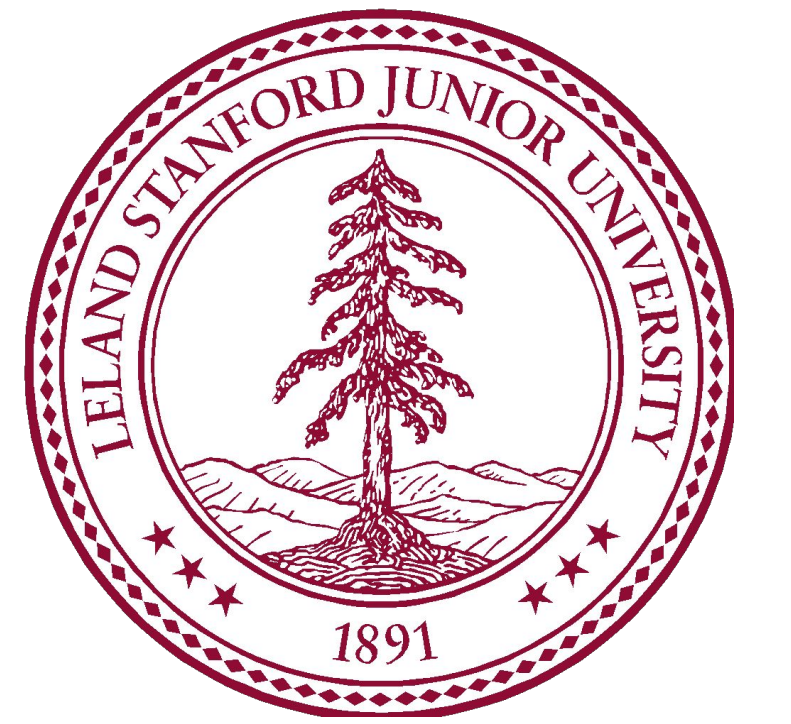# AskCI Server: Collaborative and version controlled knowledge base

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What is AskCI Server?

AskCI Server is a collaborative, open source documentation server that uses GitHub for automation and version control of shared knowledge. A programmatic application programming interface, friendly user interface, and organization of concepts into questions makes it versatile as a support or collaborative knowledge base.
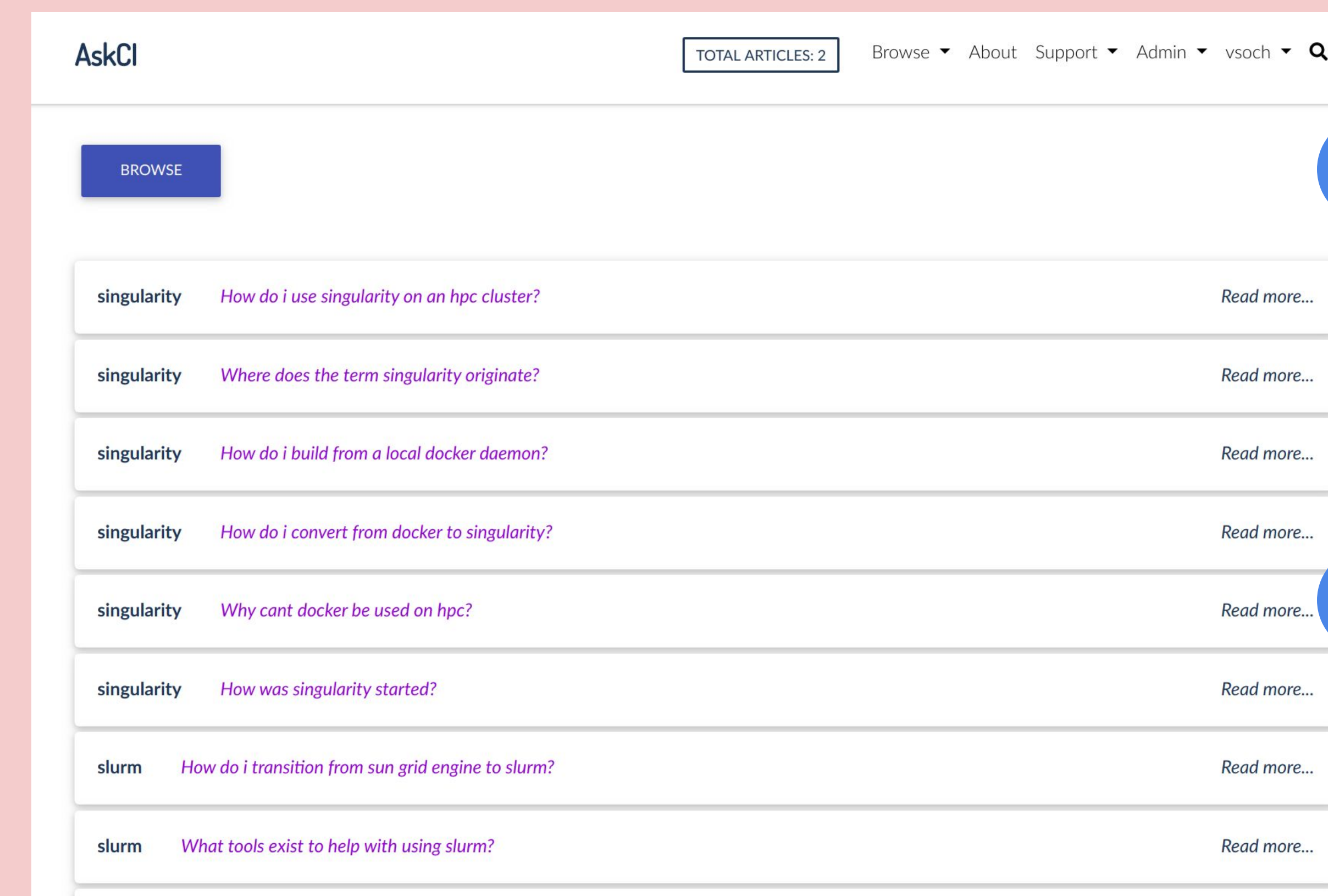
What makes a reproducible knowledge base?

- Documentation is:
  - Organized by articles, where one repository == one article
  - Version controlled, collaborated on and discussed via GitHub
  - Published to a searchable, organized central interface
  - Updated via automated GitHub actions
  - Decentrally managed, allowing different groups to own and maintain repositories (articles) according to expertise

What makes a flexible, modern knowledge base?

- Articles (topics) are annotated with questions and answers
- The application serves an API for command line tools
- Webhooks integrate article updates with Discourse (ask.ci)
- GitHub webhooks keep the server and GitHub in sync
- The server can go down, and knowledge persists on GitHub
- SendGrid allows for users to receive email notifications
- Articles are based on GitHub repository templates that can be customized for different use cases.
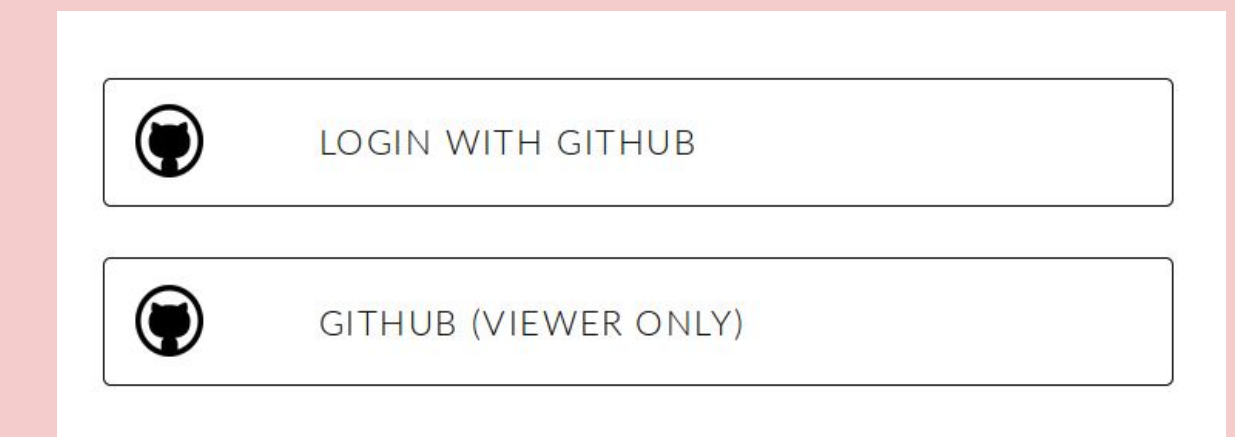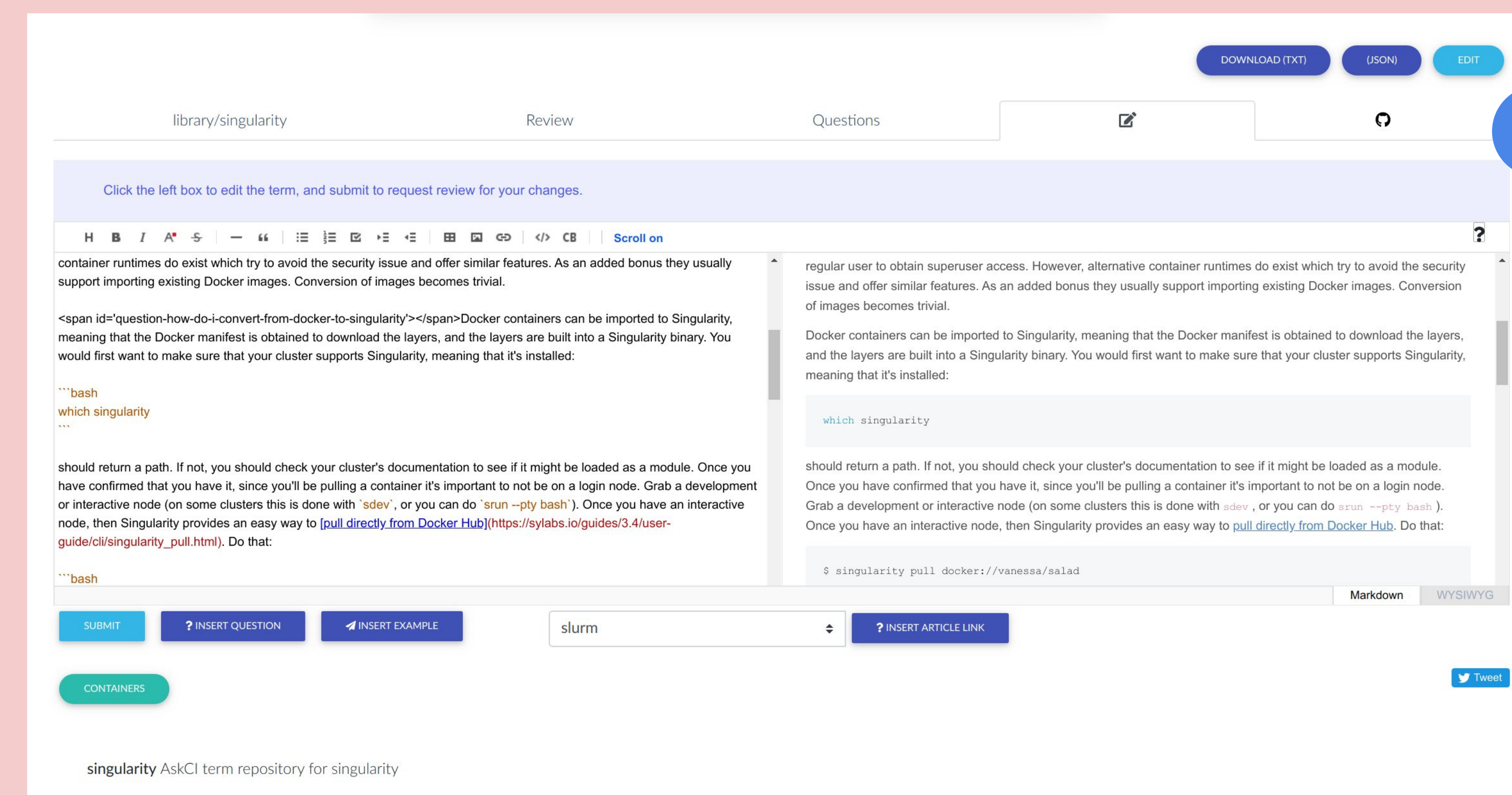
How does it work?

1. An unauthenticated user can browse anonymously, searching for general terms, questions, or articles. The figure to the left shows two recently updated articles for "singularity" and "slurm," each with questions that link to specific answers in the text (annotations).

2. Authentication with GitHub gives viewer (submit a request for changes to an article) or editor (create new or manage existing articles) permissions.
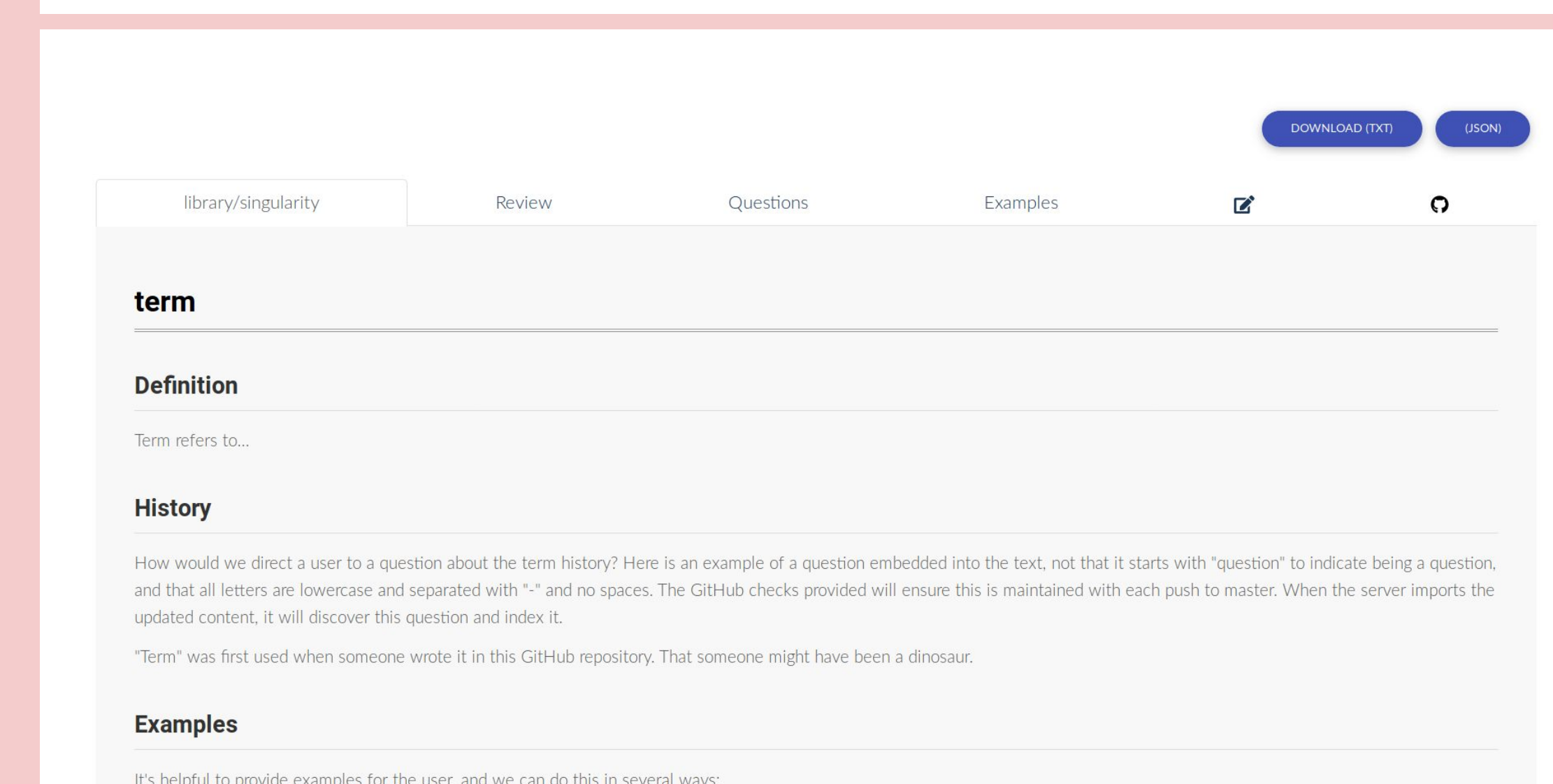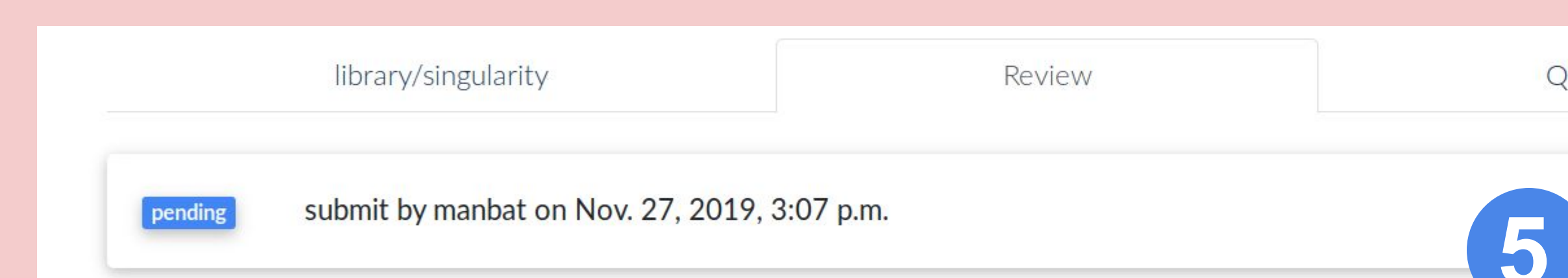

3. The editor interface (left) is available to all authenticated users, and presents a raw text editor on the left side (markdown with code snippets are shown) and a rendering of the content on the right side. Notably, the editor view has:

   - Support for text styling
   - Insertion of questions
   - Insertion of examples
   - Linking to other articles
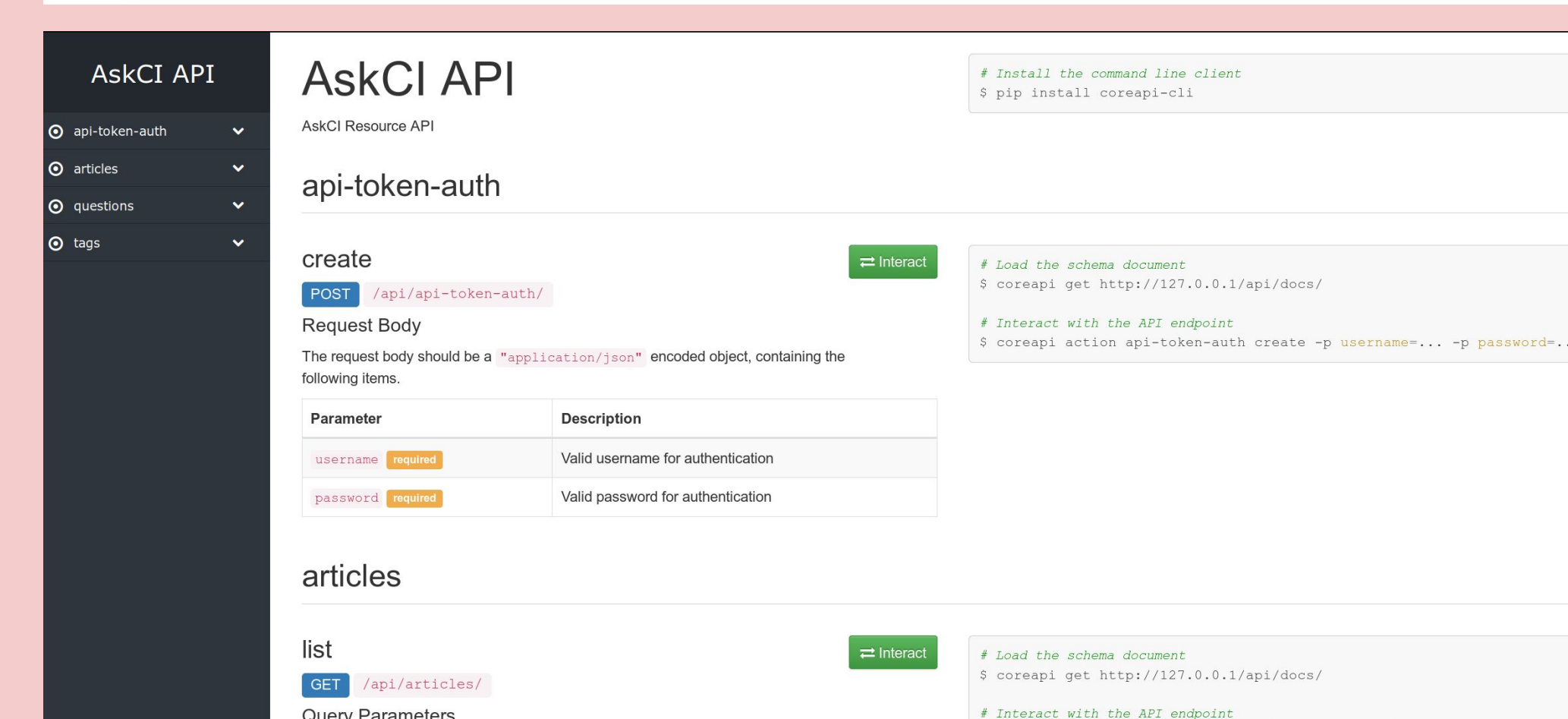   - Submit to GitHub for review

4. A single article (the content on the master branch of the associated GitHub repository) is rendered in a single, clean "wikipedia style" interface that is annotated with questions and examples (see "Questions" and "Examples" tabs) and direct links to reviews on GitHub. A text and json download of the content is readily available (upper right blue buttons). Not shown: in the case of an unanswered (or unannotated) question, a user can always quickly ask a new question in the top navigation.
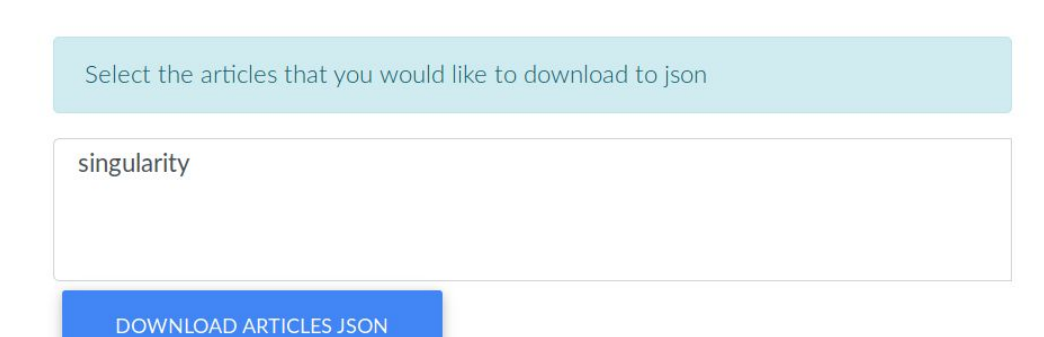
5. The reviews tab shows current and past reviews (pull requests with requested changes) on GitHub. This pending item would link directly to the pull request.

6. Users can authenticate with a RESTful API to retrieve articles, questions, and tags. Knowledge is also exportable in bulk.

Learn more: https://vsoch.github.io/askci