Programmatically importing repositories

In this article

You can programmatically import repositories to GitHub.com.

About programmatic import of repositories

In the following guide, you can learn how to programatically run "source and history" migrations of Git repositories to GitHub.com. Different options are available depending on where the repository is stored.

To learn more about "source and history" and other types of migrations, see "Planning your migration to GitHub."

The term "source repository" refers to the repository you're importing, and "imported repository" refers to the new repository you're creating.

About the deprecation of the Source imports REST API

The REST API endpoints to manage source imports allowed the programmatic import of a repositories that are accessible over the internet to GitHub.com. For more information, see "Source imports" in the REST API documentation.

On April 12, 2024, GitHub will deprecate all of the endpoints listed within "Source imports" in the REST API documentation. If you currently use these operations, you'll need to make changes to your code or your application will stop working on April 12, 2024.

Using forks

If the source repository is on GitHub.com, you may be able to use a fork instead of importing the repository. Forks let you make changes to a project without affecting the original repository, also known as the "upstream" repository. After you fork a repository, you can fetch updates from the upstream repository to keep your fork up to date, and you can propose changes from your fork to the upstream repository with pull requests. For more information, see "About forks."

You can programmatically fork a repository using the REST API. For more information, see "Forks" in the REST API documentation.

If your use case meets any of the following criteria, you can't use forking instead of directly importing your repository.

- You want the imported repository to be owned by the same user or organization as the source repository.
- You want one user or organization to be able to import the same source repository multiple times.

Using repository templates

If the source repository is on GitHub.com, you may be able to use repository templates. You can create a template from an existing repository. Anyone with access to the template repository can create a new repository based on the template with the same directory structure, branches, and files. For more details, see "Creating a template repository."

To use repository templates, you must either have read access to an existing repository that's a template, or you must have access to create a template.

You can programatically create a repository from a repository template using the REST API. For more information, see "Repositories" in the REST API documentation.

Using GitHub Enterprise Importer

If the source repository is hosted on GitHub.com, GitHub Enterprise Server, Azure DevOps Services, Bitbucket Server, or Bitbucket Data Center, you can import the repository using GitHub Enterprise Importer. For more information, see "About GitHub Enterprise Importer."

In addition to your source and version control history, GitHub Enterprise Importer also migrates issues, pull requests, settings, and more.

To use GitHub Enterprise Importer, you must have admin access to the source repository.

You can programatically import repositories with GitHub Enterprise Importer using the GraphQL API.

Using the Git CLI

If the source repository is a Git repository, you can call the Git CLI programmatically from your code. You can programmatically create a repository using GitHub's REST API, then use commands like `git clone` and `git push` to import the repository to GitHub.com.

How you call the Git CLI differs depending on your code's language. For example, in Node.js, you can use the `child_process` module, or in Ruby, you can use the `open3` module. For more information, see Child process in the Node.js documentation or the ruby/open3 repository on GitHub.com.

To use the Git CLI, you must have access to install Git on the system that hosts your application. For more information, see Getting Started - Installing Git in the Git documentation.

Using GitHub CLI

If the source repository is a Git repository, you can call the GitHub CLI programmatically from your code. You can use `gh repo create` to create a repository. For more information, see "About GitHub CLI."

Further reading

- "Repositories" in the REST API documentation

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