:23.270

Elsa Culler: It's gone when you use rm, rf.

501

01:00:23.310 --> 01:00:39.220

Elsa Culler: and if you type something in wrong and run this command. Then you could end up deleting a lot of important stuff. so I'm gonna start typing the hackathon in here and to make sure that I type it right? I'm going to press tab.

502

01:00:39.550 --> 01:00:41.770

Elsa Culler: and that will auto-complete forming.



503

01:00:42.270 --> 01:00:51.890

Elsa Culler: And then I'm going to, because I'm using the Rf Options. I'm going to read through that one more time, really, carefully and be like, okay, I'm sure that's the one.

504

01:00:52.100 --> 01:00:56.810

Elsa Culler: And then I can go ahead and press return. And now, if I Ls.

505

01:00:56.980 --> 01:01:03.280

Elsa Culler: that folder is no longer there, and if I'm looking at my file, Browser is also no longer there.

506

01:01:03.390 --> 01:01:07.910

Elsa Culler: so I could go back in here

507

01:01:08.290 --> 01:01:09.060

Jim Sanovia - ESIIL: be back.

508

01:01:10.280 --> 01:01:23.769

Elsa Culler: Was that a question or a background noise. background, noise, background, noise. Okay? So I could go back in here. Grab my making sure I'm grabbing the Ssh that starts with, get at Github com

509

01:01:24.840 --> 01:01:32.660

Elsa Culler: and paste in here. You have cloned again. Okay.

510

01:01:43.790 --> 01:01:59.279

Elsa Culler: okay, yep. And Eric's got that written down as well, it looks like we've got some resources for the command line there. We also have an introduction to the command line on our Earth data science.org site.

511

01:02:01.600 --> 01:02:06.449

Elsa Culler: So if I search for this here.

512

01:02:06.590 --> 01:02:13.609

Elsa Culler: then this would be the relevant file, and it's going to explain everything in a lot of detail for you all. So

513

01:02:14.600 --> 01:02:19.260

Elsa Culler: but hopefully we won't need to do too much with the terminal.

514

01:02:20.100 --> 01:02:27.360

Elsa Culler: So I want to make sure to leave time for Sabelli. Is there other stuff?

515

01:02:27.710 --> 01:02:29.550

Elsa Culler: that

516

01:02:29.790 --> 01:02:51.969

Elsa Culler: you need to be able to push? We we wanted to cover? Pushing back last time we stopped before pushing back to Github, and people tried it and failed. And so we just wanted to get people through that. I think we're fine delaying a little bit on the data stuff is I, I'd rather get people to be able to push

517

01:02:53.700 --> 01:02:55.260

Elsa Culler: vile. And

518

01:02:55.740 --> 01:03:03.199

Elsa Culler: yeah, everybody should create their own repositories. Probably. okay, so we call in the hackathon thing.

519

01:03:04.290 --> 01:03:16.349

Elsa Culler: So when you are working on your hackathon project as a group, you're gonna want to make your own repository so that you all can work on it together. So

520

01:03:16.470 --> 01:03:25.329

Elsa Culler: I'm going to head to. There's a lot of ways to make a new repository on Github Github. I'm going to head to the homepage here.

521

01:03:27.110 --> 01:03:32.459

Elsa Culler: And Virginia, do we have a are we wanting people to put the

522

01:03:32.590 --> 01:03:45.050

Elsa Culler: they're hackathon repositories in the and easel organization? Or are we wanting them to have it under their own accounts? Their own accounts?

523

01:03:45.160 --> 01:03:59.359

Elsa Culler: Yeah, I always think that's good. Because then you guys own your own work right? But so here I am at this home page and one thing that I just want to show about Github is oops.

524

01:03:59.810 --> 01:04:06.560

Elsa Culler: if I make the screen super narrow, it's actually kind of hard to find stuff here

525

01:04:07.070 --> 01:04:19.289

Elsa Culler: because of the way that they built their web page. So if you're seeing something that's kind of confusing, and you don't see those green buttons like mine, maybe try making that page a little bit wider.

526

01:04:19.700 --> 01:04:26.350

Elsa Culler: And so here on the homepage, Githubcom, I've got this new

527

01:04:26.460 --> 01:04:31.090

Elsa Culler: button with the little book symbol next to it.

528

01:04:31.870 --> 01:04:36.020

Elsa Culler: And if I click on that, then it's gonna allow me to create a new repository.

529

01:04:36.370 --> 01:04:48.279

Elsa Culler: You can also find this like from your repositories. Page, you can create new repository. I think from your organization. You can also create a new repository. But this is the way I usually do it.

530

01:04:49.010 --> 01:04:51.780

Elsa Culler: and you don't need a template for this.

531

01:04:51.910 --> 01:04:56.420

Elsa Culler: Do make sure that the owner is your name.

532

01:04:57.560 --> 01:05:08.720

Elsa Culler: If you belong to multiple organizations. And then we'll give this a repository name. So I'm going to do Packathon

533

01:05:12.390 --> 01:05:18.170

Elsa Culler: week. 2 practice repository in here.

534

01:05:19.520 --> 01:05:25.750

Elsa Culler: Maybe I'll put easel in the front of it so that I remember that later on, and then

535

01:05:26.380 --> 01:05:28.400

Elsa Culler: I'll put a description

536

01:05:28.420 --> 01:05:32.660

Elsa Culler: practice repro for

537

01:05:33.180 --> 01:05:36.410

Elsa Culler: her name how to push

538

01:05:38.060 --> 01:05:39.340

Elsa Culler: sketch.

539

01:05:42.580 --> 01:05:45.319

Elsa Culler: you know. Okay,

540

01:05:45.330 --> 01:05:47.229

Elsa Culler: I'm going to leave this public.

541

01:05:48.160 --> 01:05:54.389

Elsa Culler: If you make it private, you can still use it in cybers because you have your authentication.

542

01:05:54.860 --> 01:06:08.090

Elsa Culler: but it is nice for other people to be able to see your work, but if you do want to keep it private among your team, you can absolutely do that until you're ready to release it.

543

01:06:08.270 --> 01:06:15.110

Elsa Culler: And I'm going to add a readme file here.

544

01:06:16.790 --> 01:06:22.030

Elsa Culler: because we always want to have a readme file so that people coming to the Repository know what it's about.

545

01:06:23.540 --> 01:06:26.680

Elsa Culler: I usually work in python.

546

01:06:26.970 --> 01:06:42.829

Elsa Culler: so I'm going to add the git. Ignore template for python. You may wish to use the R. One you may wish to use some kind of a hybrid of the 2 that you create for yourself. If your team is working on both python and arm

547

01:06:43.650 --> 01:06:54.359

Elsa Culler: and then I'm gonna choose a license as well. And we usually advocate for the mit license. If you just want

548

01:06:54.530 --> 01:07:04.249

Elsa Culler: anybody to really be able to use your work pretty permissively, and a simple license. But you can

549

01:07:04.270 --> 01:07:05.520

Elsa Culler: check out.

550

01:07:06.940 --> 01:07:10.799

Elsa Culler: Github page on licensing

551

01:07:10.920 --> 01:07:18.380

Elsa Culler: here, and also this choose a license.com which has a lot of information about different licenses.

552

01:07:20.880 --> 01:07:25.970

Elsa Culler: okay. And we always want to.

553

01:07:26.710 --> 01:07:35.540

Elsa Culler: it's it's nice to license the your work as as part of making it open science, but also making sure that

554

01:07:35.920 --> 01:07:40.220

Elsa Culler: that your work is used, the way that you want it to be

555

01:07:40.260 --> 01:07:44.939

Elsa Culler: in the future. Okay, so I'm down here and I can click on the green.

556

01:07:45.110 --> 01:07:51.150

Elsa Culler: It may be blue for you. But it will be the colorful button at the bottom. Right, create repository.

557

01:07:52.970 --> 01:07:54.050

Elsa Culler: Okay.

558

01:07:54.810 --> 01:08:03.500

Elsa Culler: so this is mine. so I'm gonna go ahead and go to the code button

559

01:08:03.970 --> 01:08:05.070

Elsa Culler: and

560

01:08:05.230 --> 01:08:16.920

Elsa Culler: make sure I'm on local. And ssh, and then click the copy button. And I can copy this into my analysis, which is

561

01:08:17.600 --> 01:08:20.179

Elsa Culler: one of these tabs, this one. Okay.

562

01:08:20.710 --> 01:08:23.360

Elsa Culler: so if I'm back in my Jupiter lab, tab

563

01:08:24.640 --> 01:08:33.650

Elsa Culler: done this a couple of times before. So hopefully, it's getting a little bit more familiar. I'm gonna click on the Github symbol over here in the left menu

564

01:08:34.180 --> 01:08:36.779

Elsa Culler: click on clone or repository.

565

01:08:37.819 --> 01:08:51.419

Elsa Culler: and then I can go ahead and paste in that repository. And I can even check that it starts with Github github.com, so that it is the Ssh version.

566

01:08:52.109 --> 01:08:59.060

Elsa Culler: and I'll go ahead and clone that that happens much faster because there's hardly anything in that repository, and

567

01:08:59.180 --> 01:09:03.449

Elsa Culler: here it is in my file, browser now. So

568

01:09:03.529 --> 01:09:10.860

Elsa Culler: I'm gonna go in here and I'm gonna wait for just a second for folks to catch up.

569

01:09:10.870 --> 01:09:13.289

Elsa Culler: Can we?

570

01:09:15.420 --> 01:09:26.090

Elsa Culler: If anybody has run into trouble, can you put that in the chat? And yeah, give me a thumbs up if you're ready. Looks like we've got some thumbs up.

571

01:09:28.010 --> 01:09:34.620

Elsa Culler: So I have a question. Should we be putting our repositories in the room folder.

572

01:09:35.439 --> 01:09:36.450

Elsa Culler: so

573

01:09:36.870 --> 01:09:44.689

Elsa Culler: well the answer to that question as as you asked it is definitely no, because you won't have

574

01:09:44.770 --> 01:09:47.090

Elsa Culler: permission to put things in

575

01:09:47.220 --> 01:09:50.470

Elsa Culler: the actual root folder of this

576

01:09:50.560 --> 01:09:52.310

Elsa Culler: image. I don't believe

577

01:09:52.370 --> 01:10:03.400

Elsa Culler: however, if by root folder you've been instead this folder right here, where, if you click on the folder.

578

01:10:03.820 --> 01:10:16.880

Elsa Culler: And so this this folder right here is If we go into the terminal we can use the Pwd print working Directory command

579

01:10:17.120 --> 01:10:28.480

Elsa Culler: to see what it is. And this is slash home, slash Jovian data store. So this is kind of a home folder that we're using. But it's connected to the data store and I have

580

01:10:28.760 --> 01:10:40.010

Elsa Culler: I'm so sorry I have 3 min of battery left, and I just realized I'm not plugged in so while people are finishing that up and folks can answer things on the chat. I'm gonna go to that.

581

01:10:41.820 --> 01:10:42.720

Elsa Culler: Hello!

582

01:10:45.180 --> 01:10:49.880

Ty Tuff, Ph.D.: Thanks for so thanks for sticking with us guys. it's a lot right.

583

01:10:52.200 --> 01:10:58.200

Ty Tuff, Ph.D.: Anybody feeling a little overwhelmed. Then they need to do some jumping jacks or go for a swim or something.

584

01:11:11.420 --> 01:11:16.119

Ty Tuff, Ph.D.: Now is a really good time to ask questions. If people want to hop in.

585

01:11:26.500 --> 01:11:28.750

Elsa Culler: Umhm. Okay.



586

01:11:31.680 --> 01:11:33.940

Elsa Culler: sorry about that guys.

587

01:11:34.860 --> 01:11:36.030

Elsa Culler: I

588

01:11:38.170 --> 01:11:38.990

Elsa Culler: alright.

589

01:11:40.310 --> 01:11:42.430

Elsa Culler: So hopefully, I won't disappear

590

01:11:42.570 --> 01:11:47.350

Elsa Culler: if I do. That's what happened. Okay.

591

01:11:49.100 --> 01:11:51.880

Elsa Culler: so let's see, we've got a lot of thumbs up.

592

01:11:53.950 --> 01:11:54.820

Elsa Culler: Okay.

593

01:11:55.920 --> 01:12:00.720

Elsa Culler: alright. And if you're

594

01:12:01.350 --> 01:12:11.749

Elsa Culler: if you're in the spot where you're like, I have no idea what's going on. Then. That please use the tech support room. I think that's going to be the best for that.

595

01:12:12.140 --> 01:12:14.570

Elsa Culler: okay.

596

01:12:15.050 --> 01:12:21.509

Elsa Culler: but it does look like we have kind of a quorum here. We're having this practice repository downloaded.

597

01:12:23.150 --> 01:12:24.370

Elsa Culler: So

598

01:12:25.180 --> 01:12:30.620

Elsa Culler: I'm gonna head in here and I'm gonna make a change. I'm

599

01:12:31.150 --> 01:12:34.490

Elsa Culler: going to make a small change in here. So

600

01:12:35.300 --> 01:12:38.520

Elsa Culler: I'm gonna make this a little bit more readable.

601

01:12:48.760 --> 01:12:50.010

Elsa Culler: Okay.

602

01:12:50.940 --> 01:12:54.560

Elsa Culler: so here we go and get this little gray

603

01:12:54.660 --> 01:13:03.109

Elsa Culler: mark up here that indicates that my file hasn't been saved yet. It will be automatically saved if I click X and I can also use

604

01:13:03.290 --> 01:13:05.959

Elsa Culler: the save shortcuts or the file.

605

01:13:06.640 --> 01:13:09.860

Elsa Culler: save in order to save it.

606

01:13:09.910 --> 01:13:13.540

Elsa Culler: And so, having made this small change.

607

01:13:14.890 --> 01:13:19.700

Elsa Culler: I can now head over to the Github Tab.

608

01:13:20.430 --> 01:13:25.110

Elsa Culler: and this should give you some information about my repository.

609

01:13:26.800 --> 01:13:34.279

Elsa Culler: So the repository is not just the files that I have there. The repository is the entire history of every

610

01:13:34.900 --> 01:13:37.900

Elsa Culler: change that I want to keep track of.

611

01:13:38.730 --> 01:13:42.910

Elsa Culler: I'm gonna do what's called committing those changes.

612

01:13:43.930 --> 01:13:48.739

Elsa Culler: and so what we can see here is that we've got a changed file here

613

01:13:49.180 --> 01:13:50.820

Elsa Culler: the readme.md.

614

01:13:51.250 --> 01:13:54.620

Elsa Culler: and

615

01:13:54.970 --> 01:14:02.519

Elsa Culler: I can also up here, pull the latest changes. push committed changes which I don't have any right now.

616

01:14:03.000 --> 01:14:07.730

Elsa Culler: or refresh to detect local and remote changes.

617

01:14:08.040 --> 01:14:09.380

Elsa Culler: So it.

618

01:14:09.450 --> 01:14:16.939

Elsa Culler: There's no one else working on this repository. But when you're in your hackathon groups you're all going to be working together right? So

619

01:14:17.710 --> 01:14:21.719

Elsa Culler: you do wanna always make a habit of at least

620

01:14:21.860 --> 01:14:32.329

Elsa Culler: pressing this. Refresh button before you go ahead and push any changes. And then, if changes come up, you can also push

621

01:14:33.240 --> 01:14:36.339

Elsa Culler: this poll latest changes button.

622

01:14:37.060 --> 01:14:43.410

I don't have any again. But if you've got multiple people working on your repository, you very well may have

623

01:14:43.490 --> 01:14:50.940

Elsa Culler: changes that another part of your group made. So this is a really important practice to get in the habit of

624

01:14:51.610 --> 01:14:58.089

Elsa Culler: always making sure that you're in sync, because otherwise you can create really big problems for yourself.

625

01:14:58.560 --> 01:15:03.300

Elsa Culler: Which we can help you solve. But I think probably

626

01:15:03.460 --> 01:15:05.790

Elsa Culler: you will be happier.

627

01:15:05.950 --> 01:15:08.770

Elsa Culler: If you you

628

01:15:09.530 --> 01:15:14.890

Elsa Culler: try to make sure worry is in sync with the one that's on Github as often as possible.

629

01:15:15.550 --> 01:15:23.990

Elsa Culler: Okay. so now we're over here in the changed, and you may remember from last week. I'm going to pull up a graphic.

630

01:15:26.350 --> 01:15:30.200

Elsa Culler: Nope.

631

01:15:38.120 --> 01:15:41.440

Elsa Culler: my computers.

632

01:15:58.350 --> 01:16:00.379

Elsa Culler: okay, ties moving again.

633

01:16:00.440 --> 01:16:05.060

Elsa Culler: sorry, I think I froze, there, probably

634

01:16:05.240 --> 01:16:16.170

Elsa Culler: okay. I'm just trying to like close some things down on my computer in case that's causing the issue.

635

01:16:29.490 --> 01:16:30.230

Boy.

636

01:16:33.320 --> 01:16:43.369

Ty Tuff, Ph.D.: I'm gonna take over for a minute. If it's it felt like you were getting close to the end. Did you have? How many things did you want to finish? Do you think? Just wanna

637

01:16:43.920 --> 01:16:45.600

Elsa Culler: up?

638

01:16:46.240 --> 01:16:48.469

Elsa Culler: yeah, my computer is like

639

01:16:49.510 --> 01:16:53.080

Elsa Culler: getting very, very slow. Yeah.

640

01:17:14.630 --> 01:17:27.189

Ty Tuff, Ph.D.: I think just because you have it all pulled up already. I'm gonna let you come back in in a couple of minutes and finish that. I was just thinking maybe we could let Sabella move on and get for a little spiel about, add data cubes real quick

641

01:17:27.550 --> 01:17:35.980

Ty Tuff, Ph.D.: and that sounds good. I will take a minute and try to get my computer in better order.

642

01:17:36.090 --> 01:17:38.429

Ty Tuff, Ph.D.: Sounds great. Do you wanna meet real quick.

643

01:17:42.790 --> 01:17:47.230

Ty Tuff, Ph.D.: All right, everyone. So take a deep breath.

644

01:17:47.680 --> 01:17:55.209

Ty Tuff, Ph.D.: We just put you through a lot. Let's acknowledge that for a second. Let's just take a second and go. Wow! That was a lot right?

645

01:17:55.250 --> 01:18:06.430

Ty Tuff, Ph.D.: We meant for that to take half an hour, and it took 80 min. So just to give you an indication that these things are just like, fundamentally, not that easy a lot of ways for them to go wrong.

646

01:18:06.710 --> 01:18:13.940

Ty Tuff, Ph.D.: That's why we're trying to do all of this. So people aren't screaming at each other during the hackathon. Okay, so just be patient. You're doing great.

647

01:18:14.180 --> 01:18:38.039

Ty Tuff, Ph.D.: We're gonna move on for just a minute and start thinking about stage 2. Okay. So in our whole narrative arc of these pre innovation, these pre hackathon sessions, it's like, we want to get you into the environment. So you feel comfortable. That's the most important part. That's the part we're going on. We want you to be able to show up to the hackathon and do the things that you know how to do as a scientist.

648

01:18:38.400 --> 01:18:47.399

Ty Tuff, Ph.D.: Okay, so that is, get in discovery environment. Get this Github thing down, get it. So you can just save files. And you can just do the normal things that you want to do to be able to move on with your life

649

01:18:48.060 --> 01:19:02.809

Ty Tuff, Ph.D.: stage 2 is is that we need to interact with data. And so we've pulled together some data sets for you that are sort of geared towards the idea of floods and the theme of floods. But then expand in a lot of different directions.

650

01:19:02.930 --> 01:19:14.689

Ty Tuff, Ph.D.: We wanna give you a context of sort of how we wanna pull those data into clouds. There's we're just gonna think about data slightly differently in the cloud than we normally do than we would on a laptop.

651

01:19:14.930 --> 01:19:35.780

Ty Tuff, Ph.D.: So we're gonna just try to get you into the philosophy into sort of a different way of imagining data. So just given that we've done so much hands-on already. Today, I think we're gonna let you just take it easy and listen to us, and we'll just guide you through some of these data sets and not make you do too much stuff, and then next week we'll pick up

652

01:19:35.780 --> 01:19:47.270

Ty Tuff, Ph.D.: on some of the hands-on. But we'll give you a little tour of the data, how we want to think about data in the cloud. What are some of these new strategies? What are some of the new terminology,

653

01:19:47.290 --> 01:19:58.090

Ty Tuff, Ph.D.: and and just help give you some context for getting your head wrapped around data. The third wave of that narrative arc is analysis. And so next week

654

01:19:58.230 --> 01:20:04.960

Ty Tuff, Ph.D.: we're gonna have. We're gonna start working into that. What is the data? And how would you access analyses to that?

655

01:20:05.140 --> 01:20:16.659

Ty Tuff, Ph.D.: And a key transition point between pulling data from the cloud and arranging them in a way that an AI could understand them. To make inference

656

01:20:16.850 --> 01:20:29.160

Ty Tuff, Ph.D.: is you need to make them really uniform and harmonize into a data cube. And so Sabella, right now is gonna give us a little bit of context and a primer on data cubes. But they are, how they work.

657

01:20:29.280 --> 01:20:37.250

Ty Tuff, Ph.D.: But in the context of our overall narrative arc, I want you to think we first gave you the tools we're going to talk

about how to bring lots of data in from the web.

658

01:20:37.330 --> 01:20:59.799

Ty Tuff, Ph.D.: harmonize it into something that you want to analyze, and that we want to be a cube, and that cube is now this uniform way to pass that it pass that information onto the inference step. So let me give the link to Sibeli's talk and pass it off to her. So, Sabelle, you can start, and I'll stick your link up in the chat in just a second.

659

01:21:02.890 --> 01:21:12.340

Cibele Amaral: Yeah, thank you, Ty. For the introduction. Here is the yeah, Macdonald. So we should. It should have on the web page

660

01:21:12.880 --> 01:21:25.710

Cibele Amaral: shortly, because we are having some troubles with the hindering images hindering. So you can actually see it in the markdown that I just put in the chat here, and I'm going to share my screen.

661

01:21:26.210 --> 01:21:29.399

Cibele Amaral: So then we can go through it.

662

01:21:30.670 --> 01:21:32.880

Cibele Amaral: So are seeing my screen now.

663

01:21:34.860 --> 01:21:36.100

Cibele Amaral: yeah, cool.

664

01:21:36.590 --> 01:21:47.529

Ty Tuff, Ph.D.: So yeah, I'm going like, just did you minimize the sidebar? I think, up left to the files. There's a little arrow that I think makes the side bar go away and makes it a little more full page

665

01:21:48.110 --> 01:22:08.380

Cibele Amaral: dealing with environment

666

01:22:08.380 --> 01:22:28.620

Cibele Amaral: information challenge and working with AI now for bringing information for stakeholders in general, and that they can use for ecosystem management and also adaptation to to our new future.



667

01:22:28.620 --> 01:22:55.070

Cibele Amaral: So yeah, first of all, why data cubes. So first of all, like for us to understand why we need data cubes. Because when you're talking about like adaptation, about mitigation and and management in general, we need take in context of what is the environment of what's the environment challenge that we have. And it acts. It's actually a complex.

668

01:22:55.160 --> 01:23:06.490

Cibele Amaral: think, between physical, chemical, and biotic factors that ultimately determine the forms and survival of

669

01:23:06.670 --> 01:23:10.930

Cibele Amaral: any community or population you can think in about a society.

670

01:23:11.040 --> 01:23:22.399

But why? That's important. Because if we're going to set, for example, the impacts of climate on in certain population. We need understand the whole context of the environment that makes that

671

01:23:22.470 --> 01:23:23.610

Cibele Amaral: a.

672

01:23:23.800 --> 01:23:47.530

Cibele Amaral: that community to adapt, or maybe not to bounce back. So we need to understand, like, the topography the soil type, whatever that makes that environment change. It's not just like climate, but the intern environment that we have there. And and we must bring all those layers into

673

01:23:48.170 --> 01:23:54.140

Cibele Amaral: into the analysis. So that's why we're talking about data cubes bringing 100 data

674

01:23:54.410 --> 01:23:55.510

Cibele Amaral: within that.

675

01:23:55.530 --> 01:23:58.430

And also in the context of

676

01:23:58.520 --> 01:24:11.529

Cibele Amaral: AI and and and all this change that we are seeing in the environment? And how can we help population to resist and adapt to the, to, to the environment. So you are seeing a

677

01:24:12.000 --> 01:24:20.669

Cibele Amaral: incredible warming. So the last years it's going more than we would expect.

678

01:24:20.730 --> 01:24:28.370

So there is a global warming coming that reflects on extreme events and several disturbance. So we have 250

679

01:24:28.370 --> 01:24:51.810

Cibele Amaral: actually to take into account as well that so we are thinking on extreme events, but that there there are other disturbance that came before that make that population more vulnerable to that extreme event. So we need to take account all their events that might be making that population more vulnerable

680

01:24:51.810 --> 01:25:06.600

Cibele Amaral: to the event that we are actually extending, for example, if I'm studying flooding or or disease maybe a drought, a previous drought might be affecting different ability of that

681

01:25:06.600 --> 01:25:23.600

Cibele Amaral: community. So that's why important thinking on data cube, on bringing all the information together to understand the impact of a explanatory variable into a response variable that we are going to talk

682

01:25:24.090 --> 01:25:26.920

Cibele Amaral: within modeling topics

683

01:25:26.950 --> 01:25:28.220

Cibele Amaral: so

684

01:25:28.350 --> 01:25:54.829

Cibele Amaral: and the projections. So we have projections. And we have a yeah to forex forecast. How we are going to respond that how we need to manage ecosystems, to adapt to this, to to this new reality,

and the projections just show us that we are speeding up towards a warmer climate. And definitely, we are going to experience more catastrophic extreme events and compound effects.

685

01:25:55.900 --> 01:26:16.510

Cibele Amaral: So how can you use like data, science and data cubes to help populations to adapt to this wild future that we are seeing. So we are facing a era of revolutions like this, the

686

01:26:16.690 --> 01:26:19.860

Cibele Amaral: 50 s, so we have like this

687

01:26:19.940 --> 01:26:43.180

Cibele Amaral: digital revolution. Then we have the data revolution that came with 2 thousands. And it's coming yet. And also the AI evolution that we are facing now, and they have a integrated whole. Help us to tackle to those environment, challenge that we are we are facing, and we'll face more and more in the in our future.

688

01:26:43.200 --> 01:27:04.689

Cibele Amaral: So now we should use this. What we have in terms of cyberfest tutor as they are seeing now, with cybers to collect store this amount of data and process data in the cloud that helps something more efficient. So bringing all those layers together and pretty much to deliver that information. So nowadays, we have about like 60,

689

01:27:04.940 --> 01:27:21.120

Cibele Amaral: 66% of world population that is connected to to the Internet. So this is. our new world is definitely digital. And we know that actually. But it comes together with all this cloud computing

690

01:27:21.190 --> 01:27:38.299

Cibele Amaral: power that we have now with this data revolution. So bringing all those data into this data queue before analyzing and how we are going to track that information that's relevant for decision making in general. So we have, like

691

01:27:38.650 --> 01:27:57.460

Cibele Amaral: data from remote sensing, national observatories, social data that's very important for us to understand that impact on the populations and how this is going to be in the future. Lots of synthetic data. So lots of data that are available in this new open science era.

692

01:27:57.620 --> 01:28:15.240

Cibele Amaral: and this, this is just like to show you a example in terms of environment justice. So this was published yesterday, and and it shows how we, we merge here air quality data with.

693

01:28:15.550 --> 01:28:18.160

Cibele Amaral: students like schools

694

01:28:18.340 --> 01:28:31.529

Cibele Amaral: that we have across us. And this, this research shows that like students that are from under represented communities are much more exposed to

695

01:28:32.290 --> 01:28:43.120

Cibele Amaral: air pollution. So this is a topic that we could, for example, expand in terms of within that Hackathon, for example, just a example.

696

01:28:44.110 --> 01:29:08.639

Cibele Amaral: So, and there is, as I said, our new like revolution era, that's AI era. And so now you are seeing like this large language models as shared Gpgs using. But we have lots of convolutional neural networks, deep learnings in general deep neural networks that are helping us with severo

697

01:29:09.080 --> 01:29:34.469

Cibele Amaral: steps for using all those data in in the cloud and and bringing that information so they can help us like to classify, cluster and forecast, how things are going to be in the future to help us and identify outliers. What are the outliers of some patterns that we need to identify and maybe help them to to adjust

698

01:29:34.610 --> 01:30:03.750

Cibele Amaral: And also they help us with simulations like bringing new data where filling gaps where we do not have data and also help us to emulate some models that in a more efficient way. So AI came to help us, and we are exactly in the moment to bring everything together and solve. So there is here the digital tools.

699

01:30:03.750 --> 01:30:11.129

Cibele Amaral: Didn't you realize that we are going so the most

cutting that think that can help us with that.

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01:30:11.680 --> 01:30:21.939

Cibele Amaral: So but why data cubes in general? So the data cubes are arrangements or relevant data for a certain question

701

01:30:22.060 --> 01:30:36.789

Cibele Amaral: that like arranges the data in any dimensional array to support the analytics. Because when you're thinking, modeling, oh, my modeling is not here. But when you're thinking, modeling, we have, like the response variables and explanatory variables that we change.

702

01:30:36.900 --> 01:30:56.149

Cibele Amaral: And for understand how this response variable. So our population, for example, are going to adapt to a range of environmental conditions. We can say, like climate soil, whatever we need everything 100

703

01:30:56.690 --> 01:31:18.619

Cibele Amaral: as a parent parent samples to create a model. But also we need a quote to all that we call like this, like entire corners, representation, to map the predictions and forecasting for a certain region what you are seeing in your model, and what you are going to forecast, for example.

704

01:31:18.620 --> 01:31:29.840

Cibele Amaral: mit Ctl, and so we need that structure for creating the model, but also to make the predictions and and and mapping that predictions across time. For example, 232,

705

01:31:29.850 --> 01:31:31.680

Cibele Amaral: there is a a

706

01:31:31.830 --> 01:31:39.870

Cibele Amaral: very important important aspect that we need to work in data cube creation. That is all the data

707

01:31:40.620 --> 01:31:53.850

Cibele Amaral: they come with different special different formats. So we can have vectors that are points, lines, polygons. But they have also, like, for example, the hasters that are greeted data.

708

01:31:53.870 --> 01:31:59.859

Cibele Amaral: and and they can be aligned. So here we are going to see

709

01:32:00.070 --> 01:32:17.069

Cibele Amaral: the hackathon that we have like this, this, those different settings. So we have the points, points, polygons, vectors, data that we are going to offer for for you separately to thinking questions, environment questions that we can. We can

710

01:32:17.080 --> 01:32:24.570

Cibele Amaral: thinking about using AI for that. But we have a statut data cube with climate data.

711

01:32:24.700 --> 01:32:35.570

Cibele Amaral: elevation data, hydrological data. So data that are there for us to use. And there is another known static

712

01:32:35.670 --> 01:32:54.509

Cibele Amaral: data cube that you are going to interact with. That is, depend on on your question. So what are the periods that we need? For understand, for example, whether extreme events. So you can play with to build that data cube.

713

01:32:54.510 --> 01:33:12.579

Cibele Amaral: Yeah. And more than that, another aspect that's important to taking into account. When creating a data queue. And that's why you created the data cube for making analytics. Is there like each sensor, it data that we have like

714

01:33:12.720 --> 01:33:36.419

Cibele Amaral: They will give us information in different special resolution. Think for our resolution, and we need a range then, so, for example, we to think like the entire constellation of satellites that we have now that will bring information on climate weather, ecosystem, instructory ecosystem, functional functional response, and etc.

715

01:33:36.500 --> 01:33:43.089

Cibele Amaral: Or even I don't know where our or

716

01:33:43.170 --> 01:34:05.609

Cibele Amaral: community place it so that we can understand this interaction with our population. Yeah, each data is collected from in different orbit. So this satellites are in different orbits, and they collect data with different fields of view. So that give us different pixel size.

717

01:34:05.660 --> 01:34:13.450

Cibele Amaral: And we need to have that pirate pirate information for modeling. We need everything the same size

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01:34:13.490 --> 01:34:39.310

Cibele Amaral: very well arranged it before going for a analytics. So we have cutting edge tools that we use for that. As Thai is going to make a hands on with you. So we have now, like the Vsi, that process the data in the cloud. So we can access to data and just like download the data already process. That's

719

01:34:39.420 --> 01:35:04.529

Cibele Amaral: an amazing tool for that. And for example, these cubes that Ty is going to to to play with you to play with it. And together here. So what the basic steps that we do there. First of all, we we define what's your region of interest, then we filter the data sets by dates times that we need.

720

01:35:04.530 --> 01:35:16.910

Cibele Amaral: We then reproject all of them to a standard geographic coordinate system that we call like the Epsg code, each one like that use like

721

01:35:17.090 --> 01:35:32.919

Cibele Amaral: that is, or projected or or not. And we have. We have also a very important step that I said. Now, like this, resemble every layer to a standard special resolution. So you have a data queue.

722

01:35:33.540 --> 01:35:50.919

Cibele Amaral: like we have data with one kilometer resolution data, one with one meter resolution. So how can we have everything together in the same resolution, like a standard like 10 meter resolution, everything with the same size of cell.

723

01:35:51.380 --> 01:36:02.910

Cibele Amaral: And then we we save that. And that's important to bring

for you like how we are going to save that to be optimized, it to work in the cloud

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01:36:02.950 --> 01:36:13.530

Cibele Amaral: erez agmoni. So we have now this cloud optimizer special format that we, those tools, help us to save that data in that in that

725

01:36:13.570 --> 01:36:22.250

Cibele Amaral: format. So then it's better for people to carry the data. So it's easier. So can you can just extract

726

01:36:22.310 --> 01:36:44.070

Cibele Amaral: information that you need for your question and make, like everything more efficient to to process on the fly. So reduce latency. There is a more stability and flexibility for the user to use, and it's pretty much more.

727

01:36:44.080 --> 01:37:10.189

Cibele Amaral: reduce the cost as well in terms of like storing and and and setting the data in the way that you need for your analysis. So this is just an introduction that Thai is going to to go with you through the data set that are going to offer for you. And I don't know. I don't think that this is going to be today, but he's going to to play a little with how to build a data queue.

728

01:37:10.210 --> 01:37:14.570

Cibele Amaral: as it's so important for us to go forward within the hackathon.

729

01:37:14.830 --> 01:37:19.300

Cibele Amaral: Thank you. Any doubts. Yeah, let me know. please.

730

01:37:19.680 --> 01:37:30.029

Ty Tuff, Ph.D.: That's amazing, Sabella. Thank you. Somebody asked for a citation for that paper. I think I included the right citation. But you might check my work real quick and try included the right citation.

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01:37:30.250 --> 01:37:34.299

Ty Tuff, Ph.D.: And yeah, thank you. Amazing. Everybody.



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01:37:34.470 --> 01:37:41.059

Ty Tuff, Ph.D.: So just what I think we really wanted you to get out of that was like, how cool these cubes are.

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01:37:41.370 --> 01:37:54.940

Ty Tuff, Ph.D.: But also how this is your goal. And when you're thinking about pulling data in for your question. You need to get it into a queue, and that is like filling in all the gaps, making sure all the time, and the space are aligned properly.

734

01:37:55.020 --> 01:38:05.110

Ty Tuff, Ph.D.: so that should be an aspiration of yours in the hackathon with real data is like, how am I going to take those and cube them up in a way. That works.

735

01:38:05.170 --> 01:38:23.770

Ty Tuff, Ph.D.: How about open data cube as another format? Again, these are all great. The so you can make the cube and then save it in lots of different ways. The whole purpose here is we want you to think about data structure really well and think about what an AI would an AI or a machine learning algorithm would need

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01:38:23.900 --> 01:38:26.919

Ty Tuff, Ph.D.: to be able to just sort of understand what's going on in your data.

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01:38:27.140 --> 01:38:47.779

Ty Tuff, Ph.D.: We're gonna pass it back to Elsa. Now that I think her computer has cooled back down and she can finish her little lesson, and then I think we're gonna call it quits for the day cause we just have bombarded you with tons of information. So let's go back to Elsa, finish our get thing, and then we're gonna pass it back to Nate, and he will do a final just

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01:38:47.800 --> 01:38:57.420

Ty Tuff, Ph.D.: touch base with everybody on how we did another little quiz on how how people are feeling, and then we'll call it a day. So thanks everybody for sticking with us. Gonna pass it back to Elsa.

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01:38:59.960 --> 01:39:05.450

Elsa Culler: Well, thanks, Diane Savelli, and thanks everybody for bearing with me with Mike

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01:39:05.560 --> 01:39:11.010

technical issues. I'm sure this will not be the either the first or the last.

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01:39:11.520 --> 01:39:12.600

Elsa Culler: I

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01:39:12.630 --> 01:39:27.330

Elsa Culler: computer copying out that happens during the hackathon. So we wanna stay calm and figure out how to adjust our timelines to go along with any kind of technical problems that are having.

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01:39:27.690 --> 01:39:32.380

Elsa Culler: So where was I? We were?

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01:39:34.940 --> 01:39:43.450

Elsa Culler: So I'm here in my cybers, Jupiter Lab. I'm on my github tab over here.

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01:39:44.190 --> 01:39:55.250

Elsa Culler: and I can see that it's tracking my easel hackathon week to practice repository, and that I've made a change to the readme, and so I wanted to jump over to this graphic

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01:39:55.300 --> 01:40:02.220

Elsa Culler: to give a little background on get. And how get is

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01:40:02.580 --> 01:40:12.320

Elsa Culler: get is a version control system. It's the one that we are using in conjunction with Github, which is gonna host. Our remote repositories up here

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01:40:13.400 --> 01:40:18.500

Elsa Culler: and get, is just can think of it as like

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01:40:18.680 --> 01:40:34.920

Elsa Culler: really worried ant or something, because it doesn't want you to make any changes permanent that you didn't actually want there right. And it doesn't want you to end up with any conflicts that you

did that were unnecessary.

750

01:40:35.500 --> 01:40:48.809

Elsa Culler: So what's going on here is we've got the remote repo up here. This is referring to your repository on Github. So if I go over and look at this page right, these files

751

01:40:49.050 --> 01:40:55.710

Elsa Culler: are in my remote repository on Github. It also has this track of my history here.

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01:40:57.370 --> 01:41:03.050

Elsa Culler: Which I can get to with this little reverse arrow symbol.

753

01:41:03.970 --> 01:41:07.679

Elsa Culler: And so that's all on Github server.

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01:41:07.820 --> 01:41:10.470

Elsa Culler: The working Directory.

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01:41:11.880 --> 01:41:20.240

Elsa Culler: is. if I'm on Jupiter lab and I'm in my directory tree. then this

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01:41:20.270 --> 01:41:29.049

Elsa Culler: easel hackathon week to practice. This is my working directory here. These are the actual files that I'm working with. And I can change these files.

757

01:41:29.160 --> 01:41:29.990

Elsa Culler: people.

758

01:41:30.170 --> 01:41:45.849

Elsa Culler: and then the local repository we can think of as being more like this Github tab here, where it's got keeping track of all of the changes that were made in the working directory, and whether or not those are in sync

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01:41:45.980 --> 01:41:51.780

Elsa Culler: with the local repository, whether they're in sync with

the remote repository.

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01:41:52.810 --> 01:42:07.980

Elsa Culler: And we're gonna have this multi-step process in order to get changes from the working directory, first to the local repo and then to the remote repo. And so because Github, because get really

761

01:42:08.310 --> 01:42:12.469

Elsa Culler: wants to save you from regret in your life. It

762

01:42:12.510 --> 01:42:27.909

Elsa Culler: puts a lot of obstacles in your way. So in order to get your changes from your working directory to their local repo, you have to both add the files to the staging area here, and then you have to commit the changes. So this is kind of like asking you, are you sure?

763

01:42:28.210 --> 01:42:32.119

Elsa Culler: And I think that when we use

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01:42:32.670 --> 01:42:33.770

Elsa Culler: the

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01:42:33.850 --> 01:42:40.010

Elsa Culler: github tab over here? I think it will actually combine those steps into one

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01:42:40.260 --> 01:42:41.470

Elsa Culler: so

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01:42:42.580 --> 01:42:47.320

Elsa Culler: I can go over here and I can say.

768

01:42:47.660 --> 01:42:50.710

Elsa Culler: Oh, well, no, I guess it doesn't. I've used other

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01:42:51.010 --> 01:43:13.820

Elsa Culler: I've used other like. Get extensions that do combine those steps into one. But we've got this plus button here, and we can. Well, maybe you can see it's really small. And I don't think I can increase that font size. But it says, stage this change. So this

button, this is the Add Button and it's gonna move the changes that I made to the readme into the staging area. So now I've got

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01:43:13.960 --> 01:43:18.829

Elsa Culler: nothing untracked, nothing changed. But I've got a staged file here

771

01:43:19.990 --> 01:43:23.600

and then. Now it's going. The next step.

772

01:43:24.220 --> 01:43:28.620

Elsa Culler: Now we're in the staging area is to commit it. And

773

01:43:29.690 --> 01:43:52.380

Elsa Culler: this is this is another thing that get is really fussy about, but it's really good that get is fussy about it, which is, you always have to leave a message? And the reason that's great is because you're not. Gonna remember, maybe even tomorrow, why, you made that change and what the change was. And certainly in 3 months

774

01:43:52.790 --> 01:43:54.650

Elsa Culler: nobody's going to remember.

775

01:43:55.140 --> 01:44:09.510

Elsa Culler: And so if you leave a good message, it means that if you for some reason need to roll back some changes or look at a previous version of the code, you'll actually be able to find the version that you want. So I'm going to say,

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01:44:09.940 --> 01:44:14.979

Elsa Culler: you know, made the title

777

01:44:15.880 --> 01:44:20.180

Elsa Culler: more. Read a book. because that's what I did.

778

01:44:21.380 --> 01:44:40.420

Elsa Culler: You can also put a longer description in here if you would like but get isn't going to enforce that the way it enforced putting something in here. So if we go back here, we've got a little red box around here being like, hey? You didn't do a summary yet, and the commit button is grayed out.

779

01:44:41.750 --> 01:44:45.880

Elsa Culler: And then once I put the message in there, it's like, Oh, I guess you can make that change

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01:44:46.680 --> 01:44:50.309

Elsa Culler: now we're going to go down to the commit button press.  
Commit

781

01:44:51.040 --> 01:44:51.880

Elsa Culler: alright

782

01:44:52.020 --> 01:44:57.510

Elsa Culler: and so now we don't have anything here, but we do have a little

783

01:44:58.110 --> 01:45:00.680

Elsa Culler: orange dot next to this

784

01:45:00.720 --> 01:45:11.669

Elsa Culler: push button, which again is very small. Let me see if I can make it bigger, and I can make it bigger. Okay, so this is push committed changes. We're ahead by one commit.

785

01:45:11.730 --> 01:45:17.210

Elsa Culler: And if I go over to my repository again.

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01:45:17.440 --> 01:45:25.930

Elsa Culler: well, notice that the latest change was 37 min ago. So we can also see here that the changes were not pushed up to Github.

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01:45:27.050 --> 01:45:36.870

Elsa Culler: So now we're in the local repo. We've committed the changes, and the next step is going to be to push. So we'll go ahead and press this button.

788

01:45:37.490 --> 01:45:40.319

Elsa Culler: and now it's successfully pushed.

789

01:45:41.370 --> 01:45:52.520

Elsa Culler: If I go. if I like, move off of that tab and then go back. I no longer have the orange dot, and if I go to this page I may need to reload it.

790

01:45:53.160 --> 01:45:56.229

Elsa Culler: But now my latest change was 1 min ago.

791

01:45:56.630 --> 01:46:10.259

Elsa Culler: I can go to the history, and I can see. Oh, I made the title more readable. And I can even look at the difference between my previous version of this file and the current version of this file.

792

01:46:10.750 --> 01:46:14.030

Elsa Culler: and

793

01:46:14.410 --> 01:46:20.899

Elsa Culler: there's different ways that you can look at this, that kind of show you more of the file. and we can click on

794

01:46:22.010 --> 01:46:23.469

Elsa Culler: yeah.

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01:46:24.800 --> 01:46:30.819

Elsa Culler: if we go, let's see you go back here. I can also click on the

796

01:46:31.490 --> 01:46:35.210

Elsa Culler: view. Commit details. Oh, and that gets me into the same place.

797

01:46:35.410 --> 01:46:46.699

Elsa Culler: And browse files will allow me to look at all of my files at this particular point in history. Right? So it's it's bringing me to this, commit

798

01:46:47.730 --> 01:46:52.880

Elsa Culler: and so all of the files should match my current commit.

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01:46:53.520 --> 01:47:05.170

Elsa Culler: Alright and Github has a lot of tools for helping us to look through the changes and compare the changes and communicate about the changes with each other. So

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01:47:05.280 --> 01:47:08.979

Elsa Culler: how are folks doing on their

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01:47:09.300 --> 01:47:13.110

Elsa Culler: pushing, committing, adding, committing and pushing.

802

01:47:16.280 --> 01:47:18.560

Ty Tuff, Ph.D.: That was amazing. Thank you. I'll say.

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01:47:18.900 --> 01:47:29.439

Ty Tuff, Ph.D.: I'm gonna drag us to our conclusion so that we get people out of here in time. They have about 5 min left. And so I'd like to send you back to the Google. Doc.

804

01:47:29.720 --> 01:47:35.289

Ty Tuff, Ph.D.: And Nate has just put up a few new survey questions for us.

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01:47:35.360 --> 01:47:38.869

Ty Tuff, Ph.D.: just for us to check in at the end of this

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01:47:38.990 --> 01:47:55.679

Ty Tuff, Ph.D.: long day. So just tell us where you're at, how you're feeling, what things work are working, what things are not working. We still have some time to come in and give you any skills that you need before the hackathon, and we would just want to make sure we're meeting those needs. So let us know.

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01:47:56.230 --> 01:48:01.629

Ty Tuff, Ph.D.: So take a second, go, fill those out, and then we'll chat about them for just a second, and then we'll send everybody on their way.

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01:49:21.410 --> 01:49:36.070

Ty Tuff, Ph.D.: Yeah, so there is a question about documentation. Yes, Elsa is working on the documentation for the stuff we went through today. We just things changed a lot right before. And so we didn't



give very much leave time to actually build any of that. So

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01:49:36.140 --> 01:49:53.300

Ty Tuff, Ph.D.: just give it a couple of days, and that should be up there. It'll certainly be up before the hackathon hopefully before next week, because we have to run through this again next week really fast, hopefully, though, everybody, I'm seeing a lot of very confidence so hopefully next week it'll just take us 5 min. Boom, boom, boom! And we're in

810

01:49:53.550 --> 01:49:54.810

and

811

01:49:55.280 --> 01:49:58.469

Ty Tuff, Ph.D.: but if we're not, and we need to spend more time, then that's fine, too.

812

01:50:05.160 --> 01:50:09.479

Ty Tuff, Ph.D.: Oh, yeah. General advice on Github is commit early and commit often.

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01:50:09.670 --> 01:50:25.620

Ty Tuff, Ph.D.: This is, you know, the same thing with coding. You often want to code small chunks into functions and patch them together. Same with Github like. Do little every time you do something new a small go ahead and push it, because then it's really got easy to go back and figure stuff out if you need

814

01:50:26.520 --> 01:50:40.480

Ty Tuff, Ph.D.: is it possible to harmonize vector and raster data? Oh, it sure is. We'll talk about that next week. We. We had intended to work on some of that this week, but we aren't there yet, but essentially you take everything, get it at a

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01:50:40.540 --> 01:50:48.720

Ty Tuff, Ph.D.: the same spatial projection. So everything's overlapped properly and in the right place, and then you can all grid it up in the way that you need to. So

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01:50:48.760 --> 01:50:50.389

Ty Tuff, Ph.D.: yep, for sure.

817

01:50:50.800 --> 01:51:16.219

Ty Tuff, Ph.D.: I need an address to the slack link. Oh, yes, let's get you that real quick, Rachel. Do you think you could maybe give us the invite link to this. Yeah, a a note about that. We're gonna create one for the events specifically. So stay tuned. We're we'll we'll get everybody added to that in time for the for the hackathon, and and get groups and everything set up there. So you will get all that information soon.

818

01:51:22.280 --> 01:51:34.390

Ty Tuff, Ph.D.: We have a nice compliment from Kelly. Thank you so much. She says these trainers have been very helpful, and that she's got a lot out of them and thank you for organizing. We appreciate it. You can imagine it's a lot of work. We're sort of like.

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01:51:34.400 --> 01:51:42.030

Ty Tuff, Ph.D.: when you ta, and could just stay one step ahead of your very bright students. This is our daily experience these days. So thank you so much.

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01:51:42.410 --> 01:51:43.649

Nate Q: I don't tell him.

821

01:51:48.540 --> 01:51:54.139

Ty Tuff, Ph.D.: Hey? Did everybody get a chance to go into the document and make all the comments that they wanted?

822

01:51:58.010 --> 01:52:02.170

Ty Tuff, Ph.D.: Okay, Nate, do you wanna say our parting words.

823

01:52:04.250 --> 01:52:30.850

Nate Q: I don't really have anything else to add other than great job to Elsa Ty and Eric and Sibeli for leading the sessions today. Again. These things can be frustrating when we're trying to do them live, and inevitably mistakes will happen. We hope that through these trainings that they will help make the steps that you need to follow to get started engaging with the hackathon a little bit more smooth.

824

01:52:32.310 --> 01:52:50.190

Nate Q: we are. Gonna ask you to read a little bit about what are called fair and care data principles, and we'll have more to say about that. I think, at the end of next week's training as a little bit of

homework that we'll like you to do prior to the heckathon. But we'll have more to say about that next week. I think that there are some links to those readings in the

825

01:52:50.220 --> 01:52:56.179

Preakathon webpage, but for now don't sweat it. We'll have more to say about that next week.

826

01:52:56.230 --> 01:53:05.070

Nate Q: I don't know. Did I miss anything? Do do our team leads. Wanna add anything before we sign off for the day?

827

01:53:10.010 --> 01:53:21.680

Ty Tuff, Ph.D.: Just thanks for sticking with us. I know how hard it can be really great point in the chat, Tyde. Sorry to interrupt you, but yes, you should shut down your analysis.

828

01:53:21.980 --> 01:53:32.510

Ty Tuff, Ph.D.: Yes, Eric, I already shut mine down.

829

01:53:33.810 --> 01:53:34.780

Elsa Culler: Okay.

830

01:53:36.460 --> 01:53:38.980

Elsa Culler: alright. So I'm going back.

831

01:53:39.520 --> 01:53:49.829

Elsa Culler: I can close this browser. This doesn't change anything with my analysis. Cause. I could go back to this page and it would still be there.

832

01:53:50.070 --> 01:53:53.670

Elsa Culler: And then, in the discovery environment

833

01:53:54.320 --> 01:53:58.809

Elsa Culler: I can click this terminate button which is going to shut it down.

834

01:54:00.950 --> 01:54:09.210

Elsa Culler: So if you do have to go back to the discovery environment

main page, then it's going to be in the analysis, Tab.

835

01:54:09.660 --> 01:54:14.639

Elsa Culler: and if you're if you're ever wondering like what all these are, you can click the the button up at the top.

836

01:54:14.730 --> 01:54:19.470

Elsa Culler: analyses little circle with the graph in it, and then terminate.

837

01:54:20.020 --> 01:54:21.020

Elsa Culler: and then.

838

01:54:21.210 --> 01:54:24.509

Elsa Culler: yes, I do want to terminate. And now it's completed.

839

01:54:29.750 --> 01:54:36.069

Nate Q: Alright also. Thanks for that quick demo and good question in the chat from. I think it was Tate.

840

01:54:36.320 --> 01:54:56.679

Nate Q: thanks again to everybody for filling out the kind of formative assessments that we're asking you to do like, Ty said. Looks like we've got a lot of folks who are feeling pretty confident about what's been done. If you are in that not confident. Please reach out to us and let us know. There will be recordings from the first day, and today's sessions available soon. You should be hearing about that.

841

01:54:56.950 --> 01:55:08.999

Nate Q: We have one more day of training one week from today, where we'll learn a little bit about artificial intelligence for earth and environmental data, science and review some of the things that we've talked about over the last couple of weeks.

842

01:55:09.410 --> 01:55:23.129

Nate Q: if nobody else has anything to add, give it up one more time for Elsa, Thai, Eric, and Sbelli, our instructors today thanks Rachel and Virginia for helping keeping us organized and on track.

843

01:55:23.490 --> 01:55:27.379

Nate Q: thanks to Chelsea and Jennifer and the rest of the easel team

844

01:55:27.520 --> 01:55:31.160

Nate Q: Earthlab team for being here today. And yeah.

845

01:55:31.460 --> 01:55:34.639

Nate Q: we'll see you in a week. Thanks. Everybody.