

USER GUIDE

TEST CODE REVIEW

Aditya Jain

B.Tech. Computer Science And Engineering

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1 Getting started

The tool has two components to it. One is the chrome extension and second is the local server which will be running on your local machine. This guide will tell you how to install and start using the tool.

1.1 Prerequisites

To start the tool the below softwares or packages should be installed

- java
- nodejs
- tsc (optional)
- Google chrome

To get started with the installation of the prerequisites the following links are to be followed:

Java : <https://docs.oracle.com/javase/10/install/toc.htm>

Nodejs : <https://nodejs.org/en/download/>

Google chrome : <https://support.google.com/chrome/answer/95346?co=GENIE.Platform%3DDesktop&hl=en-GB>

Typescript : <https://www.npmjs.com/package/typescript>

For installing typescript you will need npm and that comes along with nodejs.

1.2 Setting up the Environment

- **Setting up the environmental variable**

Set the following variables in your local machine:

CLIENT_PORT : 3000

CLIENT_HOST : 127.0.0.1

If you know how to set them up then you can go to the next step else follow as below:

For Linux based systems

use vim .bashrc from terminal and set them as follows:

```
CLIENT_PORT="3000"
export CLIENT_PORT
CLIENT_HOST="127.0.0.1"
export CLIENT_HOST
```

Then exit by saving (esc then :wq)

For Windows systems Open the System properties by properties(my pc)→ Advanced System Settings(control panel)→ Environment Variables(System properties)

Now you can either edit the variables if they are already there or create new using the new button .

- **Cloning the repo**

Clone the tool's repo using git with the following link:

https://github.com/aditya0212jain/git_extension.git

- **Installing Extension**

After installing chrome enable the developers mode in it from the extension menu .

Do this by going to the *chrome://extensions*.

Now click on load unpacked and select git_extension/theExtension

That's it the extension is installed in your chrome browser !!

- **Starting server**

go to *git_extension/server/myClient*

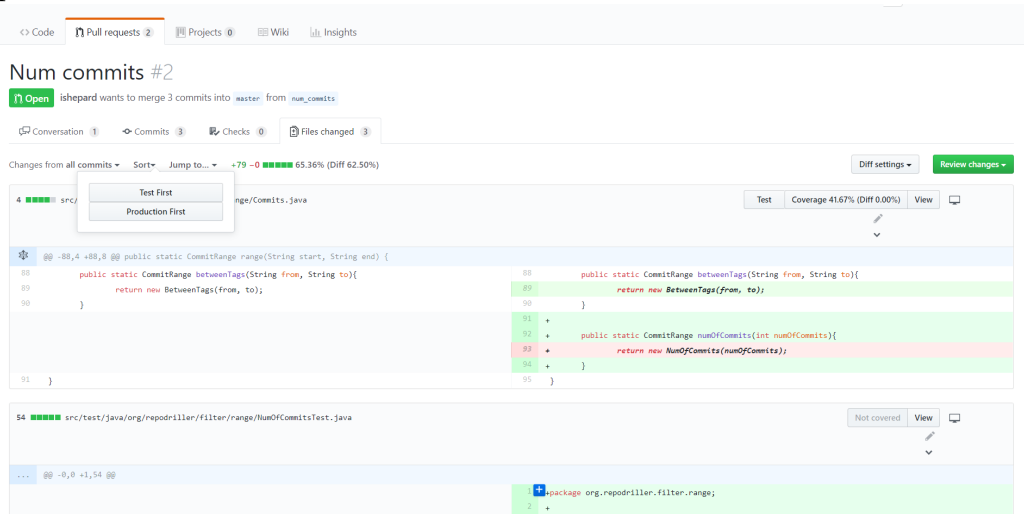
and use the command : *node start.js*

That's it ! Now you have successfully completed the installation of the tool on your local machine

2 Features

2.1 Sort

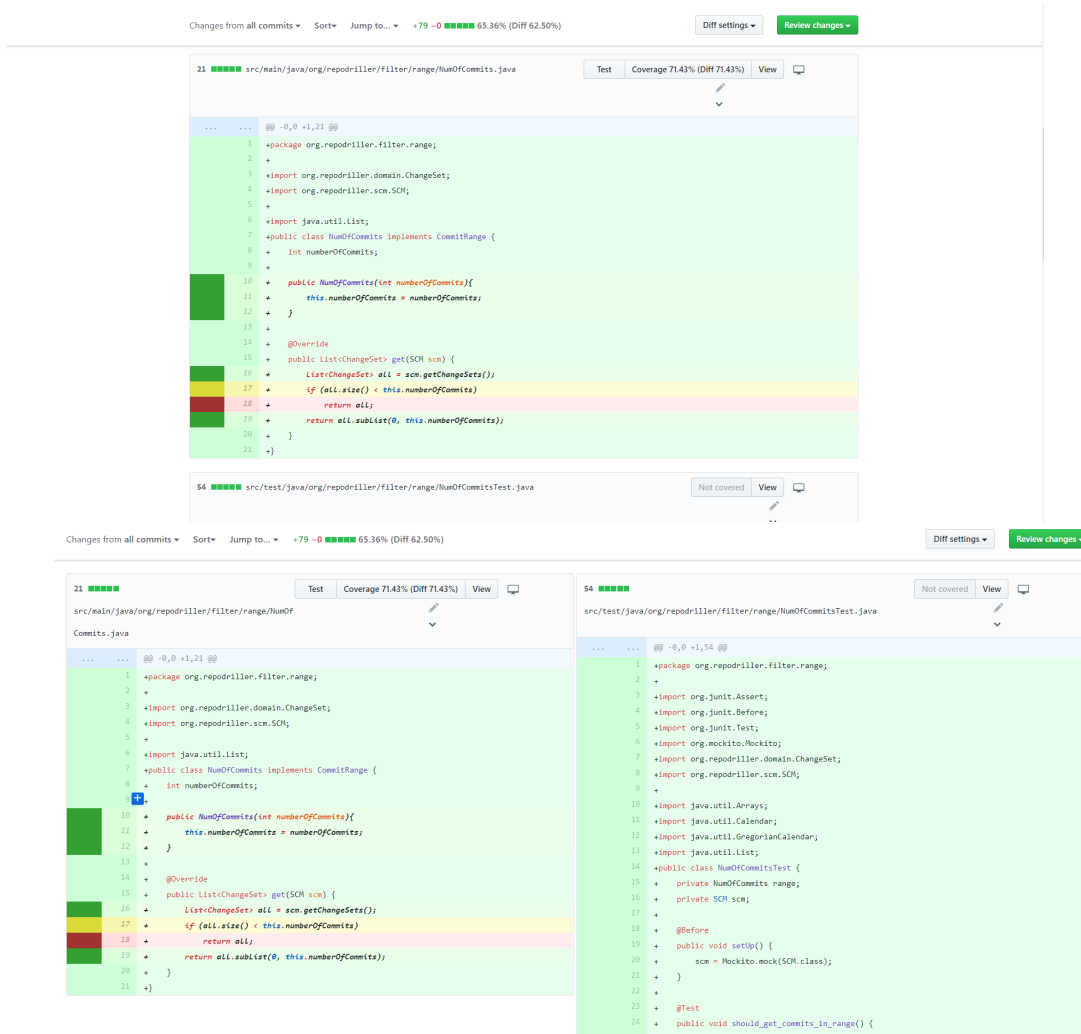
The tool provides the option to sort your files in the PRs as with all the production files first and then test files or vice versa.



As shown in the figure above you can choose how you want to sort your files .

2.2 Test View

By clicking on the test buttons on the production file you can comfortably view both its test file by its side.



Also for the best experience use it in the unified view of the PR. If the file doesn't have any test file present in the PR then nothing will happen.

2.3 Code coverage

The code coverage is provided for both PRs and blob files . Even if you want to explore more of the file in the PR by expanding it you are sure to get the code coverage.

```

4 src/main/java/org/repodriller/filter/range/Commits.java
Test Coverage 41.67% (Diff 0.00%) View

100 @@ -88,4 +88,8 @@ public static CommitRange range(String start, String end) {
101     public static CommitRange betweenTags(String from, String to){
102         return new BetweenTags(from, to);
103     }
104     +
105     + public static CommitRange numOfCommits(int numOfCommits){
106     +     return new NumOfCommits(numOfCommits);
107     + }
108     +
109     + }
110 }

```

The code coverage is provided by using the codeCov tool.

2.4 Navigation

Now review code on github comfortably by using go-to-definition feature. Now no need to look for the definition or scrolling tirelessly to understand the code while reviewing. Just click the variable , class ,function or others for which you want to get the definition and get to the definition.

```

100 Create a new repository mining.
101 * No repos, no visitors, no filters.
102 * You must initialize with (@Link RepositoryMiningPin) and (@Link RepositoryMiningProcess) before you call (@Link RepositoryMining)
103 */
104 public RepositoryMining() {
105     repos = new ArrayList<SCMRepository>();
106     repoVisitor = new RepoVisitor();
107     filters = Arrays.asList((CommitFilter) new NoFilter());
108 }
109 /* Initialize concurrency settings conservatively. */
110 visitorsAreThreadSafe(false);
111 visitorsChangeRepoState(true);
112 utThreads(1);
113 }
114 /**
115  * Designate the range of commits to visit.
116  *
117  * @param range The range of commits to visit. Applied to every repo.
118  * @return this
119  * @see org.repodriller.filter.range.Commits
120  */
121 public RepositoryMining through(CommitRange range) {
122     this.range = range;
123     return this;
124 }
125 /**
126  * Add repos to mine.
127  *
128  * @param repo One or more repos to mine
129  * @return this
130  */
131 public RepositoryMining in(SCMRepository... repo) {
132     this.repos.addAll(Arrays.asList(repo));
133     return this;
134 }
135 }
136

```

When clicking on the *visitorsChangeRepoState* it became orange , after clicking:

```

222     visitorsAreThreadSafe = conflict;
223     return this;
224 }
225
226 /**
227  * Indicate whether visitor threads may change repo state.
228  * If they change repo state, the repo cannot be safely accessed by multiple visitor threads concurrently.
229  *
230  * @param change True if any visitor might change repo state (e.g. checkout)
231  * @return this
232  */
233 public RepositoryMining visitorsChangeRepoState(boolean change) {
234     visitorsChangeRepoState = change;
235     return this;
236 }
237
238 /**
239  * RepoDriller will choose a good number of threads for you.
240  * @return this
241  */
242 public RepositoryMining withThreads() {
243     if (visitorsAreThreadSafe)
244         /* 4x cores, presuming some I/O-bound work. */
245         nRepoThreads = THREADS_PER_CORE * Runtime.getRuntime().availableProcessors();
246     else
247         nRepoThreads = 1;
248     return this;
249 }
250
251 /**
252  * Configure parallelism.
253  * If you use >1 thread, (@Link RepositoryMining#through) will not define a FIFO order of commit processing.
254  *
255  * @param nthreads Number of threads that can visit each repo concurrently (default 1).
256  * @return this
257  */
258 public RepositoryMining withThreads(int nthreads) {
259     if (visitorsAreThreadSafe)

```

You get to the definition whether it is in this file or any different file in the repo. Code navigation works in blob as well as Pull requests files and for all the branches of any repo.

3 Using the Tool

3.1 Start the server

go to *git_extension/server/myClient*

and use the command : *node start.js*

After starting the server you can either press 'c' to delete the temp files or press 'r' to start the server

```

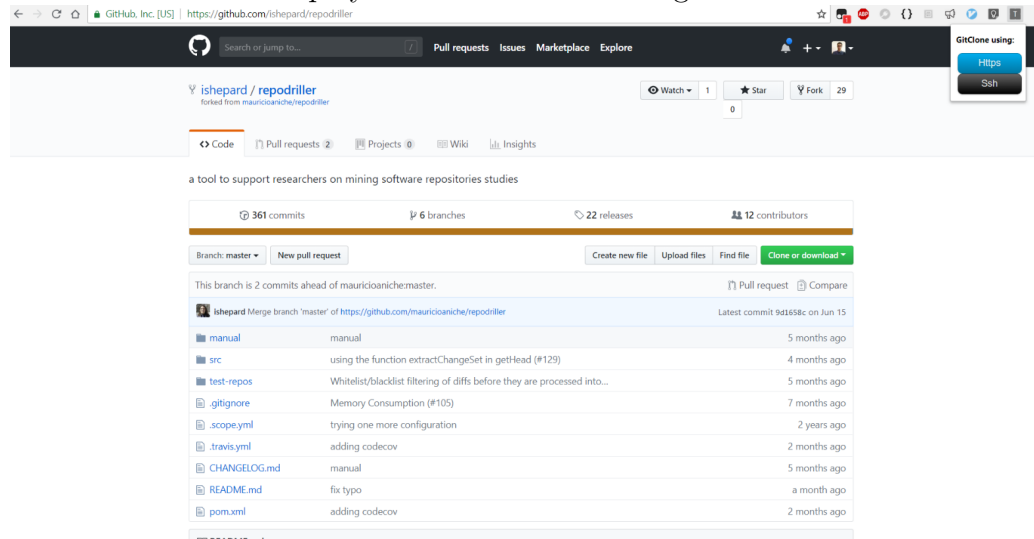
G:\gitFiles\git_extension\server\myClient>node start.js
c to clear temp files
r to start server
>r
platform: win32
server started
>

```

After getting the above message you are ready to go.

3.2 Cloning Repo

You need to clone the repo you want to use the navigation on for the first time



Click on your desired method for cloning . After that you will receive the notification that the cloning is complete.

3.3 Using features

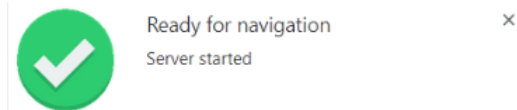
Using sort and test features is very easy , you have to just click on their respective buttons . For further info you can look at the features section of this guide.

For navigation , if you open any file or page you will receive a notification when the server is ready and after that you can start navigating by simply clicking on the code as they turn orange.

Note: If the code is not turning orange try to reload the page for once.

4 Notifications And Their Meaning

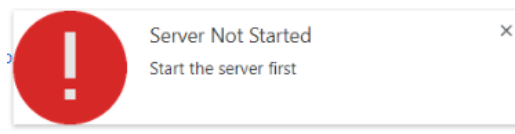
- Server Started



It is shown when the server is ready for the current opened file to take queries. When opening any new page you should wait for this notification to show before making any definition queries.

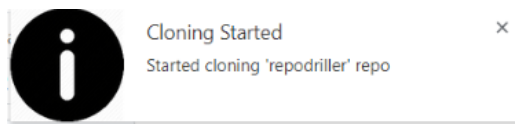
- **Server Not Started**

It is shown when the local server is not running . Start by using the node start.js command in console then pressing 'r'.



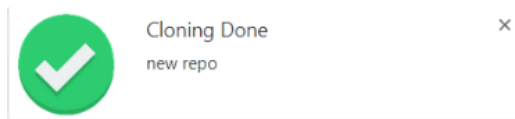
- **Cloning Started**

It is shown when the cloning request is sent to the local server.



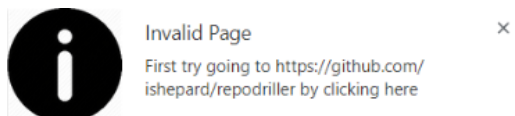
- **Cloning Done**

When the cloning is done this is shown. If the repo was already on the local machine then it is updated otherwise cloned newly.



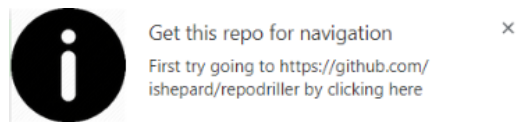
- **Invalid Page**

When you try to use the clone but you are on wrong page then this notification is shown. If you are in any repo then it will show you the suggested page to go to clone it . By clicking the notification in that case you can directly go to the cloning page.



- **Get This Repo**

When you make any query from the blob or pull files for navigation but the repo is not in the local machine this notification is shown along with a link to the repo page from where you can clone it.



- **Reload**

This comes when you have recently cloned a repo and made a query in an already opened page. So the page is not updated. So reload the page and wait for the server ready notification to work again.

