Postman and Crimes of Testing

RESTful Testing and Gating with Postman

VALUE FOR YOUR TIME

- Make, facilitate communication and testing
- Measurement of coverage
- Reduce quantity of bad code getting out
  - Gated Checkins
  - Sonar

NEEDS BEING SOLVED BY POSTMAN

Easy

- GUI based
- Content assists throughout

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- APIs defined, both in English and inputs and outputs fully documented
- Can define both happy and sad paths
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Testing Tool Landscape

RURAL SOURCING

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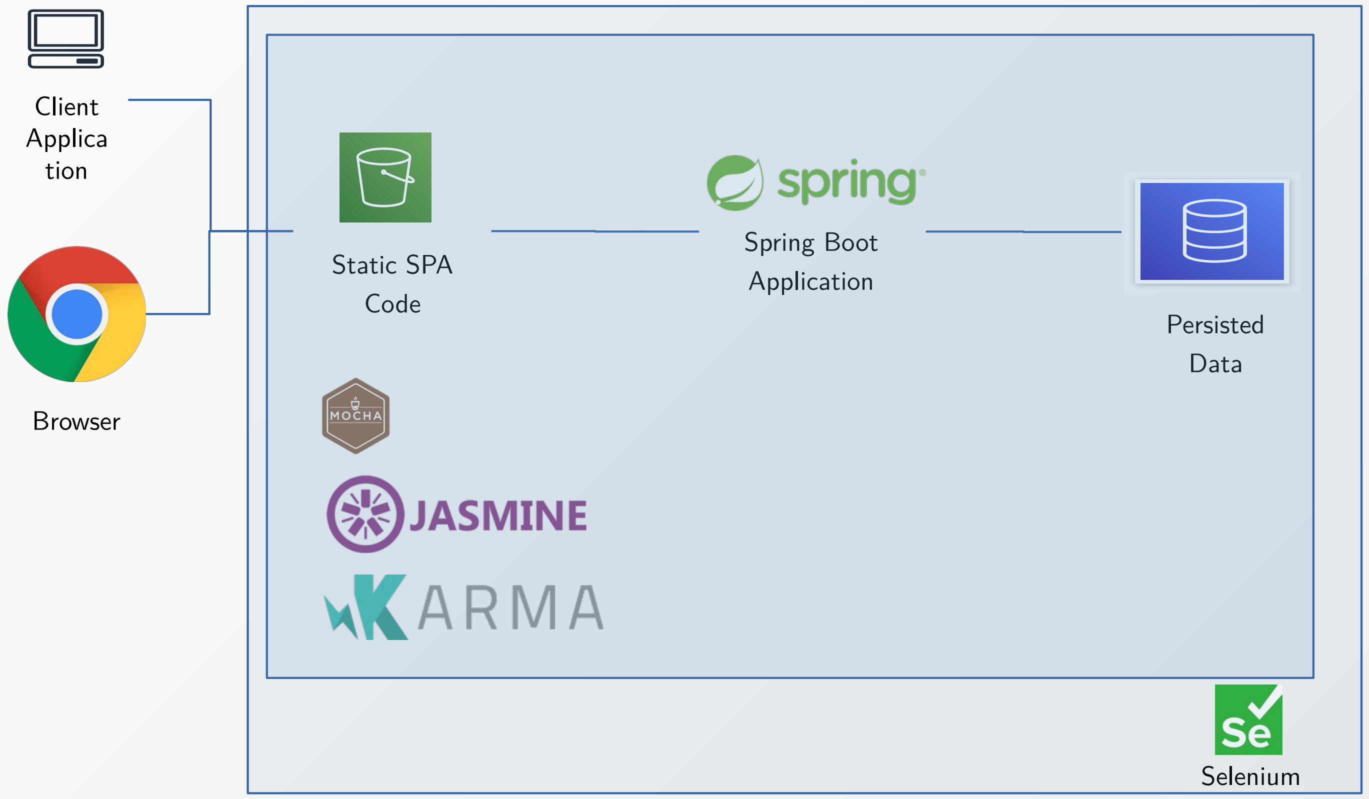

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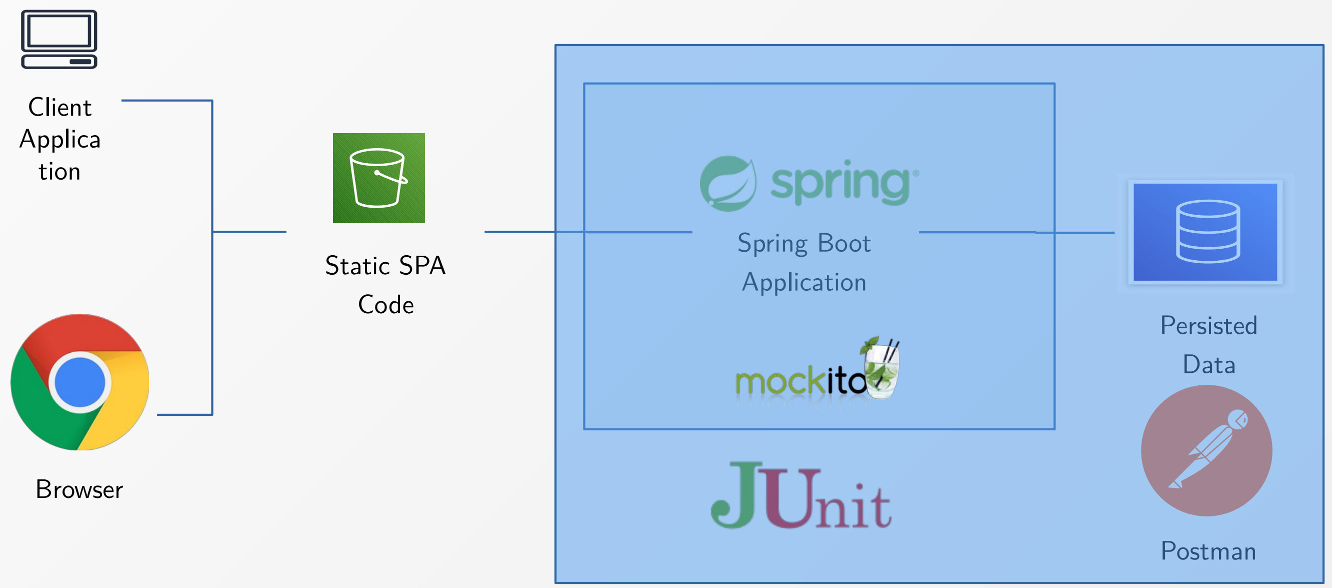

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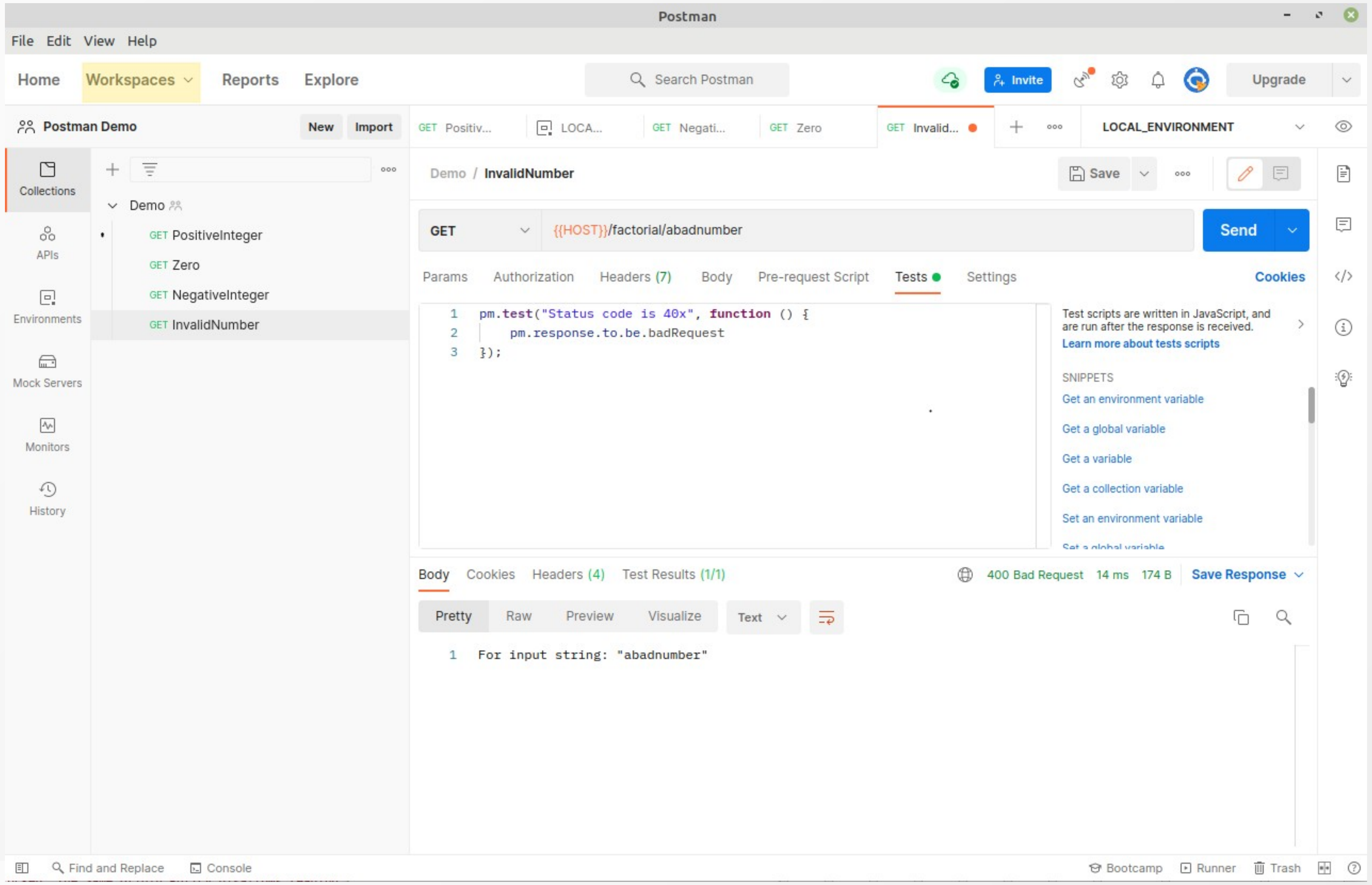

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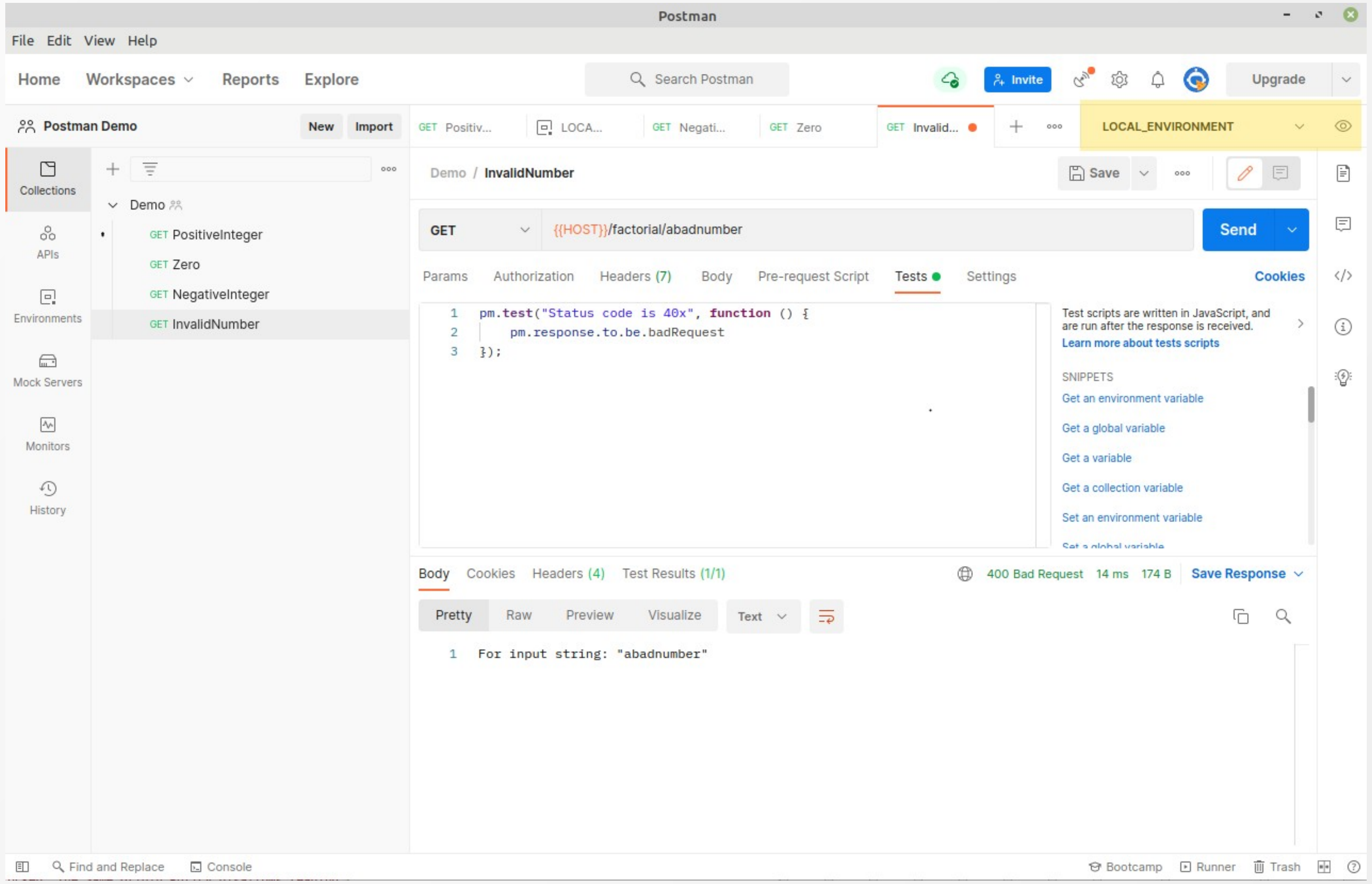

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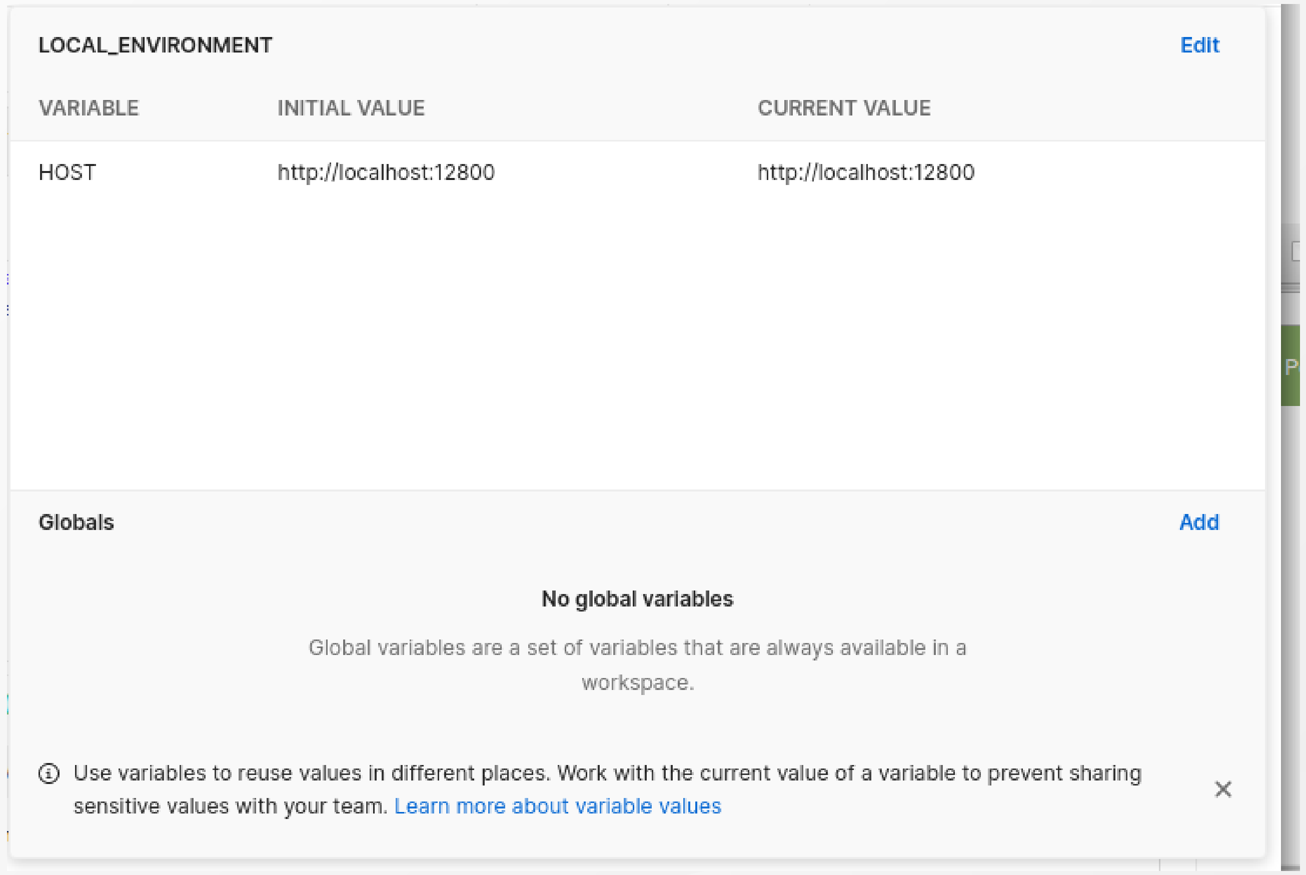

LOCAL_ENVIRONMENT

VARIABLE	INITIAL VALUE	CURRENT VALUE
HOST	http://localhost:12800	http://localhost:12800

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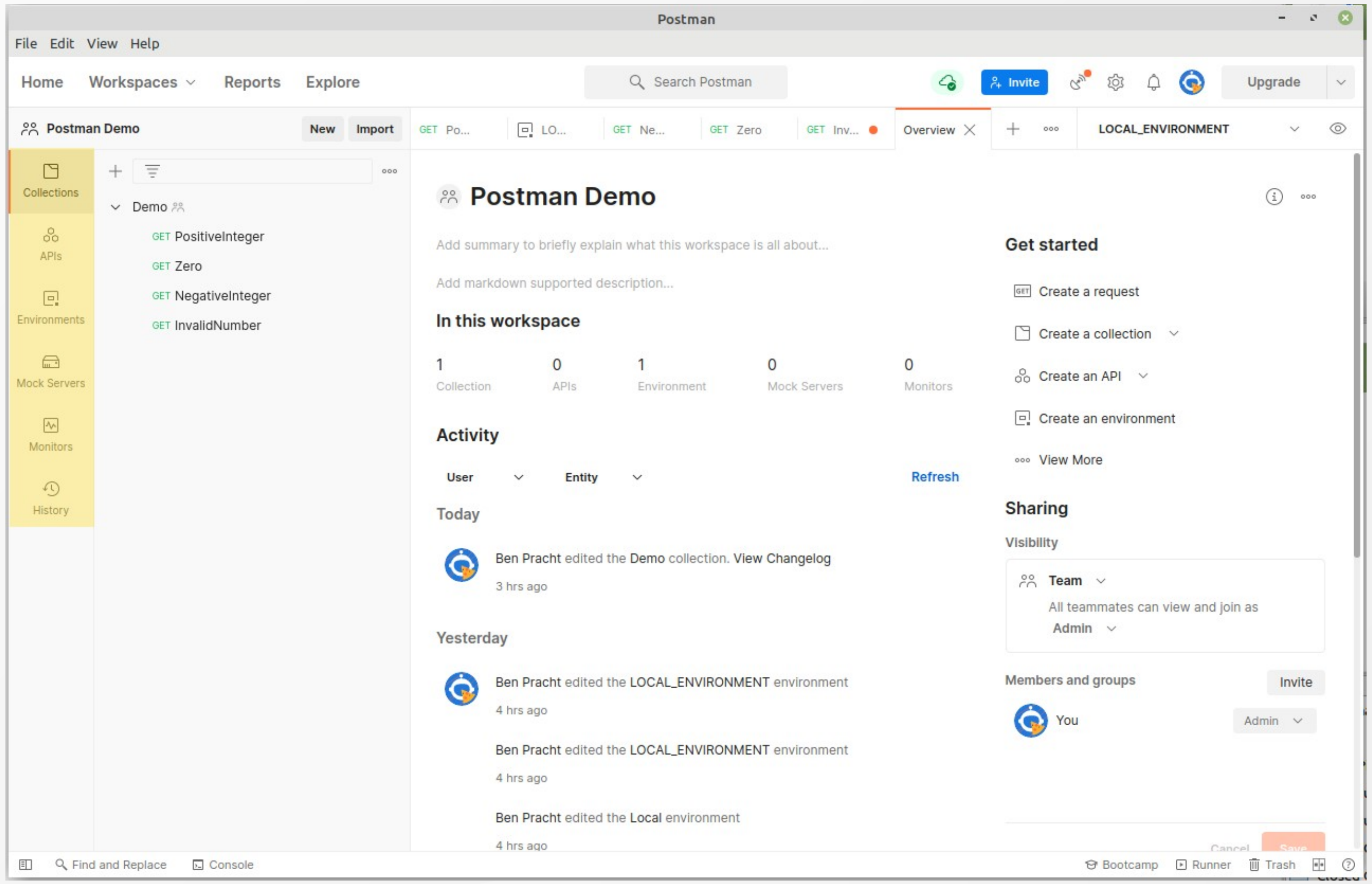

Postman Demo

Add summary to briefly explain what this workspace is all about...

Add markdown supported description...

In this workspace

1	0	1	0	0
Collection	APIs	Environment	Mock Servers	Monitors

Activity

User Entity Refresh

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Ben Pracht edited the Demo collection. View Changelog
3 hrs ago

Yesterday

Ben Pracht edited the LOCAL_ENVIRONMENT environment
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Get started

- Create a request
- Create a collection
- Create an API
- Create an environment
- View More

Sharing

Visibility

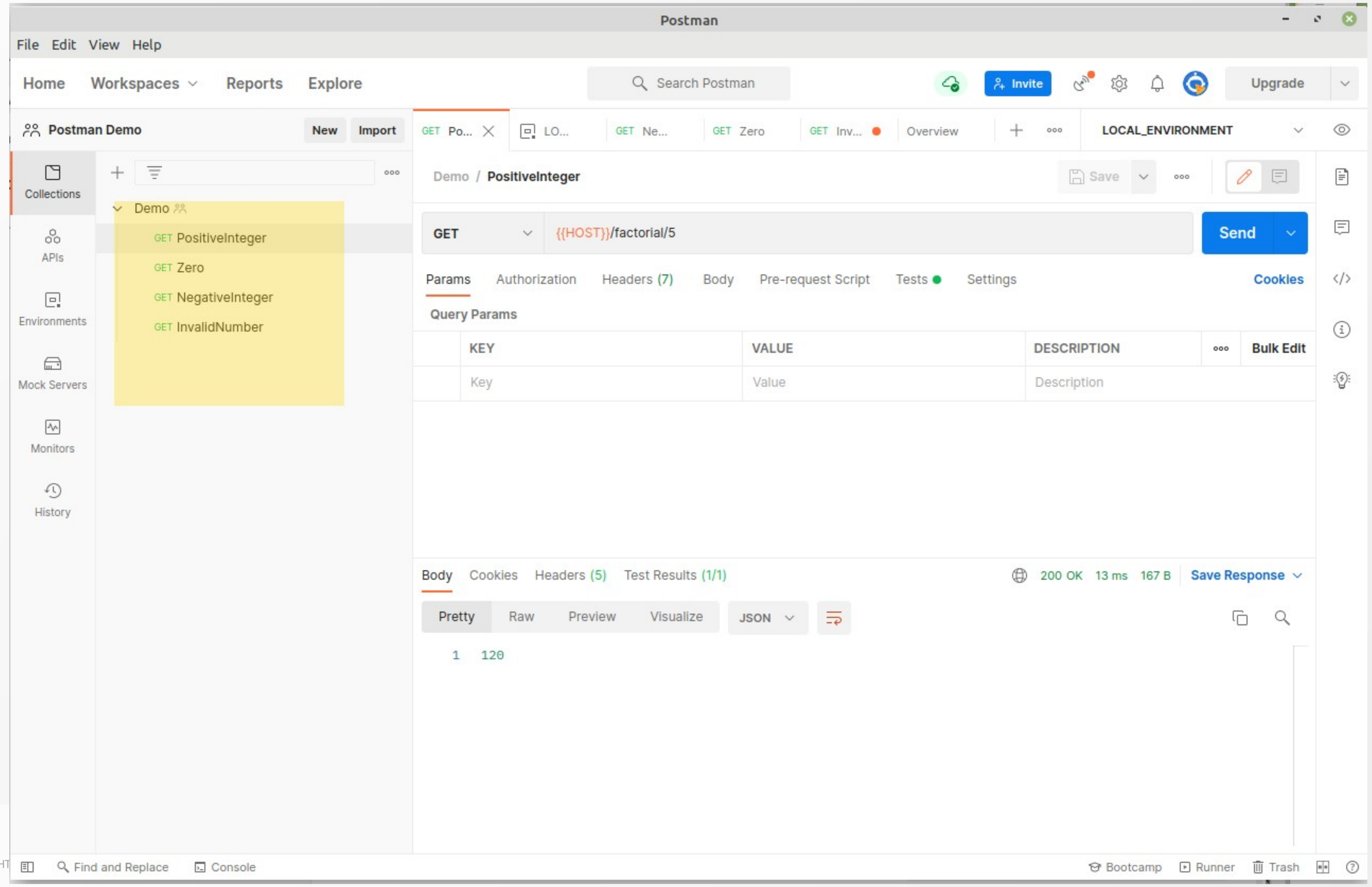
Team
All teammates can view and join as Admin

Members and groups Invite

You Admin

RURAL SOURCING

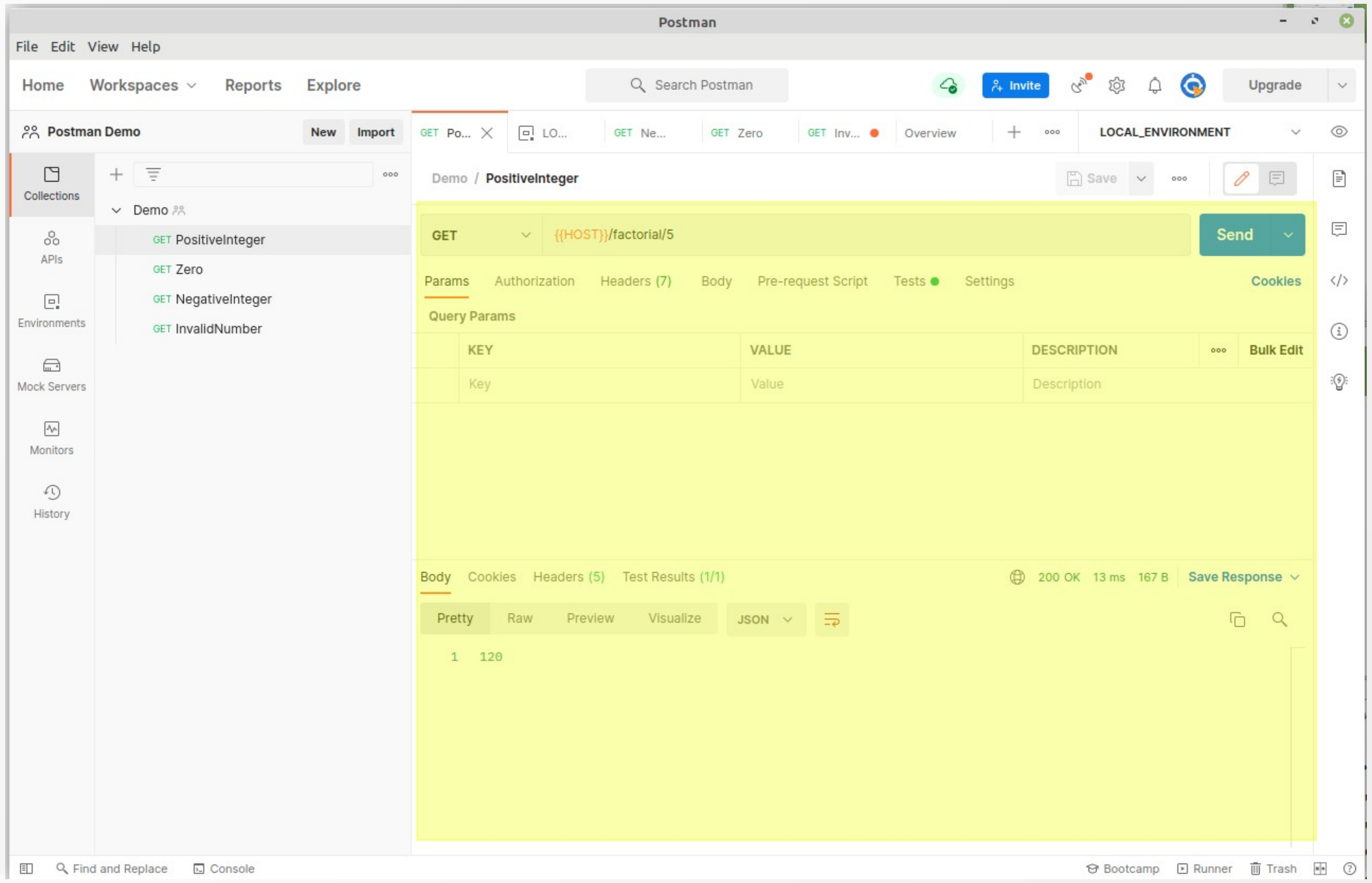
POSTMAN LAYOUT



```
{{HOST}}/factorial/5
```

```
1  120
```

POSTMAN LAYOUT



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KEY	VALUE	DESCRIPTION
Key	Value	Description

200 OK 13 ms 167 B

```
120
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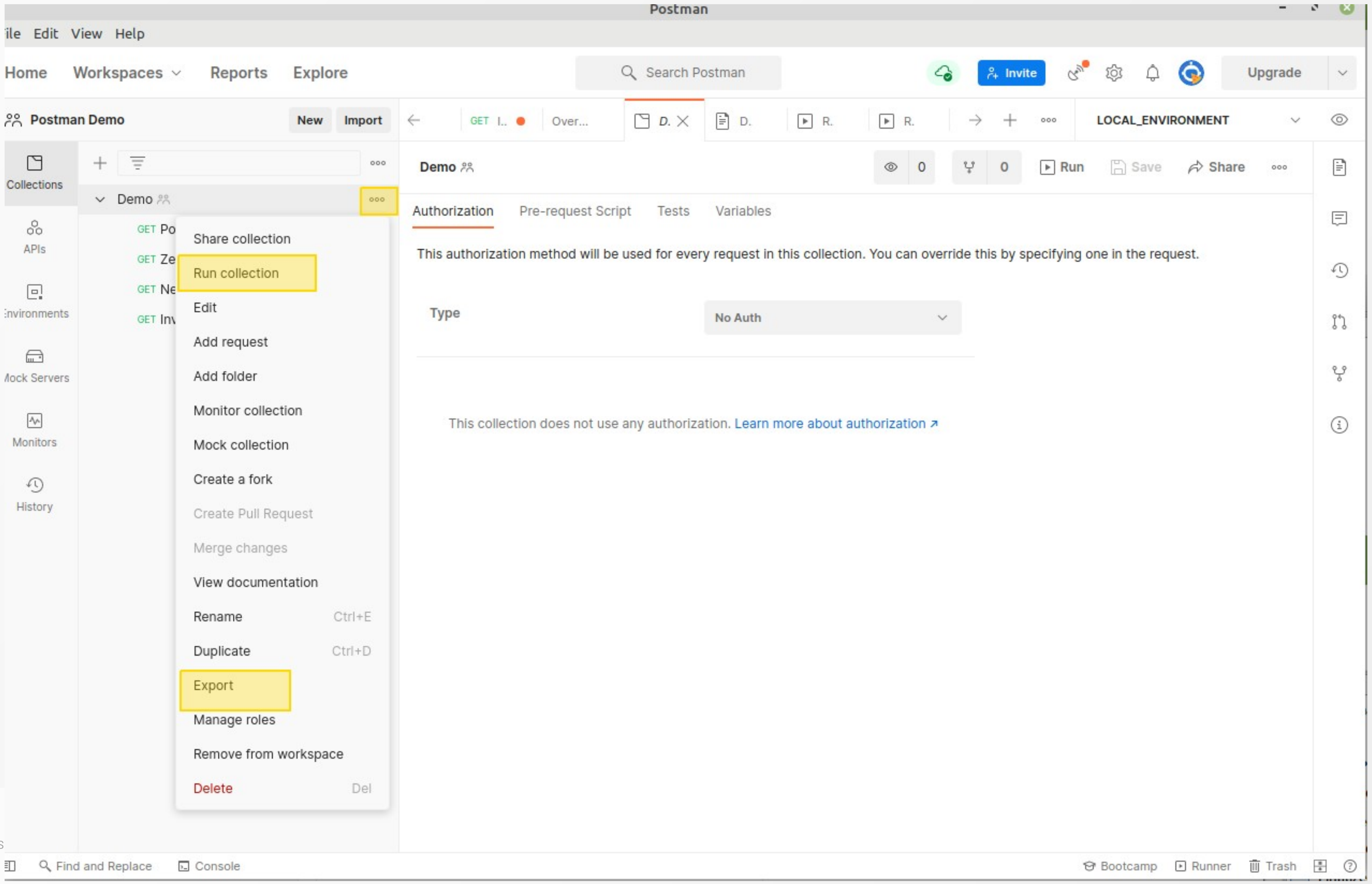
POSTMAN LAYOUT



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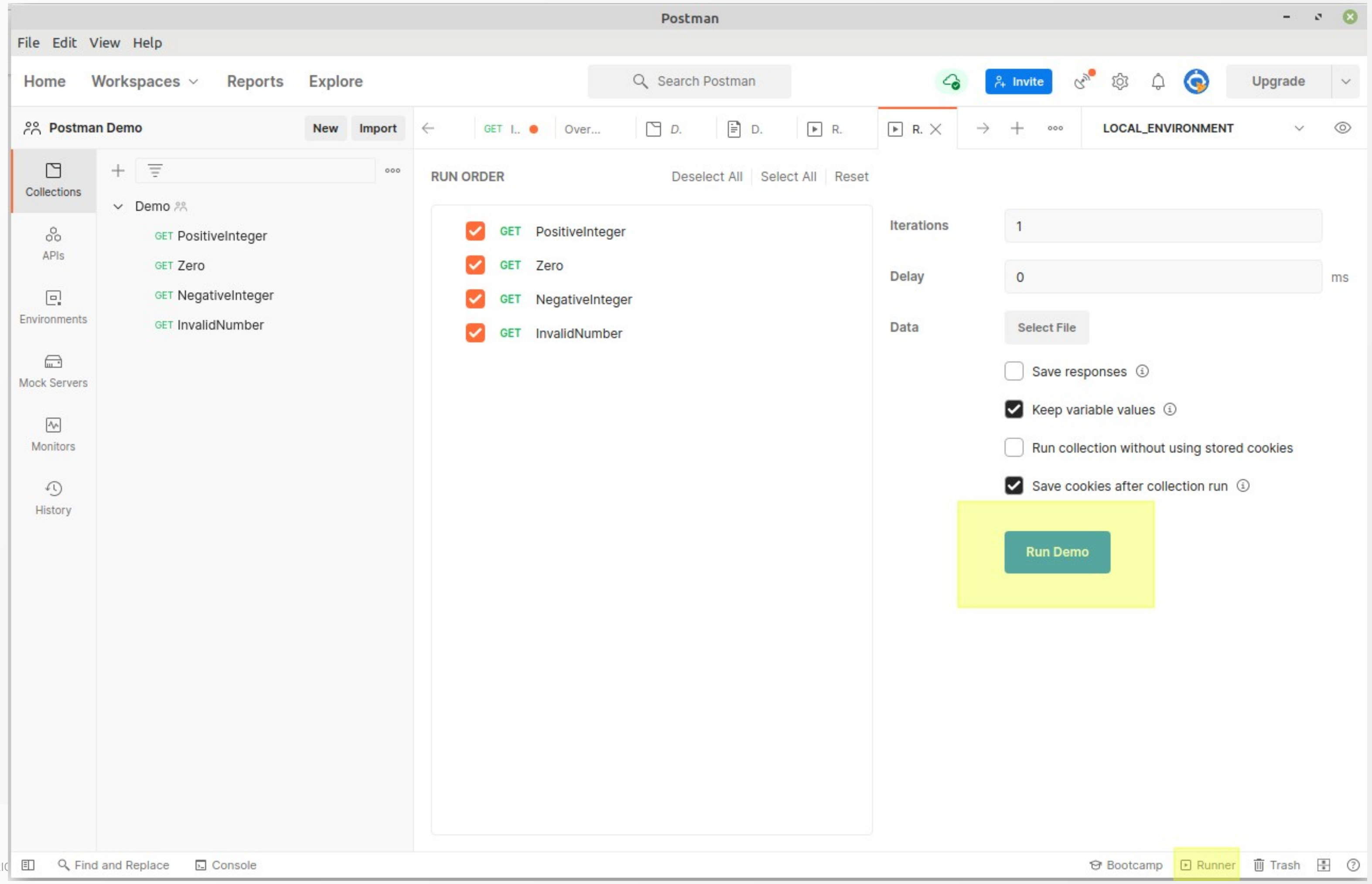
Type: No Auth

This collection does not use any authorization. Learn more about authorization ↗

POSTMAN LAYOUT



RUN ORDER — Deselect All | Select All | Reset

- [x] GET PositiveInteger
- [x] GET Zero
- [x] GET NegativeInteger
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Iterations: 1

Delay: 0 ms

Data: Select File

- [ ] Save responses
- [x] Keep variable values
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Run Demo

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POSTMAN DO’S AND DONT’S

Do define every service in your collection. At least define the expected normal path.

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Do persist the collection. Postman offers Git sync capability. Please see https://blog.postman.com/better-practices-for-git-version-control-in-postman/
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Using open source Github repository. You’ll likely have a different Git host, but the ideas will be similar. This was easier and quicker than standing up a Jenkins server, a SonarCube server and a git repository.

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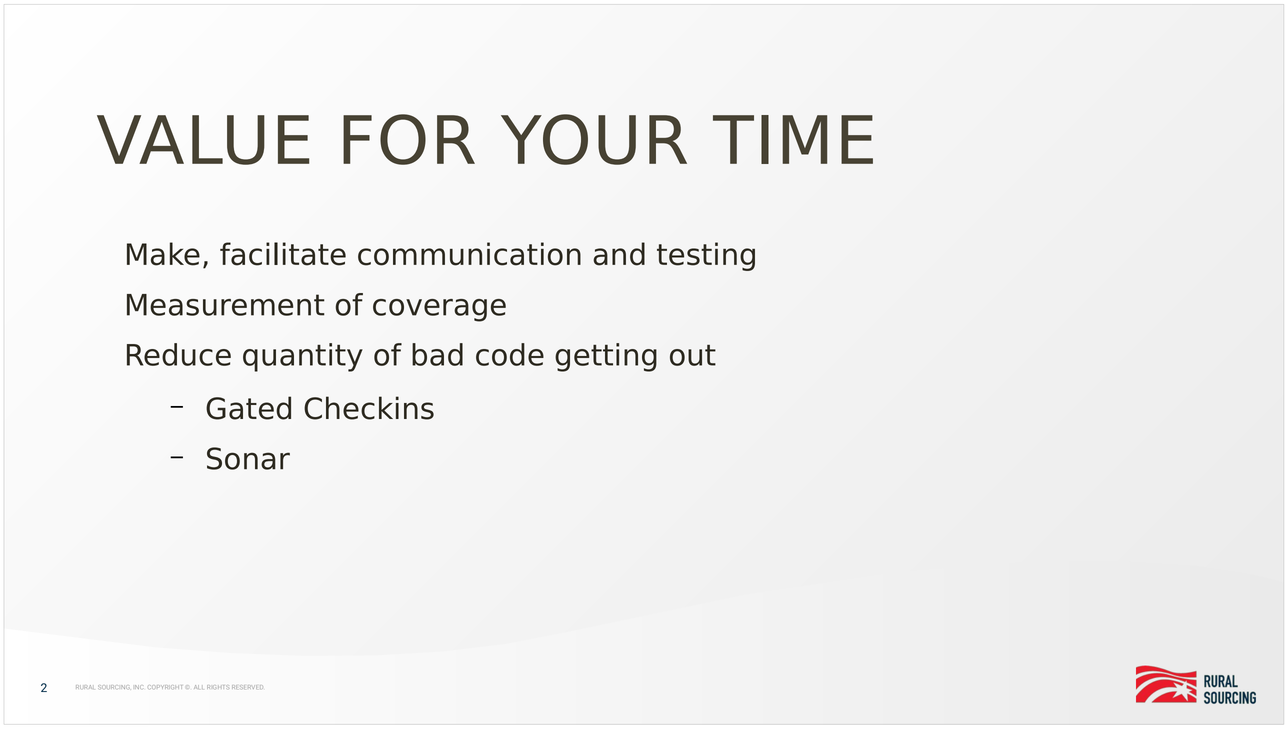

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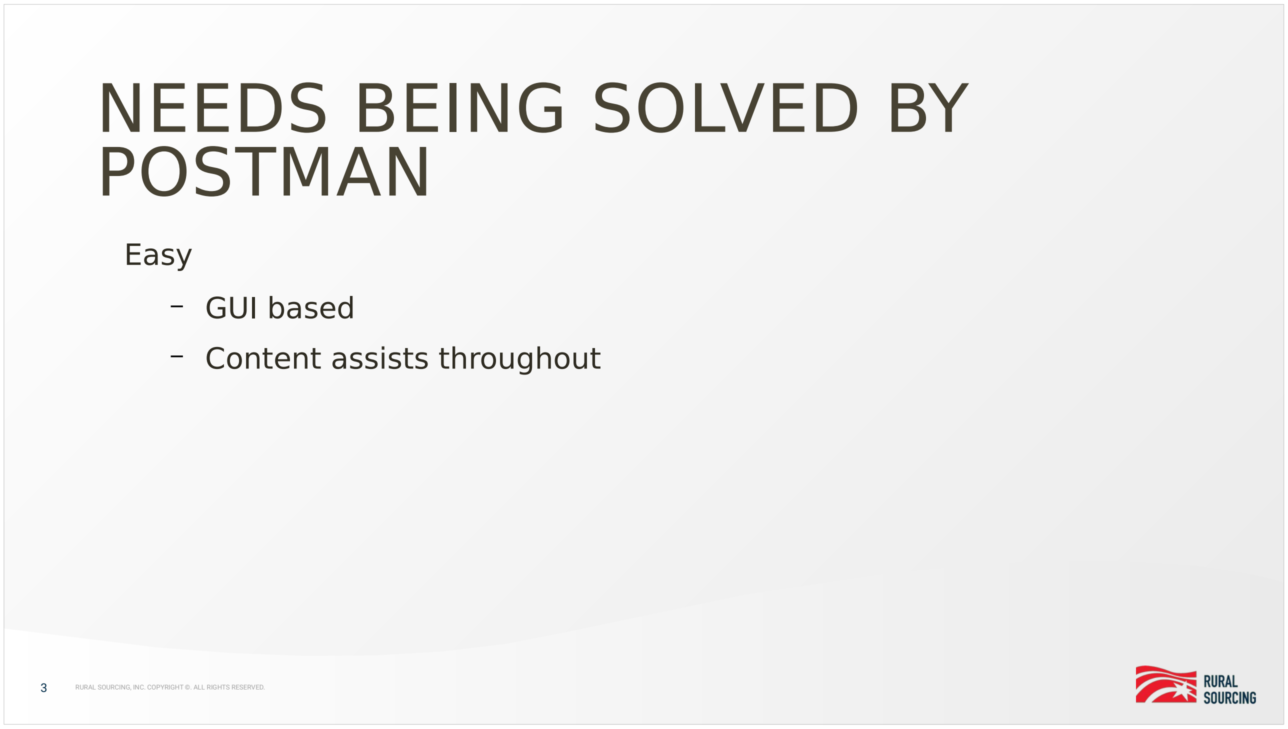
Justify the use of your time listening to me ramble by sharing benefits of specific usage of a specific tool and on preventing bad code from getting out into the wild



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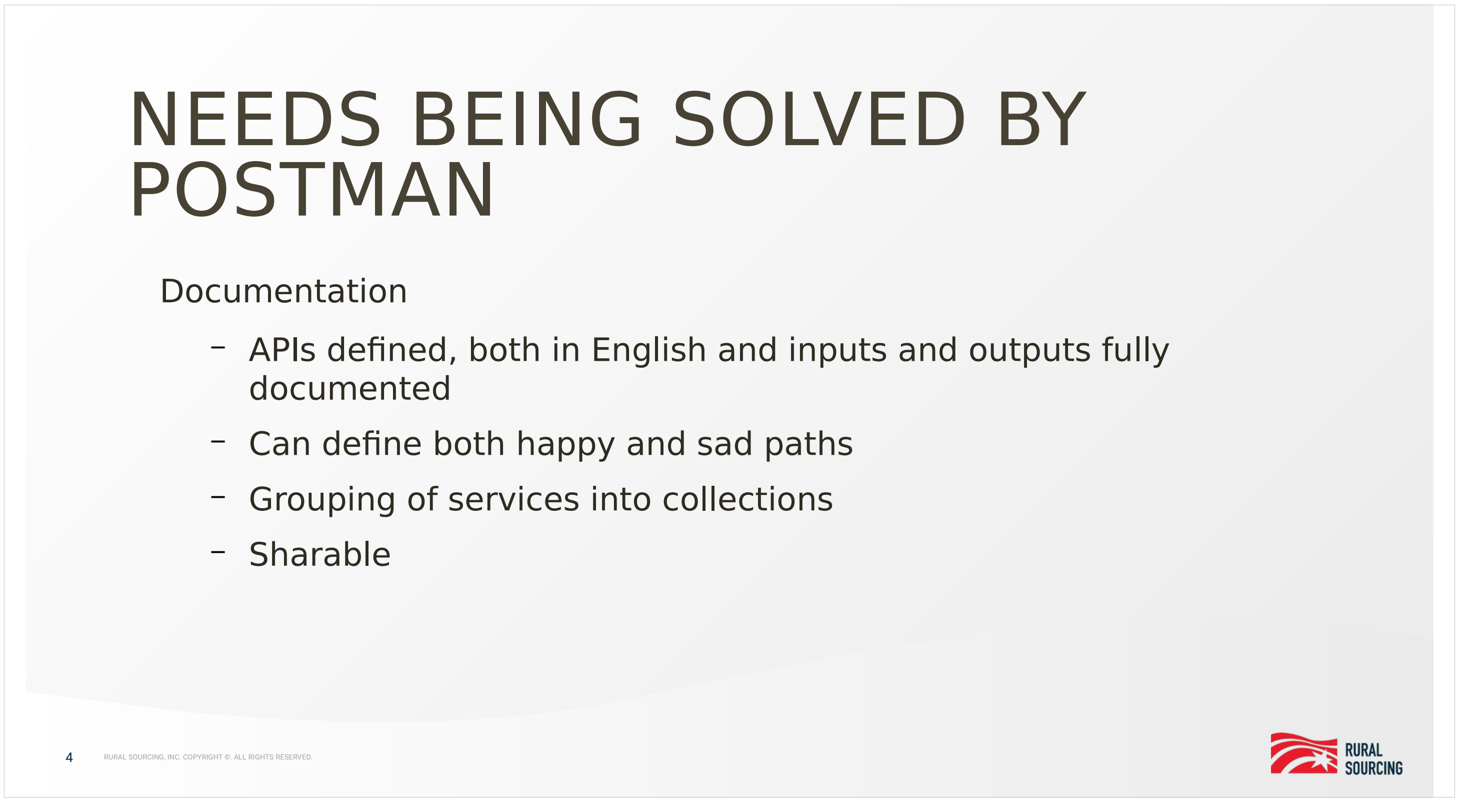
Postman is one of many GUI based web service clients. While there are other options, this client has a significant marketshare, making the file format somewhat portable among other utilities.

Postman goes through appreciable links to be friendly. Content assist features are present throughout and done intelligently. For example, Content-Type headers have appropriate selections. There's code assist for testing the validity of a response.



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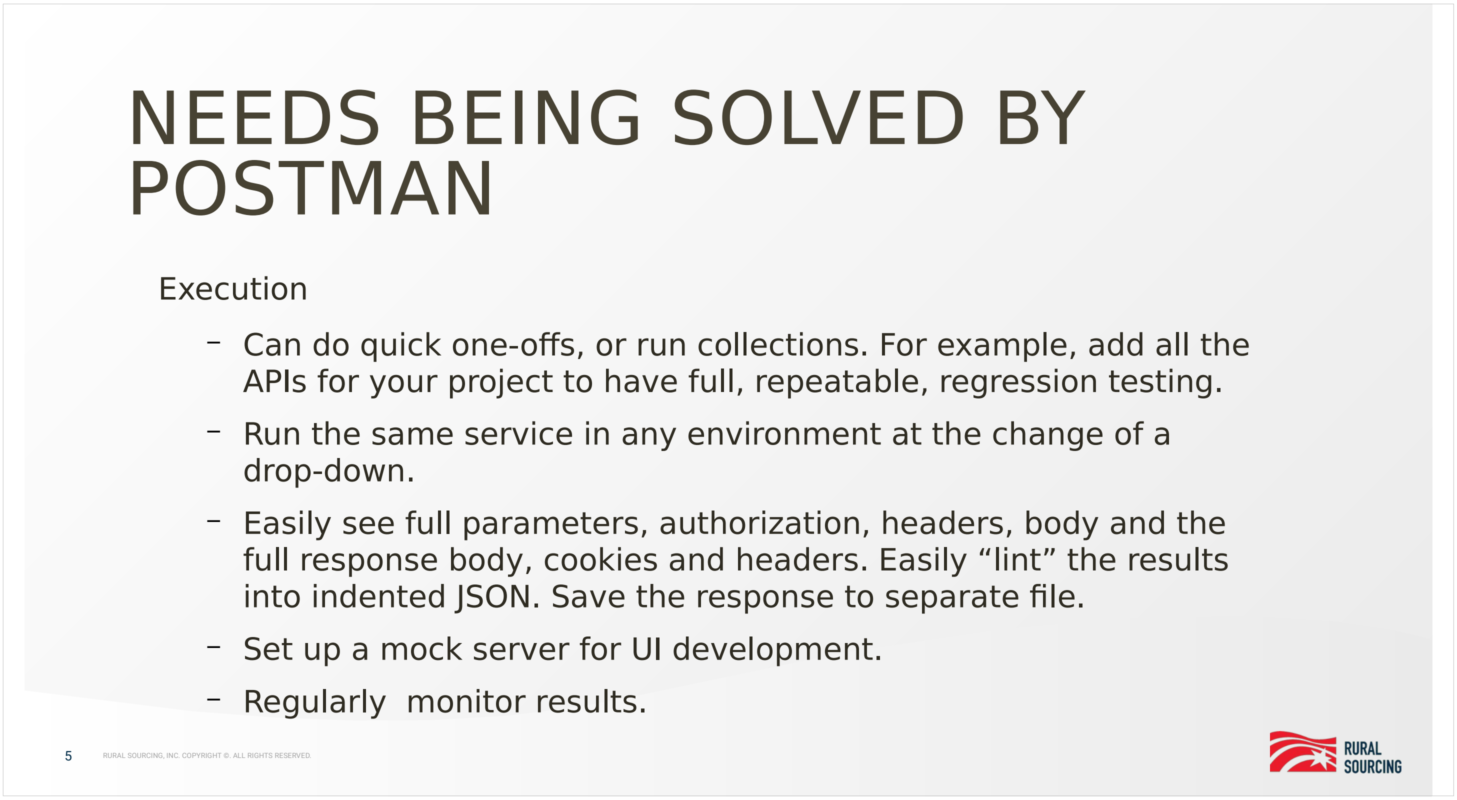
In any project good communication is key. Postman allows an always active, always current documentation of the backend interface. Changes to the Postman files can be immediately uploaded to a workspace and coded against. They can also be saved in a Git repository and later imported upon checkout, making it versioned.

Postman in particular, and for a fee, provides a team interface. People on your team can be invited to join a workspace and get the latest version, sparing people a download from a browser, Git synchronization, email, etc.

The expected behavior is actively defined, especially the happy paths. The project errors, as best as they're tested, are also defined here. Little things like HTTP status codes get clearly deliniated—an important thing because not every project is consistent.



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5

With only a few clicks, a request can be created and tested and see the full results. It’s possible to define a request via curl command (or export a request to curl from Postman).

More commonly, a single request can be executed, or a full collection can be executed. This allows a manual regression test, or it could be inserted into your CI/CD pipeline.

Postman is aware of your environments. Each environments can be defined as needed, such as local, test/qa, production, etc, and environment specific variables can be included in your request. For example, define HOST as https://test.somecompany.com for your TEST environment. Authorization can be set up to be fetched, either through a standard OATH2 sequence or via a user’s browser capture. So after a deployment to test, you could select the TEST environment, then run the services for a TEST regression.

Additionally, a mock server can be defined so that the UI people have a server to target while the back-end people are still working on the implementation. Finally, it can be set up for routine monitoring.

Testing Tool Landscape

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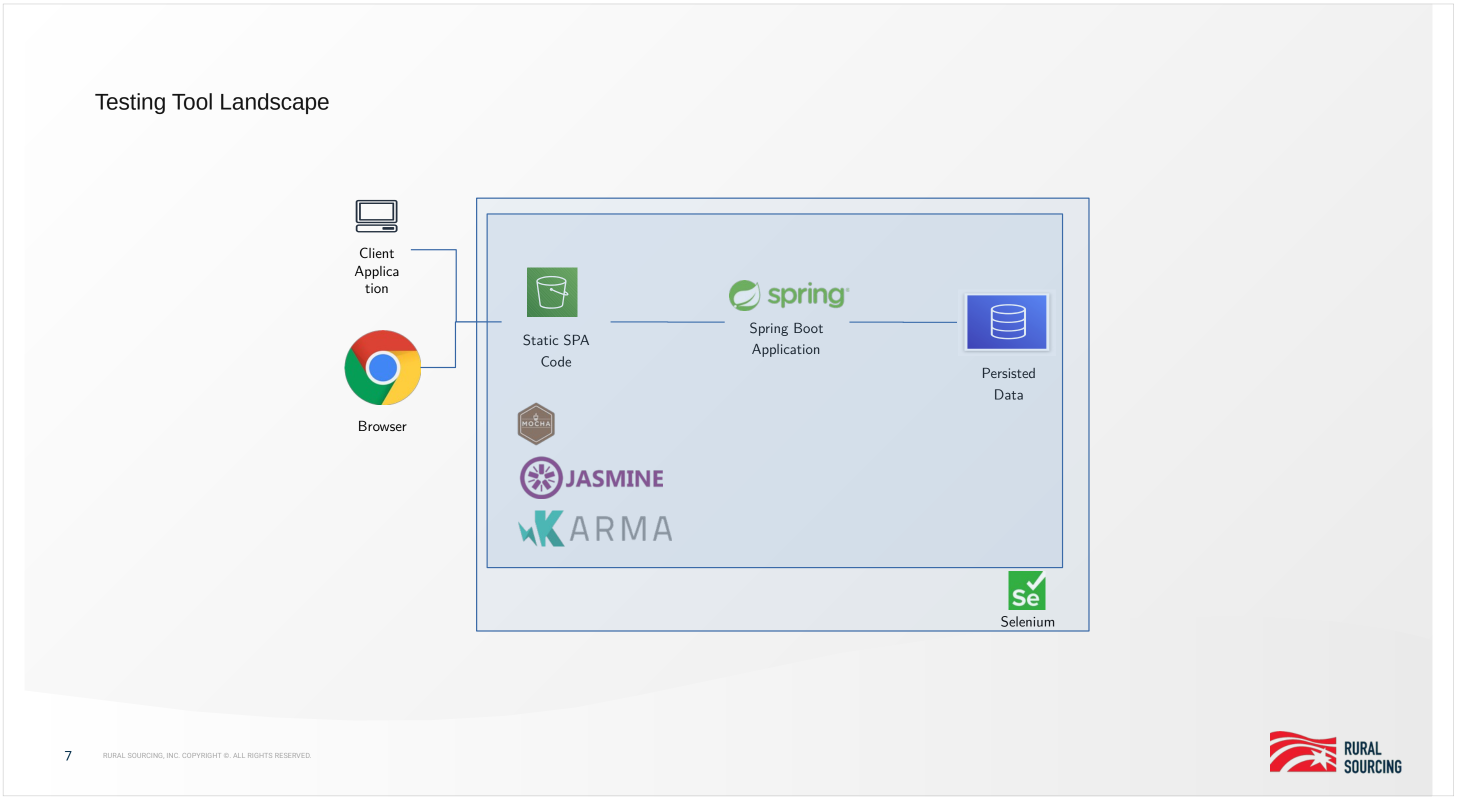
Before we get too deep, I wanted to clarify the scope of the testing. Here I'm showing a heavily and drastically simplified corporate stack that's somewhat commonly found. Reading from left to right, we start with whatever the user sees, be it an actual person or some other client application, and whatever form the UI takes. If there is a visual UI such as a React, Angular or other SPA application, One or more testing frameworks could be used to assure quality at the UI level. Focusing on the Java side, we're gladly avoiding



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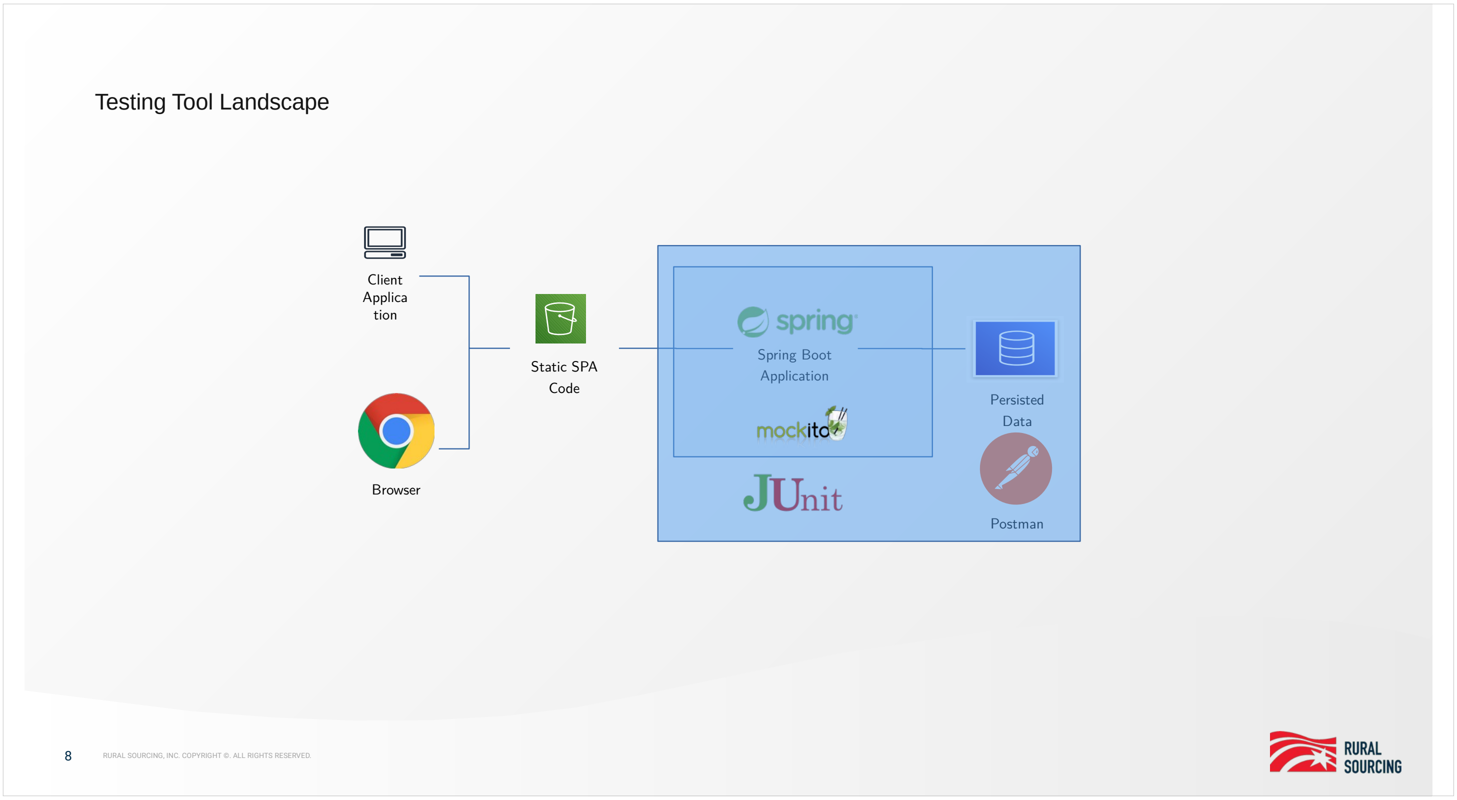

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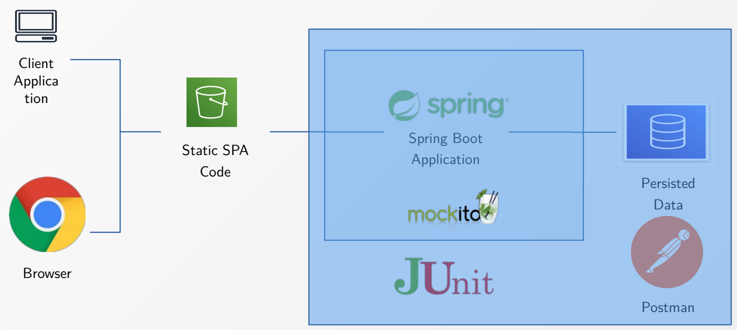

RURAL SOURCING

Again from left to right, many of us Java people will be more focused on the backend. As such, we typically focus on quality unit testing as done by Junit. To help isolate the testing, we'll also be mocking things not in test using a mocking framework such as Mockito or maybe PowerMock. However, much of our RESTful testing can begin with Postman.

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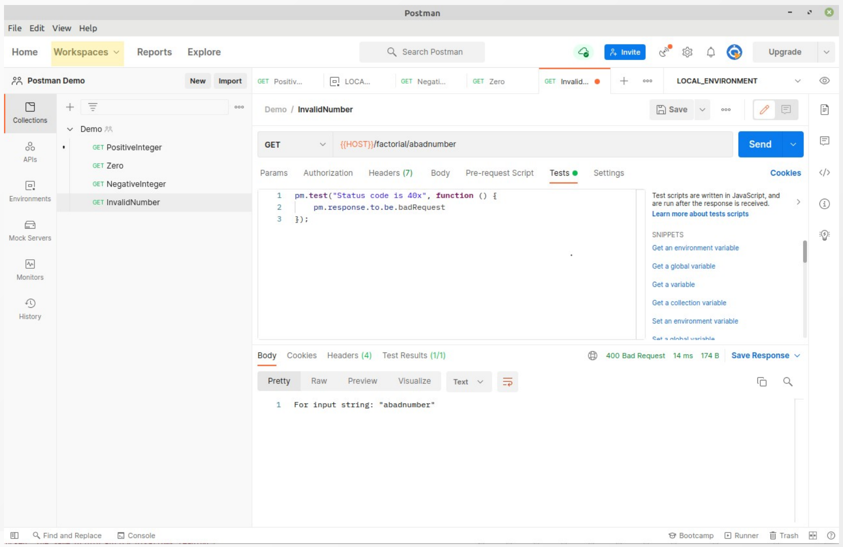

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A workspace is akin to a project in an IDE like Eclipse or IntelliJ.

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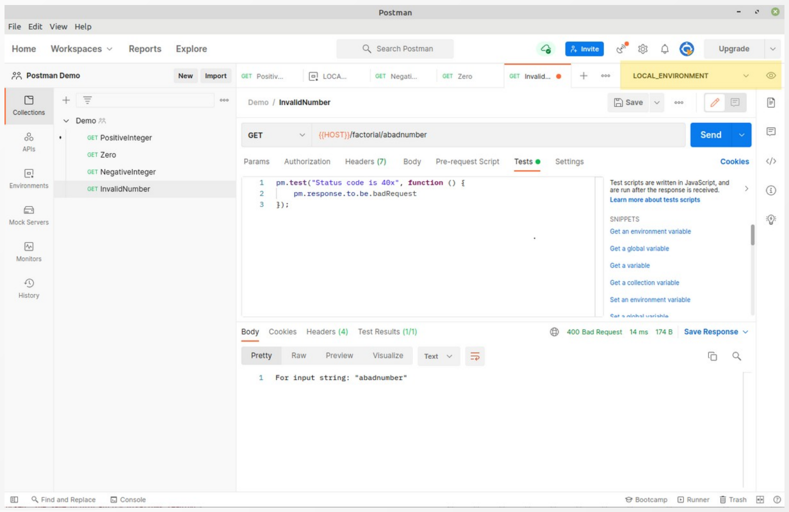

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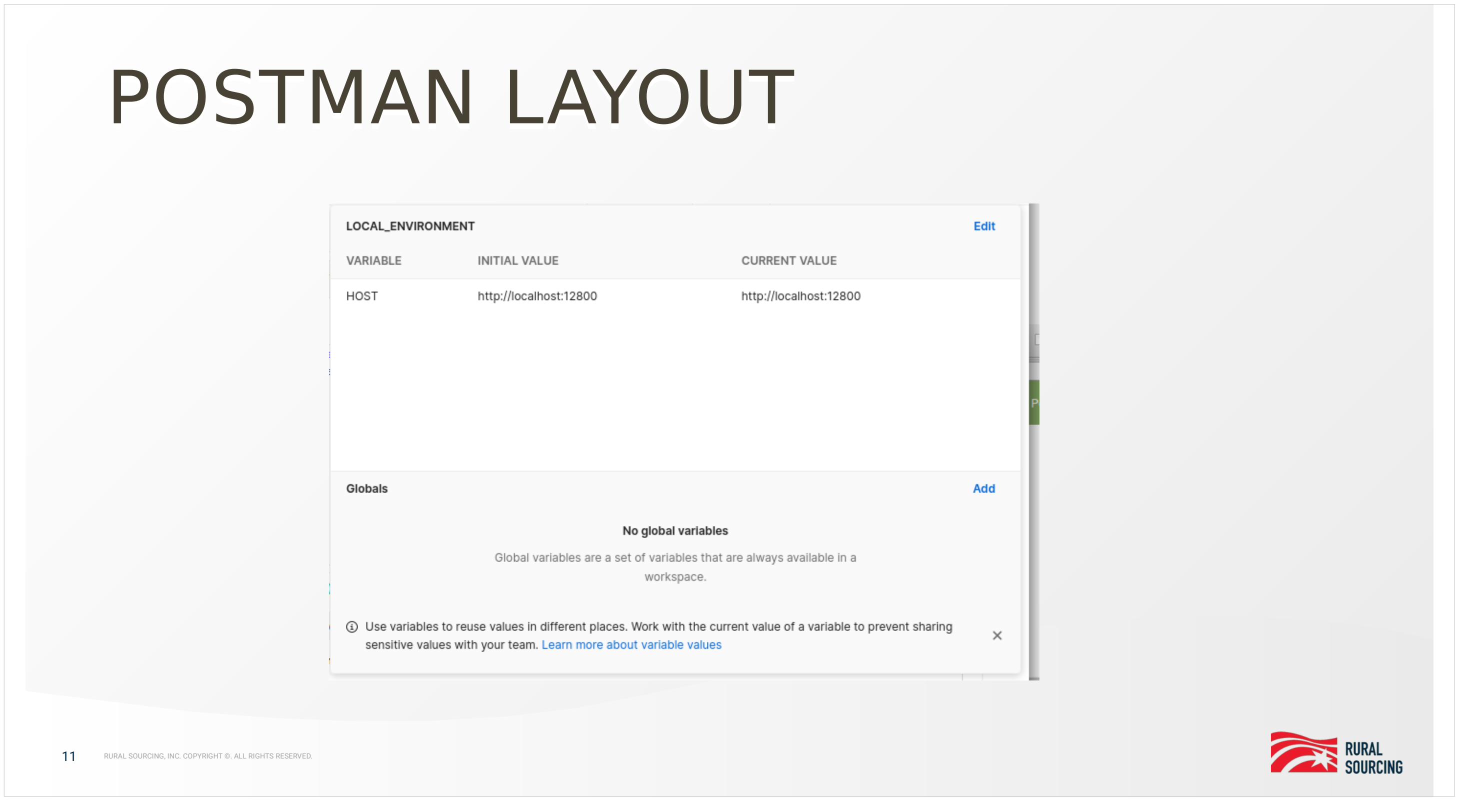

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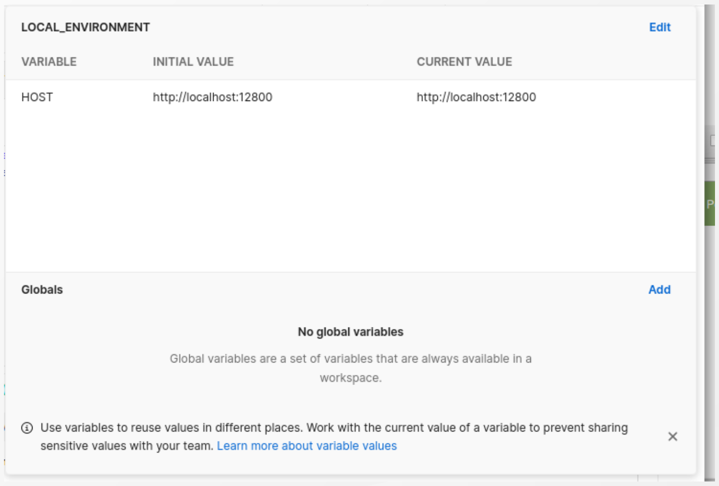

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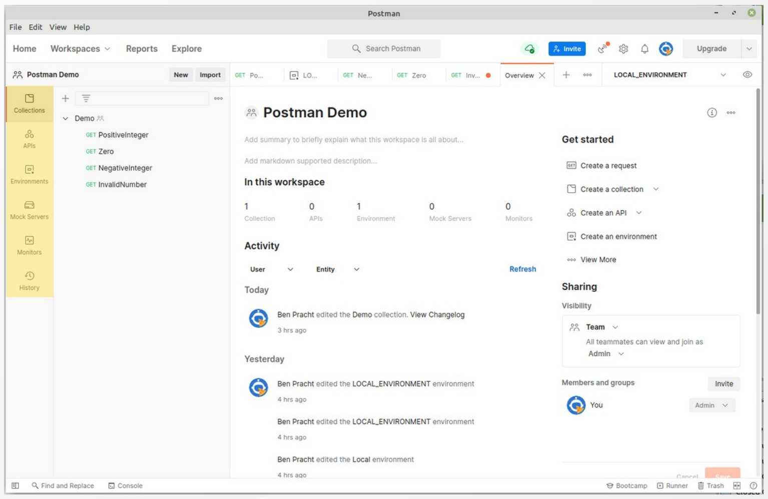

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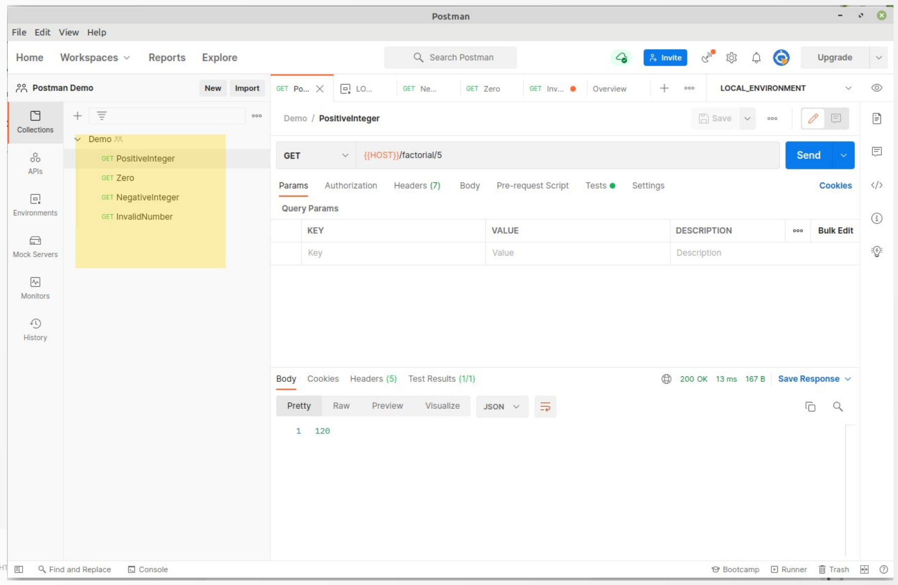

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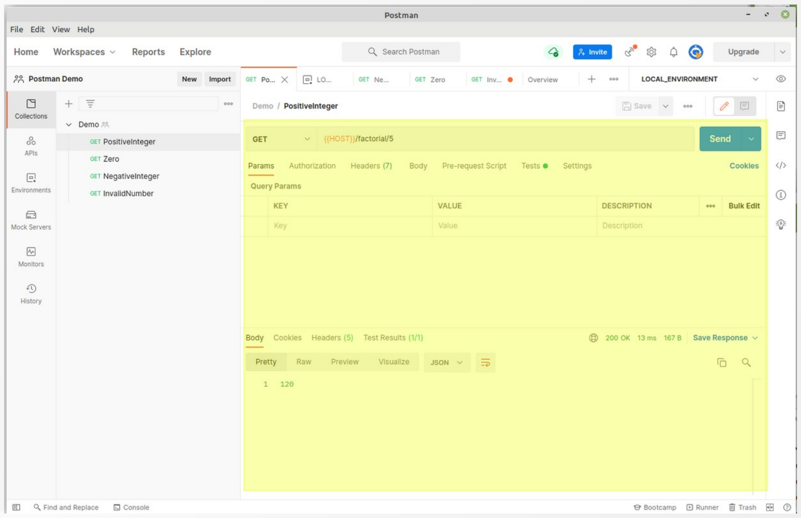

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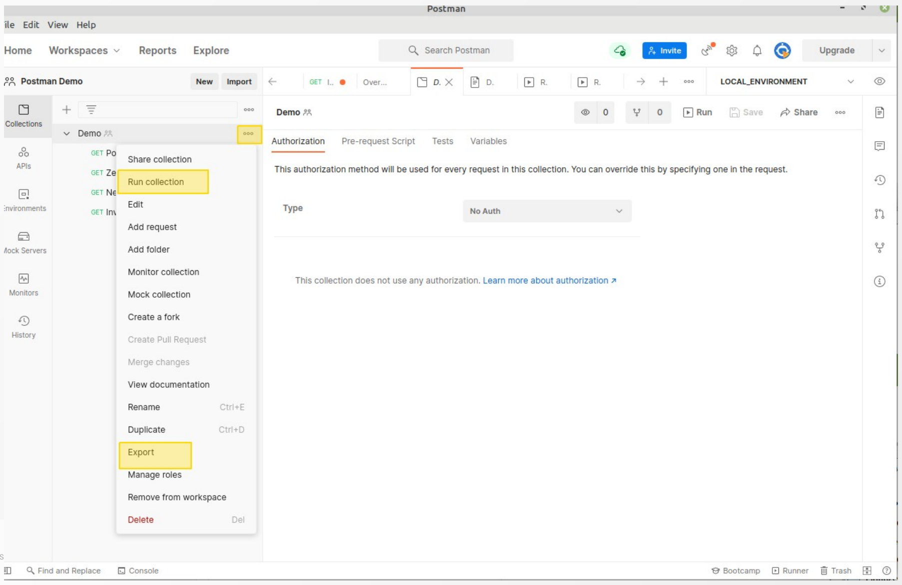

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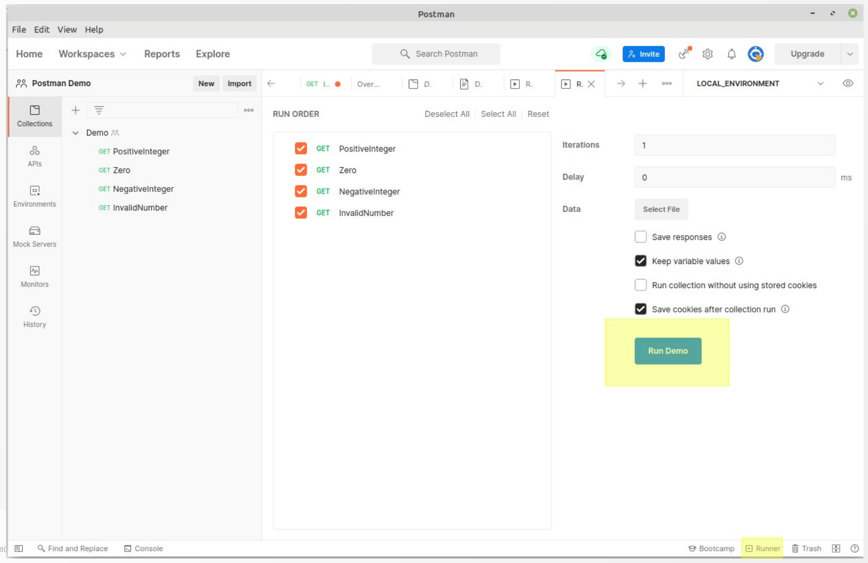

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Iterations	1
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Data	Select File

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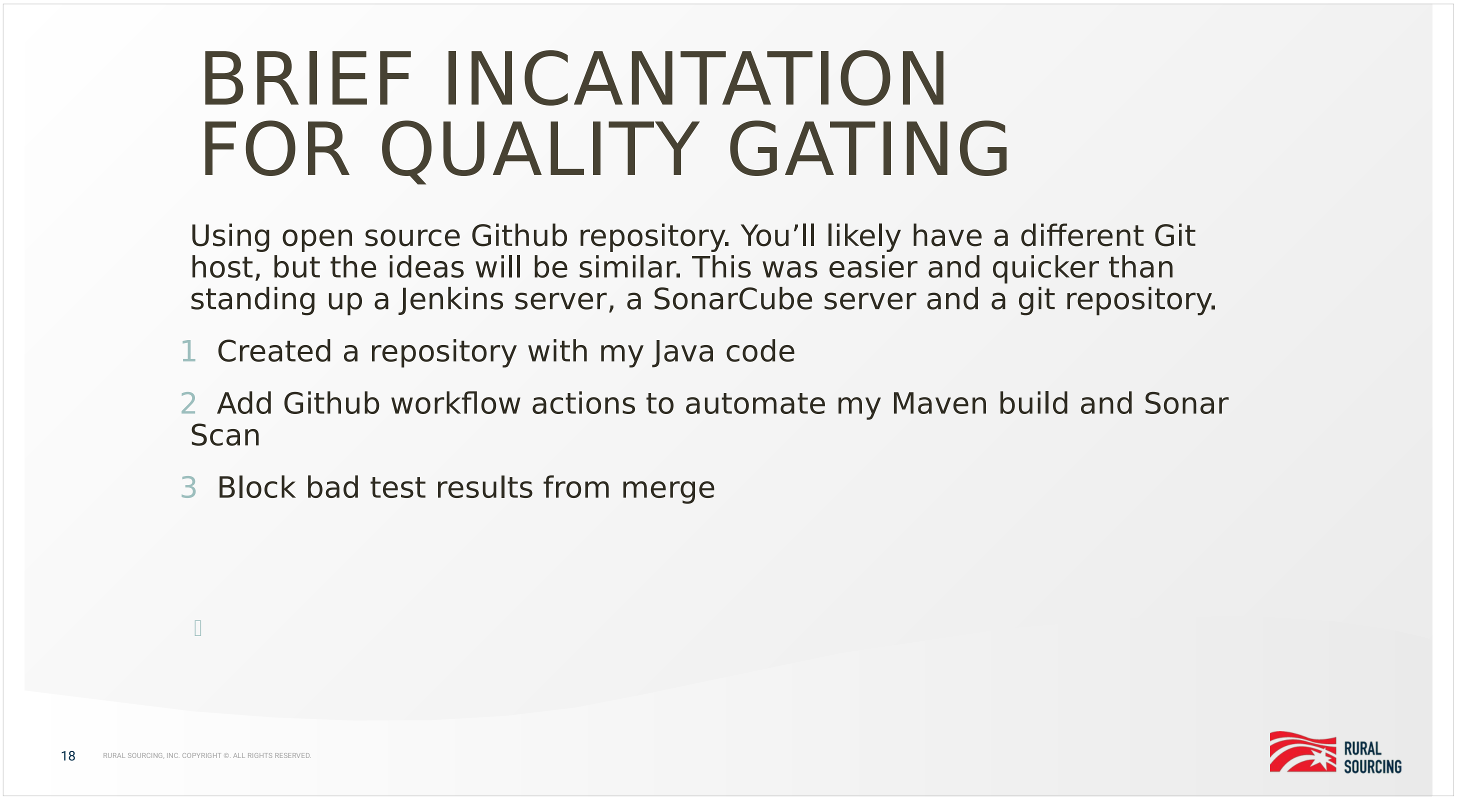

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Here, I created a demo project which provides a factorial service as a RESTful endpoint. It's built using Maven .

However for ease and convenience, I put this on a private Github repository and set up GitHub workflow actions. If you're using GHE or Bitbucket, there are parallel workflow capabilities you could use.

HAPPY TESTING!