Using SAS® with Git

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Today’s topics

- Using Git with SAS Studio
- Using Git with SAS Enterprise Guide
- Git functions in Base SAS
- Using Git with SAS Data Integration Studio
- Where to learn more
Git integration with SAS Studio

Available as of v3.8

Complete support for local and remote repo management
Enable using SSH public/private keys
Tutorial SAS Studio

SAS® Help Center: Sample Git Workflow Scenario
Demo

Using Git with SAS Studio
SAS Enterprise Guide and Git

Supports Git \textit{internal} to project and/or with \textit{external} repos

[Diagram showing project file (EGP) and file system with embedded and linked programs]
SAS Enterprise Guide with embedded Git

All history maintained within a Git repo **internal** to the project file (EGP).
SAS Enterprise Guide with external repo

All history maintained within Git repo available to any tool that integrates with Git.
Related: Compare any two programs

Blog post: How to compare programs in SAS Enterprise Guide
Demo

Using Git with SAS Enterprise Guide
Important notes

- With embedded Git, no additional setup needed
  - Except: specify user name/e-mail in Options
- With external Git, you need Git tools to manage repo
- SAS Enterprise Guide operates only on local repo
  - Can commit to local, show history/blame, current changes not yet committed
  - Cannot create a new repo
  - Cannot add files to a repo
  - Cannot pull from a remote repo
  - Cannot push changes into a remote repo
New Git functions in Base SAS
Functions added in SAS 9.4 Maint 6

New SAS functions that mirror most of the Git commands that users are familiar with.

Select functions - All documented by searching “Git functions” on support.sas.com.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
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<tbody>
<tr>
<td>GITFN_CLONE</td>
<td>Clones a Git repository (for example, from GitHub) into a directory on the SAS server.</td>
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<tr>
<td>GITFN_COMMIT</td>
<td>Commits staged files to the local repository</td>
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<tr>
<td>GITFN_DIFF</td>
<td>Returns the number of diffs between two commits in the local repository and creates a diff record object for the local repository.</td>
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<tr>
<td>GITFN_PUSH</td>
<td>Pushes the committed files in the local repository to the remote repository.</td>
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<tr>
<td>GITFN_NEW_BRANCH</td>
<td>Creates a Git branch</td>
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</tbody>
</table>
Demo

Using Git functions in Base SAS
Git functions in SAS

Important notes

- Remote operations that need authentication – use public/private key (see doc)
- All “local” repo files are on SAS session file system (not your local Windows – unless SAS is running local)
Git in SAS Data Integration Studio
Joins SVN and CVS as version control option
Tutorial DI Studio

SAS® Help Center: About Versions
Git integration is just the beginning
From there, trigger other operations

• Gerrit for code review
• Jenkins or Travis CI for build, deployment, and other continuous integration
• Trigger notifications/alerts in Slack, Microsoft Teams
Learn more

• Using SAS with Git: Bring a DevOps Mindset to Your SAS Code (webinar)
• Code debugging and program history in SAS Enterprise Guide (blog)
• SAS Software on GitHub
• SAS Global Forum 2019 on GitHub
• Using built-in Git operations in SAS (blog)
• Git in SAS Data Integration Studio (how-to and video)
• developer.sas.com for SAS app development
• Pro Git by Scott Chacon and Ben Straub, free online book about Git
Questions?