GitHub in SAS Viya

Connecting to GitHub Repositories in SAS Studio

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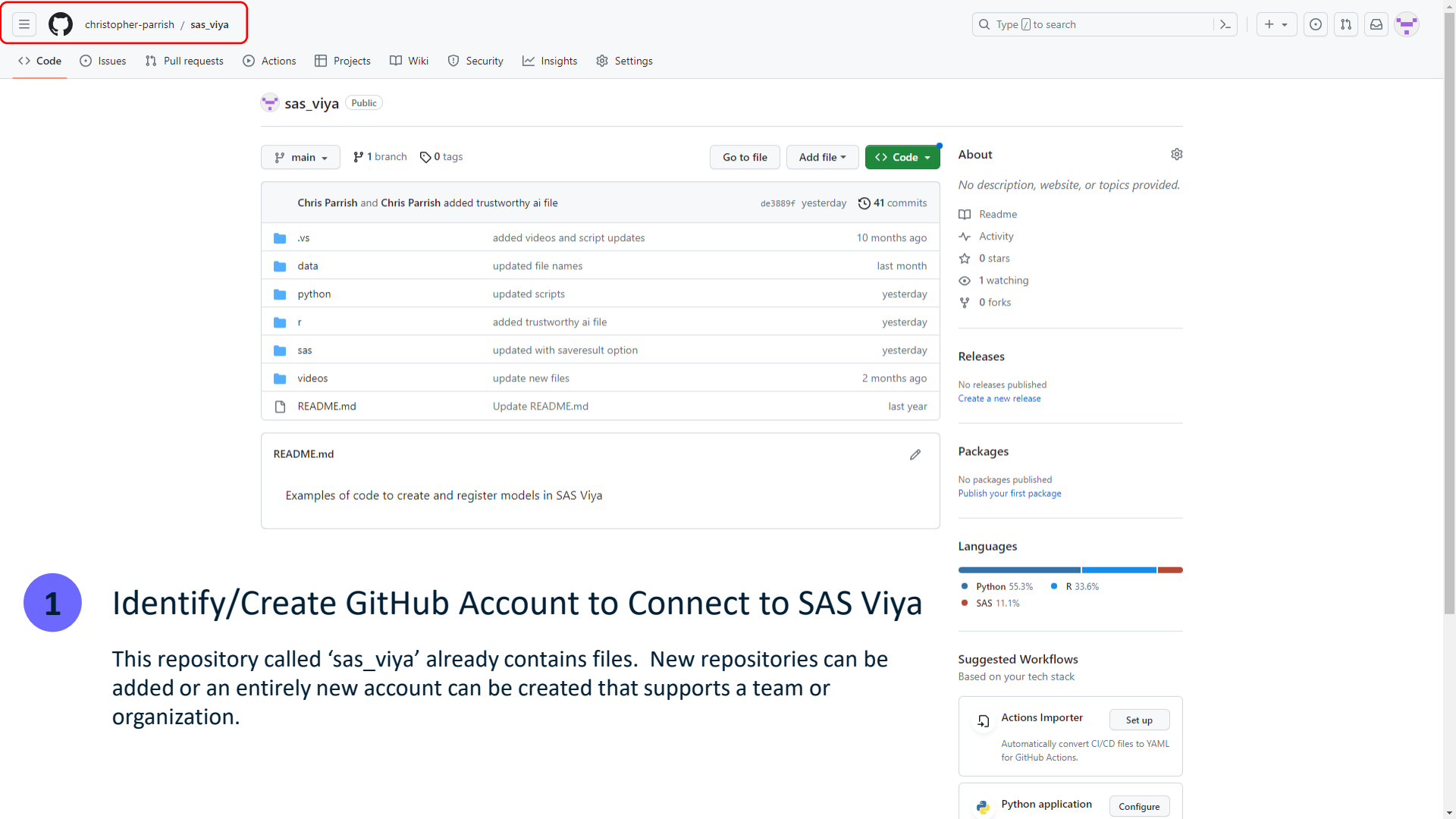
Steps

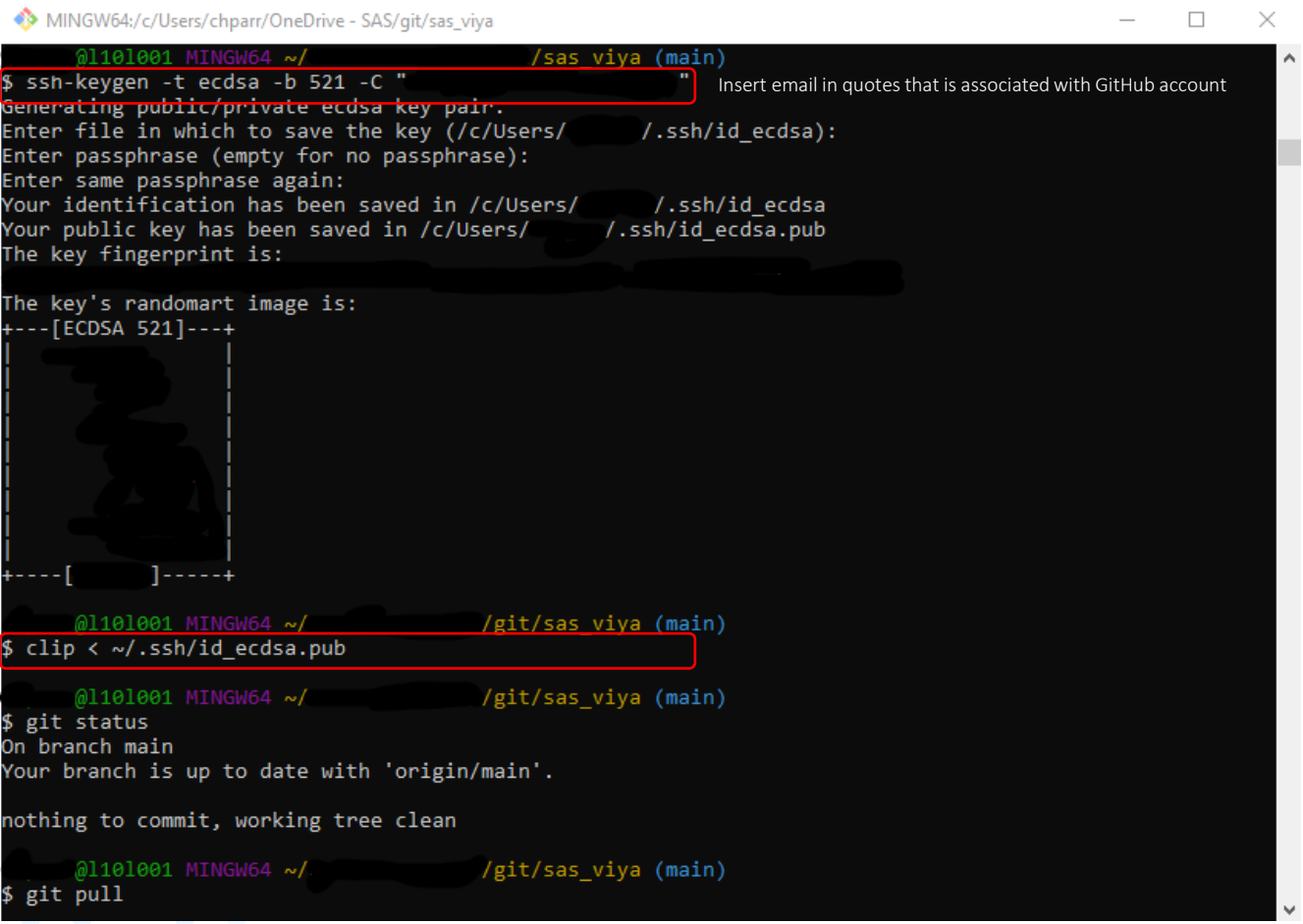
1. Identify/Create GitHub Account to Connect to SAS Viya
2. Create SSH Private and Public Keys
3. Store Public SSH Key in GitHub Account
4. Upload SSH Keys to SAS Viya File Explorer
5. Add (New) or Clone (Existing) Repository in SAS Studio
6. Create New Content or Make Changes to Existing Content
7. Commit Changes
8. Push Commits to Repository



1

Identify/Create GitHub Account to Connect to SAS Viya

This repository called ‘sas_viya’ already contains files. New repositories can be added or an entirely new account can be created that supports a team or organization.



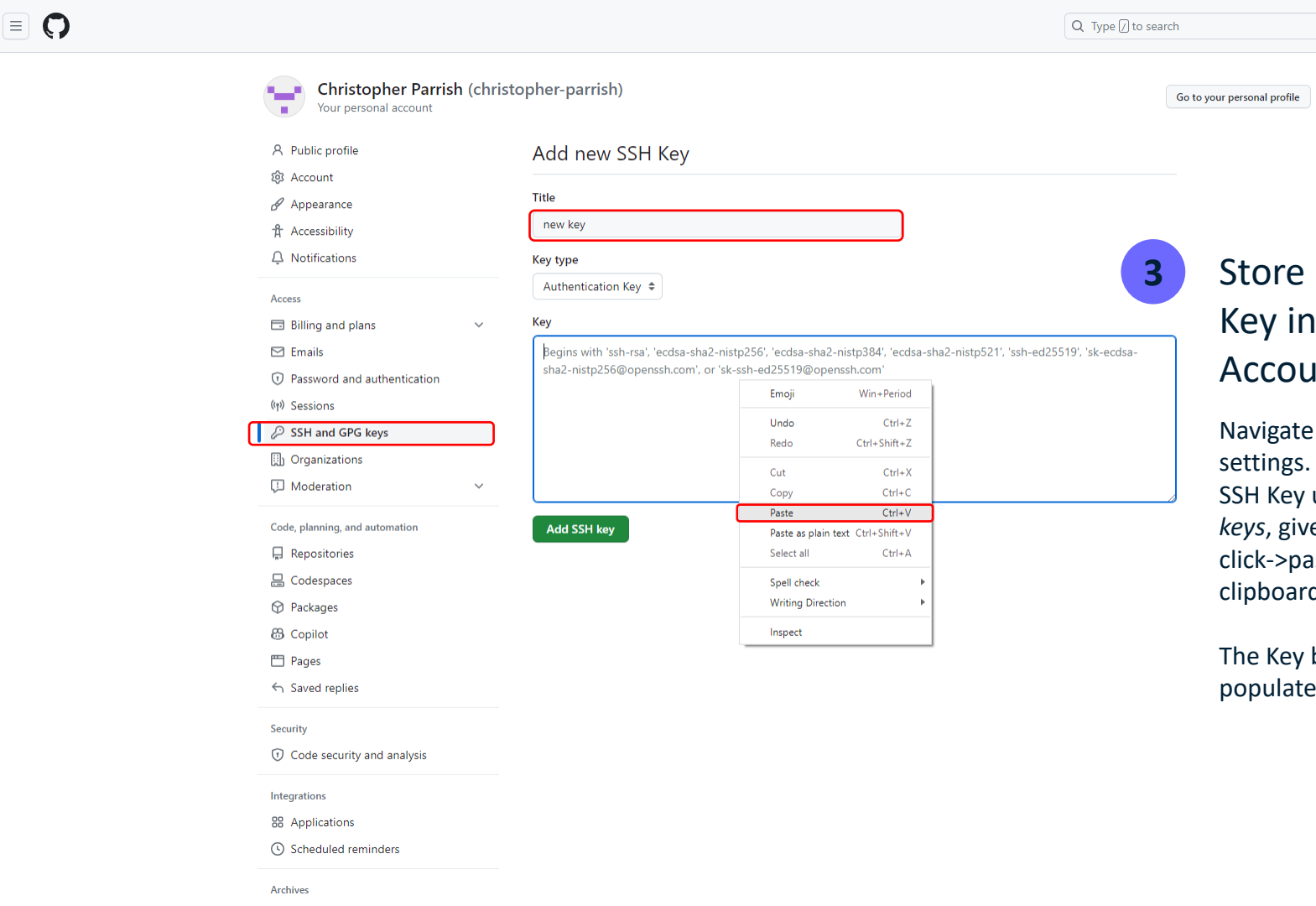
2

Create SSH Private and Public Keys

SAS Viya requires *ecdsa* security keys. GitHub has detailed instructions on how and where to create keys.

This key was developed in the Git Bash console on a laptop under the main branch of the repository that is going to be cloned in SAS Viya. As noted in the log, the public and private keys were stored in the …/.ssh/ directory on the laptop. File and passphrases are optional.

Once generated, copy (clip) the public key. This will be used in the next step.

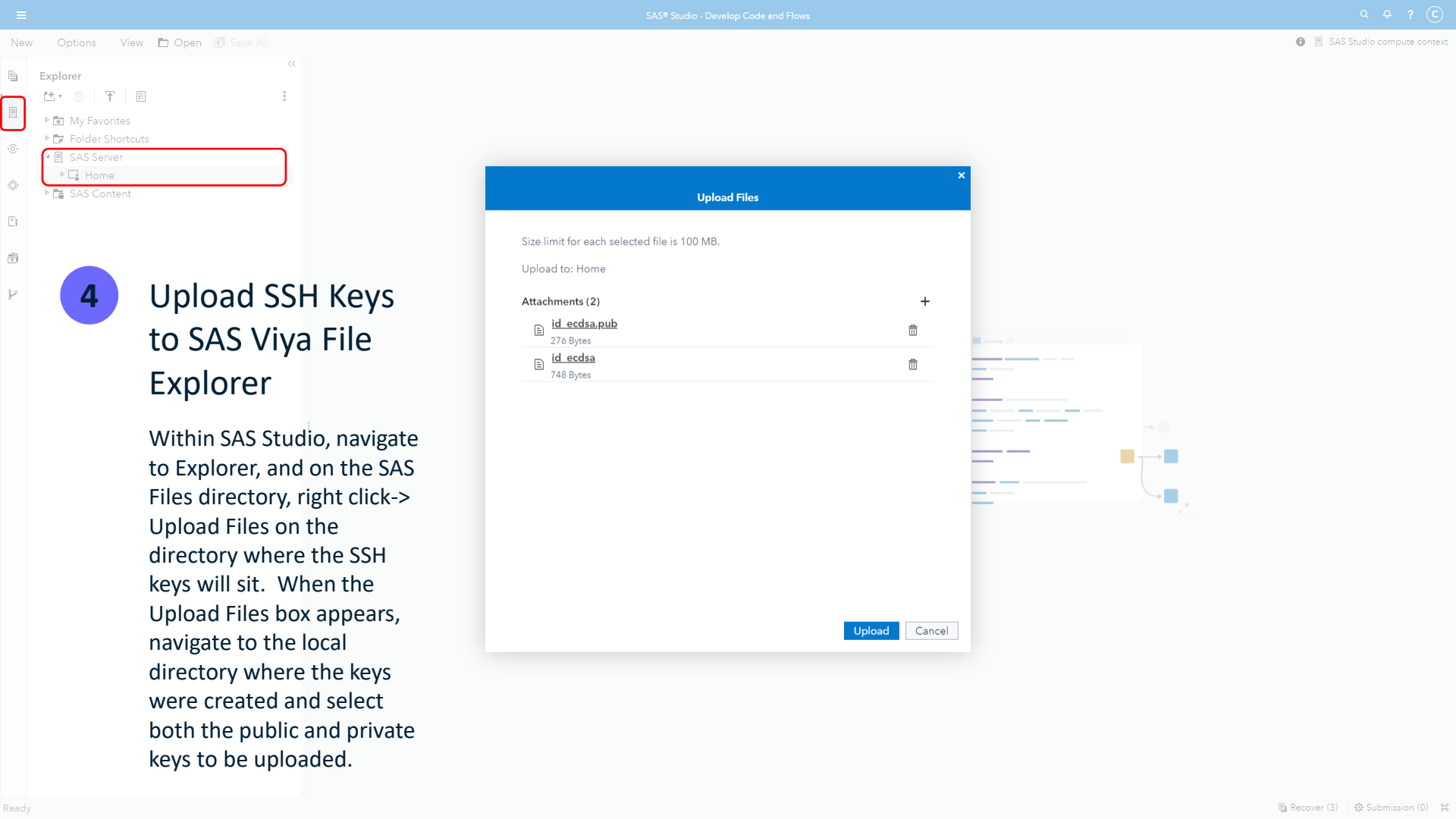


3

Store Public SSH Key in GitHub Account

Navigate to GitHub account settings. Click on Add New SSH Key under *SSH and GPG keys*, give it a name, and right-click->paste public key from clipboard (prior step).

The Key box should become populated with the public key.



4 Upload SSH Keys to SAS Viya File Explorer

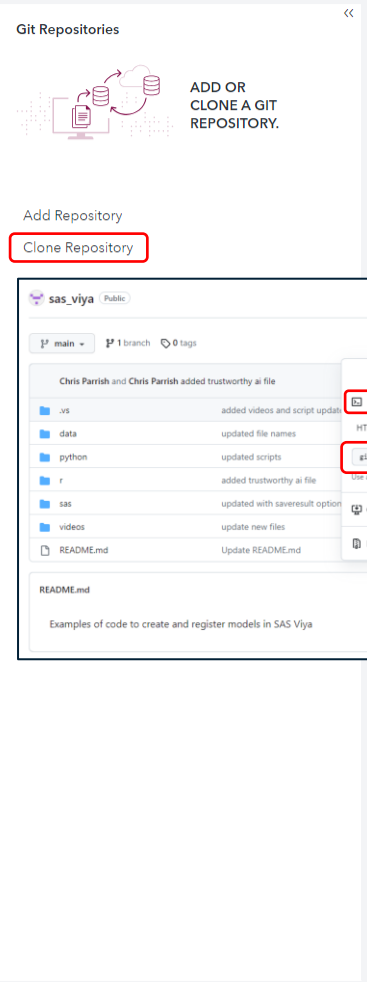
Within SAS Studio, navigate to Explorer, and on the SAS Files directory, right click-> Upload Files on the directory where the SSH keys will sit. When the Upload Files box appears, navigate to the local directory where the keys were created and select both the public and private keys to be uploaded.

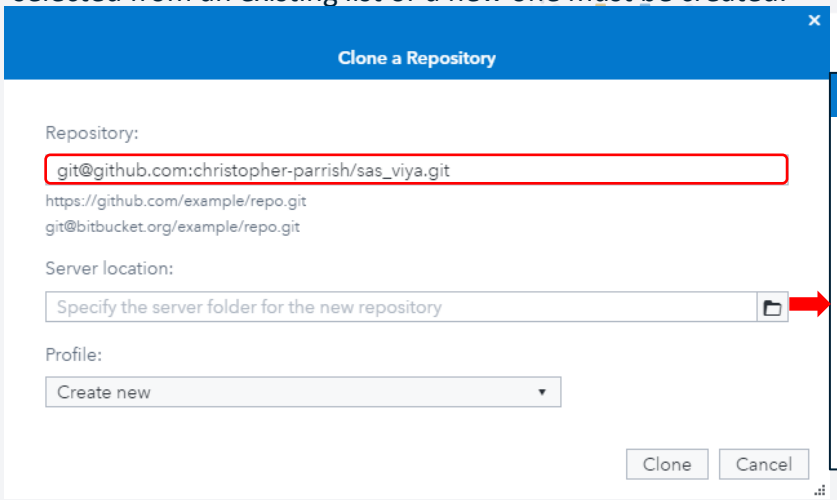
New Options View Open Save All

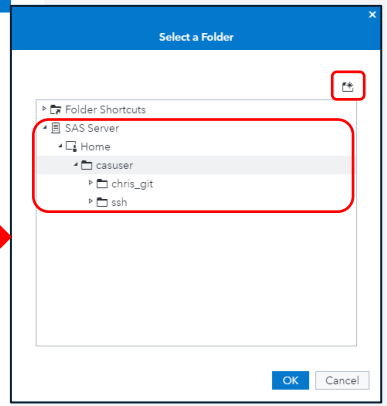
SAS Studio compute context

5 Add (New) or Clone (Existing) Repository in SAS Studio

Navigate to Git in SAS Studio. Click Add or Clone Repository. Adding a repository simply adds a folder to SAS File Explorer, and new content can be generated at that point. If cloning, a prompt will appear to insert a repository name. Go to GitHub repository and copy URL: Code->Clone->SSH->Copy URL. Paste URL into SAS Viya prompt box (SAS Viya is SSH, it will be git@...). A server location will need to be selected, and the directory must not contain any files (a new folder icon is in the top right, if necessary). Lastly, a profile will either need to be selected from an existing list or a new one must be created.







New Options View Open Save All

SAS Studio compute context

Git Repositories

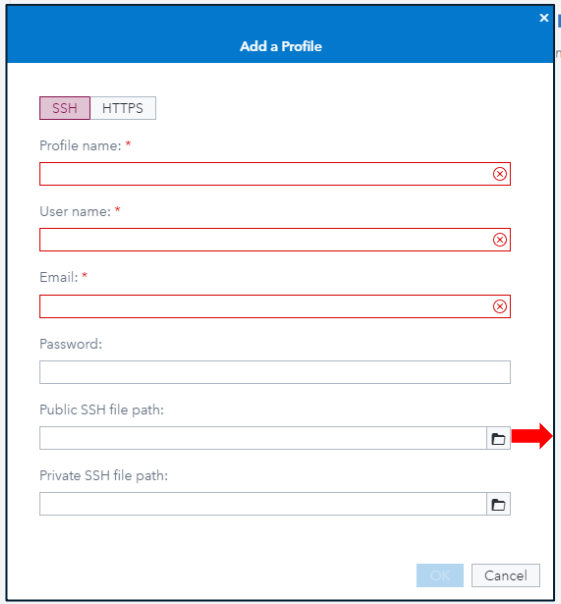
ADD OR CLONE A GIT REPOSITORY.

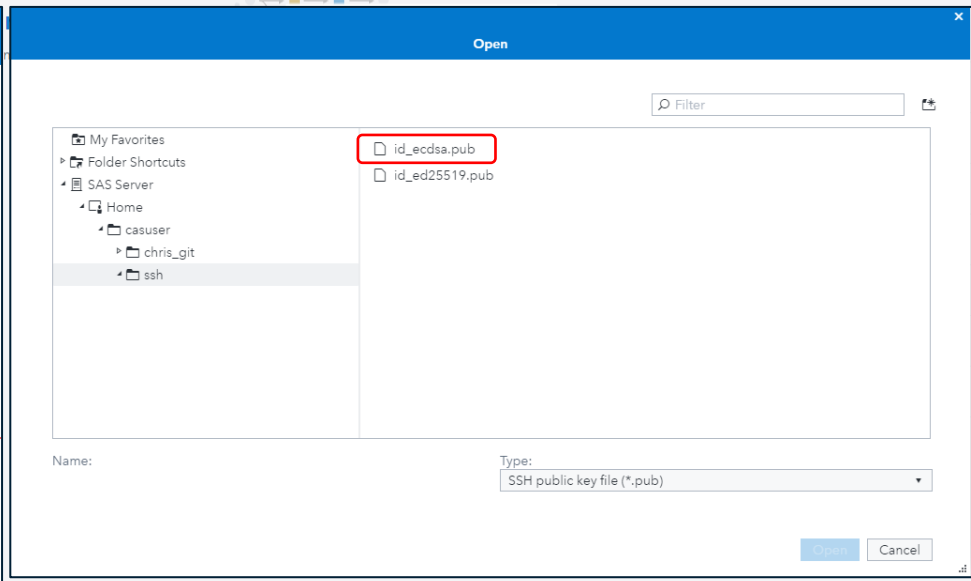
Add Repository

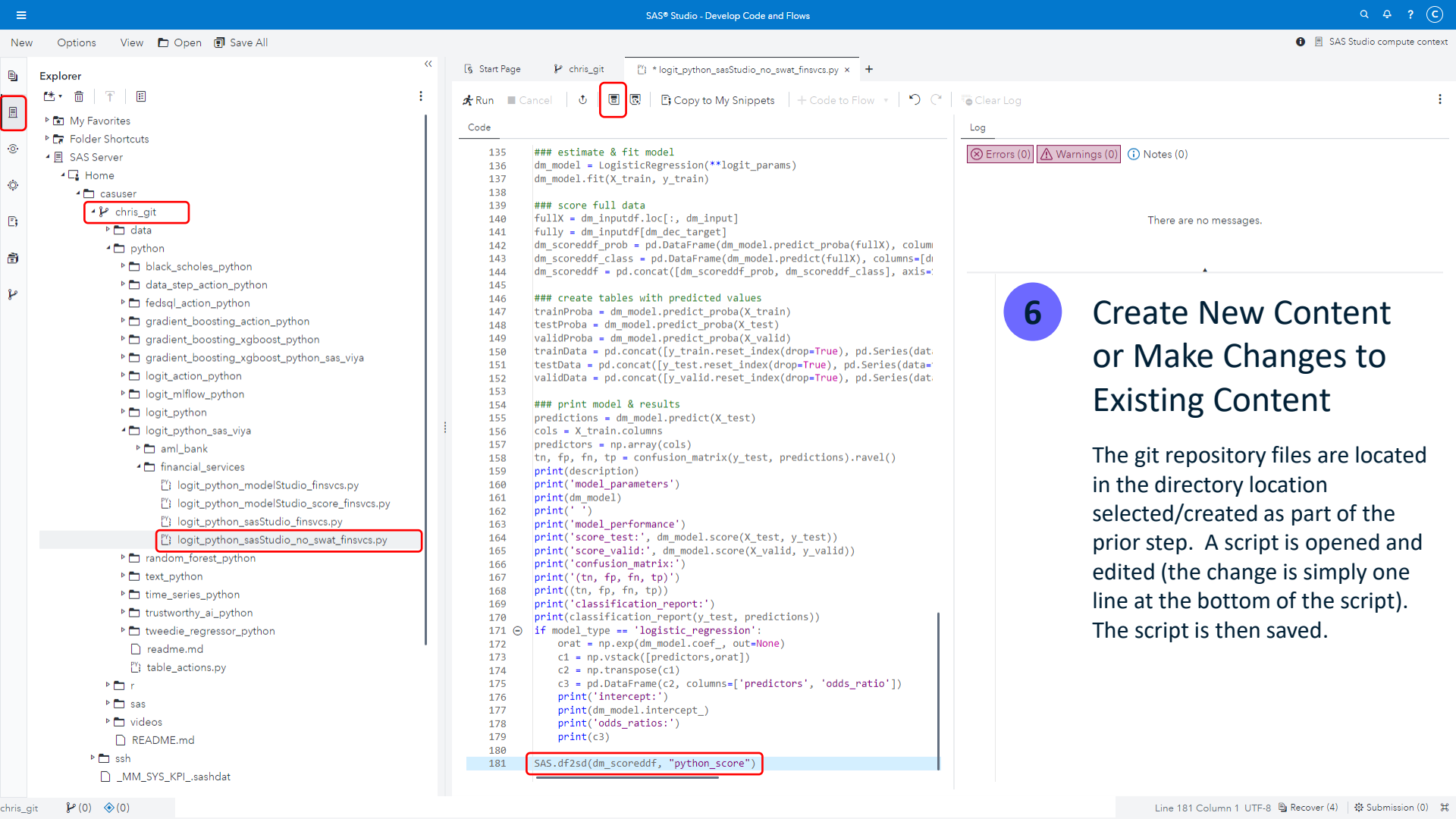
Clone Repository

5 Add (New) or Clone (Existing) Repository in SAS Studio

A profile is where the SSH keys will be stored so that SAS Viya can communicate with the repository. Provide a profile name to identify the repository. Also, include the repository account username, associated email, and password. Then, assign the path to the public key (*.pub extension) and the private key that were uploaded to SAS Viya in Step 4. This will complete the connection and the files in the repository will begin to be downloaded to SAS Viya. Any errors will likely be the result of incorrect credentials or SSH keys. Again, the SSH keys must use *ecdsa* security. And as a first step, Git must be enabled by the SAS Viya admin.



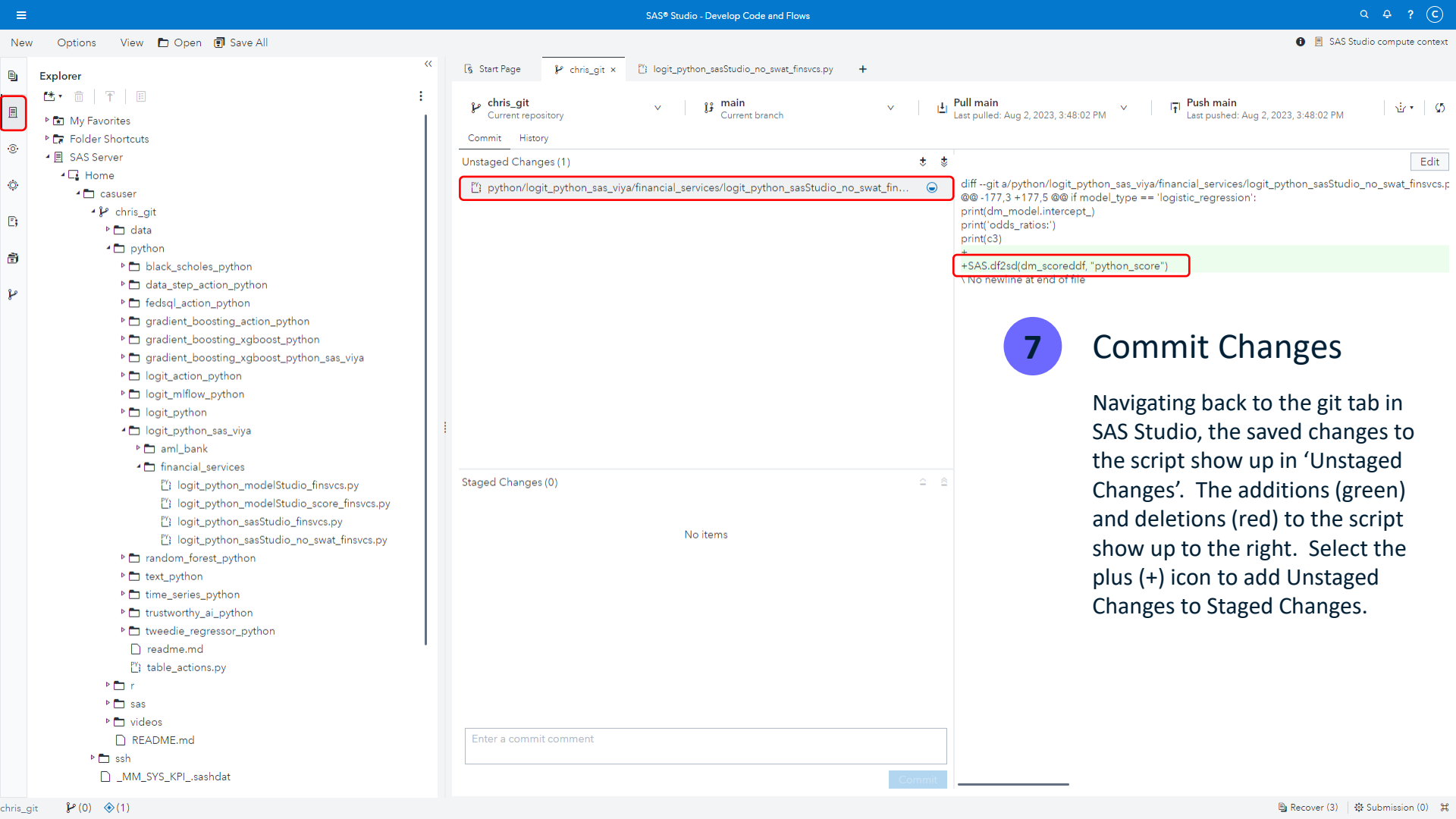




6

Create New Content or Make Changes to Existing Content

The git repository files are located in the directory location selected/created as part of the prior step. A script is opened and edited (the change is simply one line at the bottom of the script). The script is then saved.


SAS® Studio - Develop Code and Flows
New
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My Favorites
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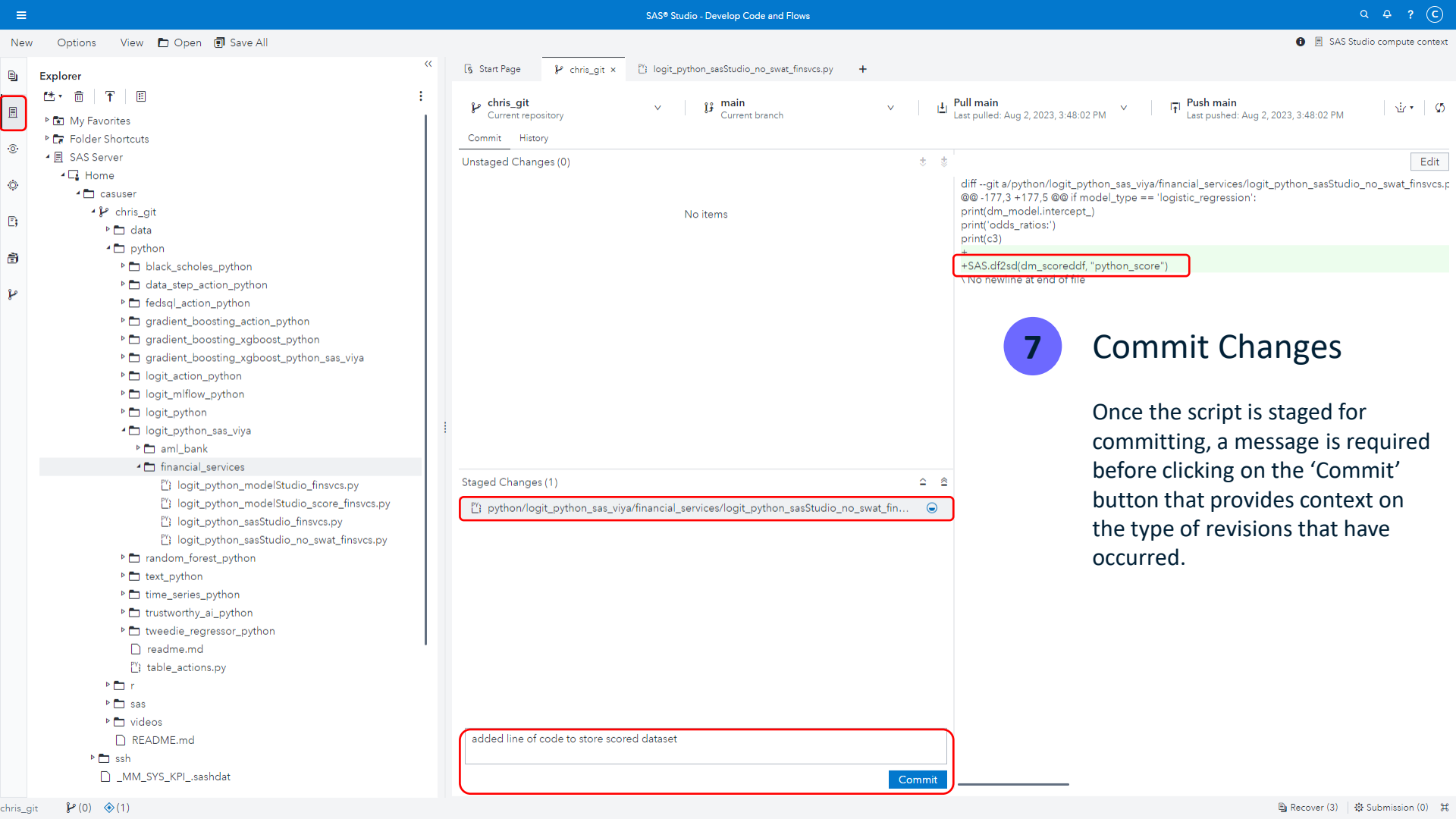
SAS Server
Home
casuser
chris_git
data
python
black_scholes_python
data_step_action_python
fedsql_action_python
gradient_boosting_action_python
gradient_boosting_xgboost_python
gradient_boosting_xgboost_python_sas_viya
logit_action_python
logit_mlflow_python
logit_python
logit_python_sas_viya
aml_bank
financial_services
logit_python_modelStudio_finsvcs.py
logit_python_modelStudio_score_finsvcs.py
logit_python_sasStudio_finsvcs.py
logit_python_sasStudio_no_swat_finsvcs.py
random_forest_python
text_python
time_series_python
trustworthy_ai_python
tweedie_regressor_python
readme.md
table_actions.py
r
sas
videos
README.md
ssh
_MM_SYS_KPI_.sashdat
Start Page
chris_git
logit_python_sasStudio_no_swat_finsvcs.py
chris_git
Current repository
main
Current branch
Pull main
Last pulled: Aug 2, 2023, 3:48:02 PM
Push main
Last pushed: Aug 2, 2023, 3:48:02 PM
Commit
History
Unstaged Changes (1)
python/logit_python_sas_viya/financial_services/logit_python_sasStudio_no_swat_fin...
Edit
diff --git a/python/logit_python_sas_viya/financial_services/logit_python_sasStudio_no_swat_finsvcs.p
@@ -177,3 +177,5 @@ if model_type == 'logistic_regression':
print(dm_model.intercept_)
print('odds_ratios:')
print(c3)
+
+SAS.df2sd(dm_scoreddf, "python_score")
\ No newline at end of file
Staged Changes (0)
No items
Enter a commit comment
Commit
7
Commit Changes
Navigating back to the git tab in SAS Studio, the saved changes to the script show up in 'Unstaged Changes'. The additions (green) and deletions (red) to the script show up to the right. Select the plus (+) icon to add Unstaged Changes to Staged Changes.
chris_git
(0)
(1)
Recover (3)
Submission (0)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random_forest_python
text_python
time_series_python
trustworthy_ai_python
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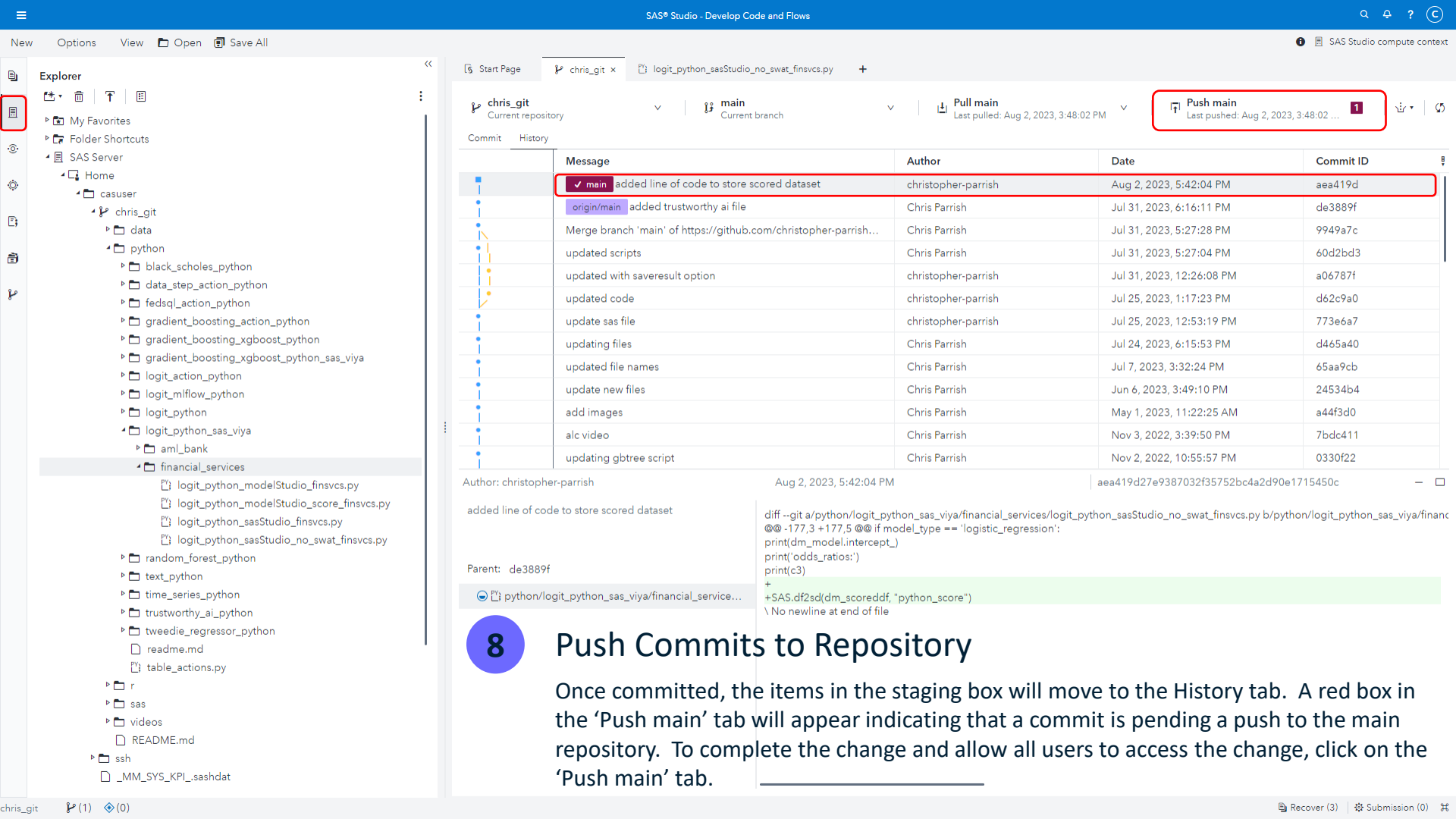
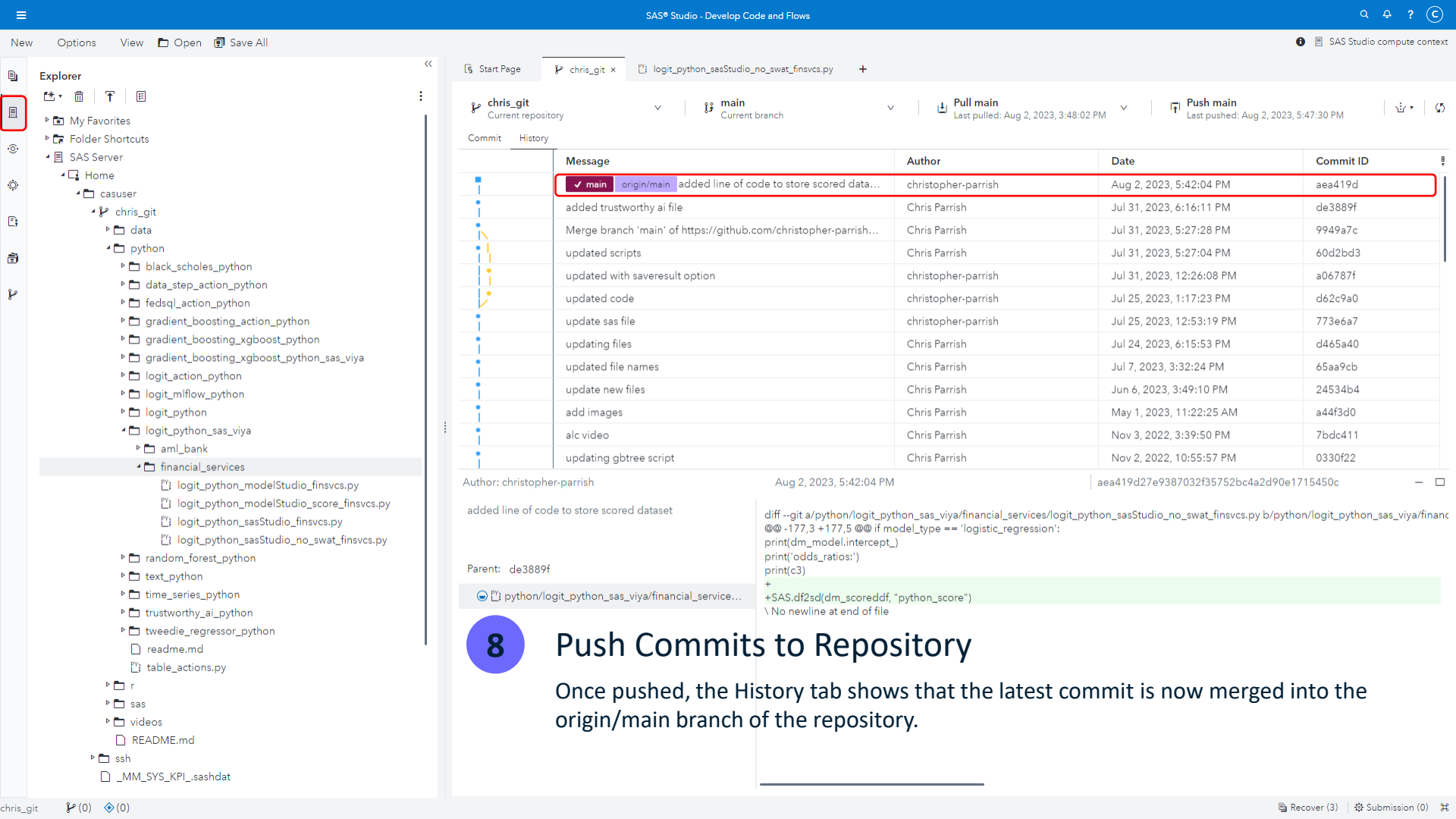
Pull main
Last pulled: Aug 2, 2023, 3:48:02 PM
Push main
Last pushed: Aug 2, 2023, 3:48:02 PM
Commit
History
Unstaged Changes (0)
No items
Edit
diff --git a/python/logit_python_sas_viya/financial_services/logit_python_sasStudio_no_swat_finsvcs.p
@@ -177,3 +177,5 @@ if model_type == 'logistic_regression':
print(dm_model.intercept_)
print('odds_ratios:')
print(c3)
+
+SAS.df2sd(dm_scoreddf, "python_score")
\ No newline at end of file
Staged Changes (1)
python/logit_python_sas_viya/financial_services/logit_python_sasStudio_no_swat_fin...
added line of code to store scored dataset
Commit
7
Commit Changes
Once the script is staged for committing, a message is required before clicking on the 'Commit' button that provides context on the type of revisions that have occurred.
chris_git
(0)
(1)
Recover (3)
Submission (0)



8

Push Commits to Repository

Once committed, the items in the staging box will move to the History tab. A red box in the 'Push main' tab will appear indicating that a commit is pending a push to the main repository. To complete the change and allow all users to access the change, click on the 'Push main' tab.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main
Current branch
Pull main
Last pulled: Aug 2, 2023, 3:48:02 PM
Push main
Last pushed: Aug 2, 2023, 5:47:30 PM
Commit
History
Message
Author
Date
Commit ID
main
origin/main
added line of code to store scored data...
christopher-parrish
Aug 2, 2023, 5:42:04 PM
aea419d
added trustworthy ai file
Chris Parrish
Jul 31, 2023, 6:16:11 PM
de3889f
Merge branch 'main' of https://github.com/christopher-parrish...
Chris Parrish
Jul 31, 2023, 5:27:28 PM
9949a7c
updated scripts
Chris Parrish
Jul 31, 2023, 5:27:04 PM
60d2bd3
updated with saveresult option
christopher-parrish
Jul 31, 2023, 12:26:08 PM
a06787f
updated code
christopher-parrish
Jul 25, 2023, 1:17:23 PM
d62c9a0
update sas file
christopher-parrish
Jul 25, 2023, 12:53:19 PM
773e6a7
updating files
Chris Parrish
Jul 24, 2023, 6:15:53 PM
d465a40
updated file names
Chris Parrish
Jul 7, 2023, 3:32:24 PM
65aa9cb
update new files
Chris Parrish
Jun 6, 2023, 3:49:10 PM
24534b4
add images
Chris Parrish
May 1, 2023, 11:22:25 AM
a44f3d0
alc video
Chris Parrish
Nov 3, 2022, 3:39:50 PM
7bdc411
updating gbtree script
Chris Parrish
Nov 2, 2022, 10:55:57 PM
0330f22
Author: christopher-parrish
Aug 2, 2023, 5:42:04 PM
aea419d27e9387032f35752bc4a2d90e1715450c
added line of code to store scored dataset
Parent: de3889f
python/logit_python_sas_viya/financial_service...
diff --git a/python/logit_python_sas_viya/financial_services/logit_python_sasStudio_no_swat_finsvcs.py b/python/logit_python_sas_viya/financ
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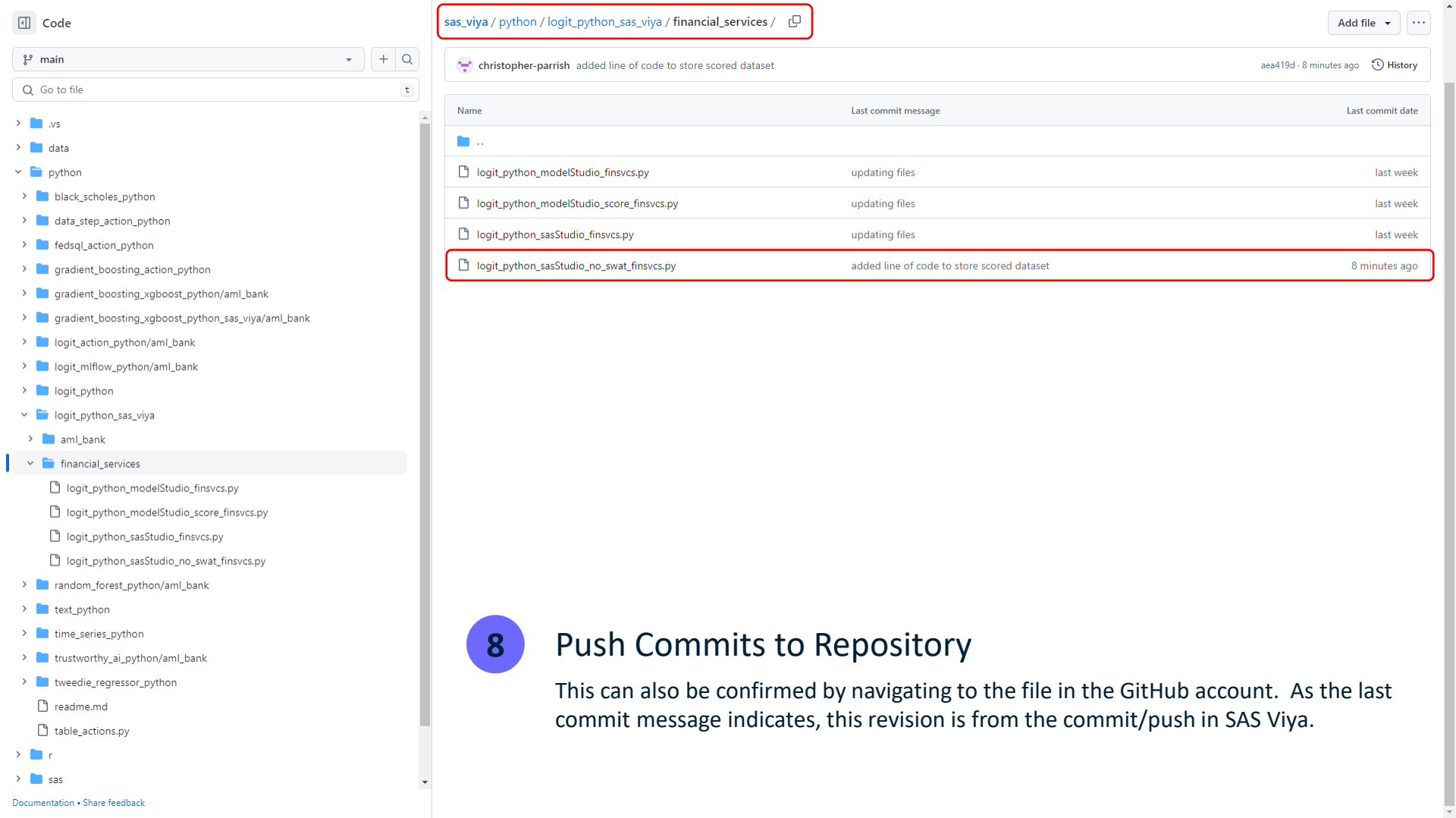
print('odds_ratios:')
print(c3)
+
+SAS.df2sd(dm_scoreddf, "python_score")
\ No newline at end of file
8
Push Commits to Repository
Once pushed, the History tab shows that the latest commit is now merged into the origin/main branch of the repository.
chris_git
(0)
(0)
Recover (3)
Submission (0)



8

Push Commits to Repository

This can also be confirmed by navigating to the file in the GitHub account. As the last commit message indicates, this revision is from the commit/push in SAS Viya.