Task 1:

https://api.github.com/users/amehlhase316/repos
All the repos in amehlhase316 username

api.github.com/users/amehlhase316/repos

Pretty-print ☐

[
  {
    "id": 784958959,
    "node_id": "R_kgDOLsmF7w",
    "name": "grpcTest",
    "full_name": "amehlhase316/grpcTest",
    "private": false,
    "owner": {
      "login": "amehlhase316",
      "id": 46384989,
      "node_id": "MDQ6VXNlcjQ2Mzg0OTg5",
      "avatar_url": "https://avatars.githubusercontent.com/u/46384989?v=4",
      "gravatar_id": "",
      "url": "https://api.github.com/users/amehlhase316",
      "html_url": "https://github.com/amehlhase316",
      "followers_url": "https://api.github.com/users/amehlhase316/followers",
      "following_url": "https://api.github.com/users/amehlhase316/following{/other_user}",
      "gists_url": "https://api.github.com/users/amehlhase316/gists{/gist_id}",
      "starred_url": "https://api.github.com/users/amehlhase316/starred{/owner}{/repo}",
      "subscriptions_url": "https://api.github.com/users/amehlhase316/subscriptions",
      "organizations_url": "https://api.github.com/users/amehlhase316/orgs",
      "repos_url": "https://api.github.com/users/amehlhase316/repos",
      "events_url": "https://api.github.com/users/amehlhase316/events{/privacy}",
      "received_events_url": "https://api.github.com/users/amehlhase316/received_events",
      "type": "User",
      "user_view_type": "public",
      "site_admin": false
    },
    "html_url": "https://github.com/amehlhase316/grpcTest",
    "description": null,
    "fork": false,
    "url": "https://api.github.com/repos/amehlhase316/grpcTest",
    "forks_url": "https://api.github.com/repos/amehlhase316/grpcTest/forks",
    "keys_url": "https://api.github.com/repos/amehlhase316/grpcTest/keys{/key_id}",
    "collaborators_url": "https://api.github.com/repos/amehlhase316/grpcTest/collaborators{/collaborator}",
    "teams_url": "https://api.github.com/repos/amehlhase316/grpcTest/teams",
    "hooks_url": "https://api.github.com/repos/amehlhase316/grpcTest/hooks",
    "issue_events_url": "https://api.github.com/repos/amehlhase316/grpcTest/issues/events{/number}",
    "events_url": "https://api.github.com/repos/amehlhase316/grpcTest/events",
    "assignees_url": "https://api.github.com/repos/amehlhase316/grpcTest/assignees{/user}",
    "branches_url": "https://api.github.com/repos/amehlhase316/grpcTest/branches{/branch}",
    "tags_url": "https://api.github.com/repos/amehlhase316/grpcTest/tags",
    "blobs_url": "https://api.github.com/repos/amehlhase316/grpcTest/git/blobs{/sha}",
    "git_tags_url": "https://api.github.com/repos/amehlhase316/grpcTest/git/tags{/sha}",
    "git_refs_url": "https://api.github.com/repos/amehlhase316/grpcTest/git/refs{/sha}",
    "trees_url": "https://api.github.com/repos/amehlhase316/grpcTest/git/trees{/sha}",
    "statuses_url": "https://api.github.com/repos/amehlhase316/grpcTest/statuses/{sha}",
    "languages_url": "https://api.github.com/repos/amehlhase316/grpcTest/languages",
    "stargazers_url": "https://api.github.com/repos/amehlhase316/grpcTest/stargazers",
    "contributors_url": "https://api.github.com/repos/amehlhase316/grpcTest/contributors",
    "subscribers_url": "https://api.github.com/repos/amehlhase316/grpcTest/subscribers",
    "subscription_url": "https://api.github.com/repos/amehlhase316/grpcTest/subscription",
    "commits_url": "https://api.github.com/repos/amehlhase316/grpcTest/commits{/sha}",
    "git_commits_url": "https://api.github.com/repos/amehlhase316/grpcTest/git/commits{/sha}",
    "comments_url": "https://api.github.com/repos/amehlhase316/grpcTest/comments{/number}",
    "issue_comment_url": "https://api.github.com/repos/amehlhase316/grpcTest/issues/comments{/number}",
    "contents_url": "https://api.github.com/repos/amehlhase316/grpcTest/contents/{+path}",
    "compare_url": "https://api.github.com/repos/amehlhase316/grpcTest/compare/{base}...{head}",
    "merges_url": "https://api.github.com/repos/amehlhase316/grpcTest/merges",
    "archive_url": "https://api.github.com/repos/amehlhase316/grpcTest/{archive_format}{/ref}",
    "downloads_url": "https://api.github.com/repos/amehlhase316/grpcTest/downloads",
    "issues_url": "https://api.github.com/repos/amehlhase316/grpcTest/issues{/number}",
    "pulls_url": "https://api.github.com/repos/amehlhase316/grpcTest/pulls{/number}",
    "milestones_url": "https://api.github.com/repos/amehlhase316/grpcTest/milestones{/number}",
    "notifications_url": "https://api.github.com/repos/amehlhase316/grpcTest/notifications{?since,all,participating}",
    "labels_url": "https://api.github.com/repos/amehlhase316/grpcTest/labels{/name}",
    "releases_url": "https://api.github.com/repos/amehlhase316/grpcTest/releases{/id}",
    "deployments_url": "https://api.github.com/repos/amehlhase316/grpcTest/deployments",
    "created_at": "2024-04-10T22:49:25Z",
    "updated_at": "2024-04-10T22:50:54Z",
    "pushed_at": "2024-04-10T23:01:41Z",
    "git_url": "git://github.com/amehlhase316/grpcTest.git",
    "ssh_url": "git@github.com:amehlhase316/grpcTest.git",
    "clone_url": "https://github.com/amehlhase316/grpcTest.git",
    "svn_url": "https://github.com/amehlhase316/grpcTest",
    "homepage": null,
    "size": 341,
    "stargazers_count": 0,
    "watchers_count": 0,
    "language": "Java",
    "has_issues": true,
    "has_projects": true,
    "has_downloads": true,
    "has_wiki": true,
    "has_pages": false

Selecting a specific repo
https://api.github.com/repos/amehlhase316/memoranda

"id": 164481338,
"node_id": "MDEwOlJlcG9zaXRvcnkxNjQ0ODEzMzg=",
"name": "memoranda",
"full_name": "amehlhase316/memoranda",
"private": false,
"owner": {
  "login": "amehlhase316",
  "id": 46384989,
  "node_id": "MDQ6VXNlcjQ2Mzg0OTg5",
  "avatar_url": "https://avatars.githubusercontent.com/u/46384989?v=4",
  "gravatar_id": "",
  "url": "https://api.github.com/users/amehlhase316",
  "html_url": "https://github.com/amehlhase316",
  "followers_url": "https://api.github.com/users/amehlhase316/followers",
  "following_url": "https://api.github.com/users/amehlhase316/following{/other_user}",
  "gists_url": "https://api.github.com/users/amehlhase316/gists{/gist_id}",
  "starred_url": "https://api.github.com/users/amehlhase316/starred{/owner}{/repo}",
  "subscriptions_url": "https://api.github.com/users/amehlhase316/subscriptions",
  "organizations_url": "https://api.github.com/users/amehlhase316/orgs",
  "repos_url": "https://api.github.com/users/amehlhase316/repos",
  "events_url": "https://api.github.com/users/amehlhase316/events{/privacy}",
  "received_events_url": "https://api.github.com/users/amehlhase316/received_events",
  "type": "User",
  "user_view_type": "public",
  "site_admin": false
},
"html_url": "https://github.com/amehlhase316/memoranda",
"description": null,
"fork": false,
"url": "https://api.github.com/repos/amehlhase316/memoranda",
"forks_url": "https://api.github.com/repos/amehlhase316/memoranda/forks",
"keys_url": "https://api.github.com/repos/amehlhase316/memoranda/keys{/key_id}",
"collaborators_url": "https://api.github.com/repos/amehlhase316/memoranda/collaborators{/collaborator}",
"teams_url": "https://api.github.com/repos/amehlhase316/memoranda/teams",
"hooks_url": "https://api.github.com/repos/amehlhase316/memoranda/hooks",
"issue_events_url": "https://api.github.com/repos/amehlhase316/memoranda/issues/events{/number}",
"events_url": "https://api.github.com/repos/amehlhase316/memoranda/events",
"assignees_url": "https://api.github.com/repos/amehlhase316/memoranda/assignees{/user}",
"branches_url": "https://api.github.com/repos/amehlhase316/memoranda/branches{/branch}",
"tags_url": "https://api.github.com/repos/amehlhase316/memoranda/tags",
"blobs_url": "https://api.github.com/repos/amehlhase316/memoranda/git/blobs{/sha}",
"git_tags_url": "https://api.github.com/repos/amehlhase316/memoranda/git/tags{/sha}",
"git_refs_url": "https://api.github.com/repos/amehlhase316/memoranda/git/refs{/sha}",
"trees_url": "https://api.github.com/repos/amehlhase316/memoranda/git/trees{/sha}",
"statuses_url": "https://api.github.com/repos/amehlhase316/memoranda/statuses/{sha}",
"languages_url": "https://api.github.com/repos/amehlhase316/memoranda/languages",
"stargazers_url": "https://api.github.com/repos/amehlhase316/memoranda/stargazers",
"contributors_url": "https://api.github.com/repos/amehlhase316/memoranda/contributors",
"subscribers_url": "https://api.github.com/repos/amehlhase316/memoranda/subscribers",
"subscription_url": "https://api.github.com/repos/amehlhase316/memoranda/subscription",
"commits_url": "https://api.github.com/repos/amehlhase316/memoranda/commits{/sha}",
"git_commits_url": "https://api.github.com/repos/amehlhase316/memoranda/git/commits{/sha}",
"comments_url": "https://api.github.com/repos/amehlhase316/memoranda/comments{/number}",
"issue_comment_url": "https://api.github.com/repos/amehlhase316/memoranda/issues/comments{/number}",
"contents_url": "https://api.github.com/repos/amehlhase316/memoranda/contents/{+path}",
"compare_url": "https://api.github.com/repos/amehlhase316/memoranda/compare/{base}...{head}",
"merges_url": "https://api.github.com/repos/amehlhase316/memoranda/merges",
"archive_url": "https://api.github.com/repos/amehlhase316/memoranda/{archive_format}{/ref}",
"downloads_url": "https://api.github.com/repos/amehlhase316/memoranda/downloads",
"issues_url": "https://api.github.com/repos/amehlhase316/memoranda/issues{/number}",
"pulls_url": "https://api.github.com/repos/amehlhase316/memoranda/pulls{/number}",
"milestones_url": "https://api.github.com/repos/amehlhase316/memoranda/milestones{/number}",
"notifications_url": "https://api.github.com/repos/amehlhase316/memoranda/notifications{?since,all,participating}",
"labels_url": "https://api.github.com/repos/amehlhase316/memoranda/labels{/name}",
"releases_url": "https://api.github.com/repos/amehlhase316/memoranda/releases{/id}",
"deployments_url": "https://api.github.com/repos/amehlhase316/memoranda/deployments",
"created_at": "2019-01-07T19:27:08Z",
"updated_at": "2024-03-18T17:17:51Z",
"pushed_at": "2024-01-16T16:50:27Z",
"git_url": "git://github.com/amehlhase316/memoranda.git",
"ssh_url": "git@github.com:amehlhase316/memoranda.git",
"clone_url": "https://github.com/amehlhase316/memoranda.git",
"svn_url": "https://github.com/amehlhase316/memoranda",
"homepage": null,
"size": 4290,
"stargazers_count": 6,
"watchers_count": 6,
"language": "Java",
"has_issues": true,
"has_projects": true,
"has_downloads": true,
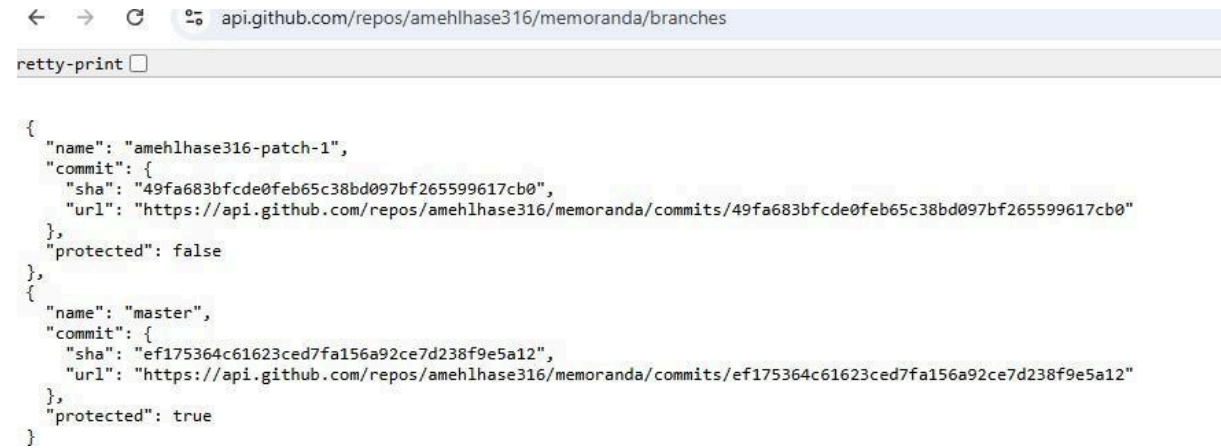"has_wiki": true,
"has_pages": false,
"has_discussions": false

Getting all commits for the default branch
https://api.github.com/repos/amehlhase316/memoranda/commits

api.github.com/repos/amehlhase316/memoranda/commits

Pretty-print ☐

[
  {
    "sha": "ef175364c61623ced7fa156a92ce7d238f9e5a12",
    "node_id": "C_kwDOCc3JOtoAKGVmMTc1MzY0YzYxNjIzY2VkN2ZhMTU2YTkyY2U3ZDIzOGY5ZTVhMTI",
    "commit": {
      "author": {
        "name": "amehlhase316",
        "email": "46384989+amehlhase316@users.noreply.github.com",
        "date": "2023-08-22T15:13:39Z"
      },
      "committer": {
        "name": "GitHub",
        "email": "noreply@github.com",
        "date": "2023-08-22T15:13:39Z"
      },
      "message": "Update QualityPolicy.md\n\nChanges to when to start which part",
      "tree": {
        "sha": "5fc7b01b97e1bef05e88729093b9e9e7d7ccb37e",
        "url": "https://api.github.com/repos/amehlhase316/memoranda/git/trees/5fc7b01b97e1bef05e88729093b9e9e7d7ccb37e"
      },
      "url": "https://api.github.com/repos/amehlhase316/memoranda/git/commits/ef175364c61623ced7fa156a92ce7d238f9e5a12",
      "comment_count": 0,
      "verification": {
        "verified": true,
        "reason": "valid",
        "signature": "-----BEGIN PGP SIGNATURE-----
\n\nwsBcBAABCAAQBQJk5NCjCRBK7hj4Ov3rIwAAMXkIAH42Cyny4wZ2tVJkiuY5iG1y\nWKk0qkfzgeZgQU0Iy2/o35FF4DpkC6x6CtrQFmfQeHpxg5K+6k0yHn2cc/NsEloU\ncrb98zhcHiKtaPQI1nhscJPwb
nGZrD3PS5h+KG7oUOBLZGDQ2\ngqWKs47Gm+teoVGnr3lZ3OADID+1NtK2GHAOWmjXvYiQb0j9lDDxp2/C2ZMWRcbl\nc/X6OnSLpBLUruiAhjRPBMaMVpNZqKGqPtdp2OGDQSy1ogCqwTVTAbF0jBjfWjGk\ns7j
100vaZilbun1TOwxCNHmPXcjr9L78+G4C6MiD3ZpE+JA0=\n=4cs8\n-----END PGP SIGNATURE-----\n",
        "payload": "tree 5fc7b01b97e1bef05e88729093b9e9e7d7ccb37e\nparent b4815733746040911b3720d1a87d48cada9b9e04\nauthor amehlhase316
<46384989+amehlhase316@users.noreply.github.com> 1692717219 -0700\ncommitter GitHub <noreply@github.com> 1692717219 -0700\n\nUpdate QualityPolicy.md\n\nChanges t
which part"
      }
    },
    "url": "https://api.github.com/repos/amehlhase316/memoranda/commits/ef175364c61623ced7fa156a92ce7d238f9e5a12",
    "html_url": "https://github.com/amehlhase316/memoranda/commit/ef175364c61623ced7fa156a92ce7d238f9e5a12",
    "comments_url": "https://api.github.com/repos/amehlhase316/memoranda/commits/ef175364c61623ced7fa156a92ce7d238f9e5a12/comments",
    "author": {
      "login": "amehlhase316",
      "id": 46384989,
      "node_id": "MDQ6VXNlcjQ2Mzg0OTg5",
      "avatar_url": "https://avatars.githubusercontent.com/u/46384989?v=4",
      "gravatar_id": "",
      "url": "https://api.github.com/users/amehlhase316",
      "html_url": "https://github.com/amehlhase316",
      "followers_url": "https://api.github.com/users/amehlhase316/followers",
      "following_url": "https://api.github.com/users/amehlhase316/following{/other_user}",
      "gists_url": "https://api.github.com/users/amehlhase316/gists{/gist_id}",
      "starred_url": "https://api.github.com/users/amehlhase316/starred{/owner}{/repo}",
      "subscriptions_url": "https://api.github.com/users/amehlhase316/subscriptions",
      "organizations_url": "https://api.github.com/users/amehlhase316/orgs",
      "repos_url": "https://api.github.com/users/amehlhase316/repos",
      "events_url": "https://api.github.com/users/amehlhase316/events{/privacy}",
      "received_events_url": "https://api.github.com/users/amehlhase316/received_events",
      "type": "User",
      "user_view_type": "public",
      "site_admin": false
    },
    "committer": {
      "login": "web-flow",
      "id": 19864447,
      "node_id": "MDQ6VXNlcjE5ODY0NDQ3",
      "avatar_url": "https://avatars.githubusercontent.com/u/19864447?v=4",
      "gravatar_id": "",
      "url": "https://api.github.com/users/web-flow",
      "html_url": "https://github.com/web-flow",
      "followers_url": "https://api.github.com/users/web-flow/followers",
      "following_url": "https://api.github.com/users/web-flow/following{/other_user}",
      "gists_url": "https://api.github.com/users/web-flow/gists{/gist_id}",
      "starred_url": "https://api.github.com/users/web-flow/starred{/owner}{/repo}",
      "subscriptions_url": "https://api.github.com/users/web-flow/subscriptions",
      "organizations_url": "https://api.github.com/users/web-flow/orgs",
      "repos_url": "https://api.github.com/users/web-flow/repos",
      "events_url": "https://api.github.com/users/web-flow/events{/privacy}",
      "received_events_url": "https://api.github.com/users/web-flow/received_events",
      "type": "User",
      "user_view_type": "public",
      "site_admin": false
    },
    "parents": [
      {
        "sha": "b4815733746040911b3720d1a87d48cada9b9e04",
        "url": "https://api.github.com/repos/amehlhase316/memoranda/commits/b4815733746040911b3720d1a87d48cada9b9e04",
        "html_url": "https://github.com/amehlhase316/memoranda/commit/b4815733746040911b3720d1a87d48cada9b9e04"

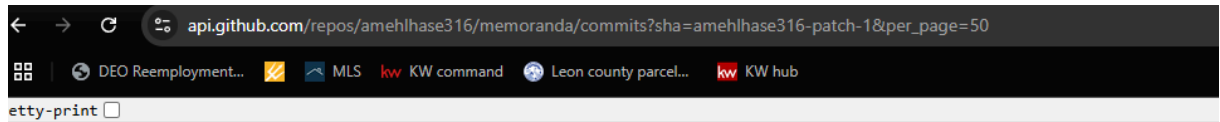To know the branches in the repo

retty-print ☐

```json
{
  "name": "amehlhase316-patch-1",
  "commit": {
    "sha": "49fa683bfcde0feb65c38bd097bf265599617cb0",
    "url": "https://api.github.com/repos/amehlhase316/memoranda/commits/49fa683bfcde0feb65c38bd097bf265599617cb0"
  },
  "protected": false
},
{
  "name": "master",
  "commit": {
    "sha": "ef175364c61623ced7fa156a92ce7d238f9e5a12",
    "url": "https://api.github.com/repos/amehlhase316/memoranda/commits/ef175364c61623ced7fa156a92ce7d238f9e5a12"
  },
  "protected": true
}
```

Now we can use query parameters to filter results
Using
https://api.github.com/repos/amehlhase316/memoranda/commits?sha=amehlhase316-patch-1&per_page=50

etty-print ☐

```
{
  "sha": "49fa683bfcde0feb65c38bd097bf265599617cb0",
  "node_id": "C_kwDOCc3JOtoAKDQ5ZmE2ODNiZmNkZTBmZWI2NWMzOGJkMDk3YmYyNjU1OTk2MTdjYjA",
  "commit": {
    "author": {
      "name": "amehlhase316",
      "email": "46384989+amehlhase316@users.noreply.github.com",
      "date": "2023-08-22T14:49:24Z"
    },
    "committer": {
      "name": "GitHub",
      "email": "noreply@github.com",
      "date": "2023-08-22T14:49:24Z"
    },
    "message": "Update DeliverableX.md\n\nMade checklist optional",
    "tree": {
      "sha": "7735c5477271fae444e7cd1ba6f760077c832e33",
      "url": "https://api.github.com/repos/amehlhase316/memoranda/git/trees/7735c5477271fae444e7cd1ba6f760077c832e33"
    },
    "url": "https://api.github.com/repos/amehlhase316/memoranda/git/commits/49fa683bfcde0feb65c38bd097bf265599617cb0",
    "comment_count": 0,
    "verification": {
      "verified": true,
      "reason": "valid",
      "signature": "-----BEGIN PGP SIGNATURE-----
\nwsBcBAABCAAQBQJk5Mr0CRBK7hj4Ov3rIwAAjAEIAIkEwgaRkrQRd0JsDUhup/ze\nTg8aeCFEiSEkNdY9C//dK/Cogwg5Q3H02+wxFhQ+rIAtWBQgmSeDSuPJl4gHA3oO\ni
XGcO5BDp7Uv4DULsV/Id/360pGBNncJBOz3Yssc=\n=2yj6\n-----END PGP SIGNATURE-----\n",
      "payload": "tree 7735c5477271fae444e7cd1ba6f760077c832e33\nparent 25c65761c428ea91f640523ddce7de708c40238f\nauthor amehlhase316 <
      "verified_at": "2024-01-16T19:59:59Z"
    }
  },
  "url": "https://api.github.com/repos/amehlhase316/memoranda/commits/49fa683bfcde0feb65c38bd097bf265599617cb0",
  "html_url": "https://github.com/amehlhase316/memoranda/commit/49fa683bfcde0feb65c38bd097bf265599617cb0",
  "comments_url": "https://api.github.com/repos/amehlhase316/memoranda/commits/49fa683bfcde0feb65c38bd097bf265599617cb0/comments",
  "author": {
    "login": "amehlhase316",
    "id": 46384989,
    "node_id": "MDQ6VXNlcjQ2Mzg0OTg5",
    "avatar_url": "https://avatars.githubusercontent.com/u/46384989?v=4",
    "gravatar_id": "",
    "url": "https://api.github.com/users/amehlhase316",
    "html_url": "https://github.com/amehlhase316",
    "followers_url": "https://api.github.com/users/amehlhase316/followers",
    "following_url": "https://api.github.com/users/amehlhase316/following{/other_user}",
    "gists_url": "https://api.github.com/users/amehlhase316/gists{/gist_id}",
    "starred_url": "https://api.github.com/users/amehlhase316/starred{/owner}{/repo}",
    "subscriptions_url": "https://api.github.com/users/amehlhase316/subscriptions",
    "organizations_url": "https://api.github.com/users/amehlhase316/orgs",
    "repos_url": "https://api.github.com/users/amehlhase316/repos",
    "events_url": "https://api.github.com/users/amehlhase316/events{/privacy}",
    "received_events_url": "https://api.github.com/users/amehlhase316/received_events",
    "type": "User",
    "user_view_type": "public",
    "site_admin": false
  },
  "committer": {
    "login": "web-flow",
    "id": 19864447,
    "node_id": "MDQ6VXNlcjE5ODY0NDQ3",
    "avatar_url": "https://avatars.githubusercontent.com/u/19864447?v=4",
    "gravatar_id": "",
    "url": "https://api.github.com/users/web-flow",
    "html_url": "https://github.com/web-flow",
    "followers_url": "https://api.github.com/users/web-flow/followers",
    "following_url": "https://api.github.com/users/web-flow/following{/other_user}",
    "gists_url": "https://api.github.com/users/web-flow/gists{/gist_id}",
    "starred_url": "https://api.github.com/users/web-flow/starred{/owner}{/repo}",
    "subscriptions_url": "https://api.github.com/users/web-flow/subscriptions",
    "organizations_url": "https://api.github.com/users/web-flow/orgs",
    "repos_url": "https://api.github.com/users/web-flow/repos",
    "events_url": "https://api.github.com/users/web-flow/events{/privacy}",
    "received_events_url": "https://api.github.com/users/web-flow/received_events",
    "type": "User",
    "user_view_type": "public",
    "site_admin": false
  },
  "parents": [
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      "sha": "25c65761c428ea91f640523ddce7de708c40238f",
      "url": "https://api.github.com/repos/amehlhase316/memoranda/commits/25c65761c428ea91f640523ddce7de708c40238f",
      "html_url": "https://github.com/amehlhase316/memoranda/commit/25c65761c428ea91f640523ddce7de708c40238f"
    }
```
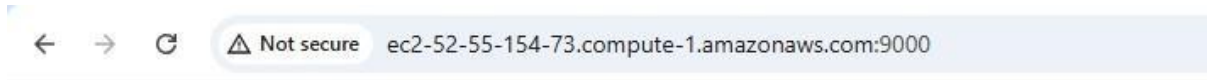
API call that includes issues
https://api.github.com/repos/amehlhase316/memoranda/issues

```
←  →  C    api.github.com/repos/amehlhase316/memoranda/issues                          ☆  Σ
Pretty-print ☐

{
  "url": "https://api.github.com/repos/amehlhase316/memoranda/issues/41",
  "repository_url": "https://api.github.com/repos/amehlhase316/memoranda",
  "labels_url": "https://api.github.com/repos/amehlhase316/memoranda/issues/41/labels{/name}",
  "comments_url": "https://api.github.com/repos/amehlhase316/memoranda/issues/41/comments",
  "events_url": "https://api.github.com/repos/amehlhase316/memoranda/issues/41/events",
  "html_url": "https://github.com/amehlhase316/memoranda/pull/41",
  "id": 2084427405,
  "node_id": "PR_kwDOCc3JOs5kOB-k",
  "number": 41,
  "title": " Optimize Calendar Rendering",
  "user": {
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    "id": 156039343,
    "node_id": "U_kgDOCUz4rw",
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    "gravatar_id": "",
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    "html_url": "https://github.com/RiveraWA04",
    "followers_url": "https://api.github.com/users/RiveraWA04/followers",
    "following_url": "https://api.github.com/users/RiveraWA04/following{/other_user}",
    "gists_url": "https://api.github.com/users/RiveraWA04/gists{/gist_id}",
    "starred_url": "https://api.github.com/users/RiveraWA04/starred{/owner}{/repo}",
    "subscriptions_url": "https://api.github.com/users/RiveraWA04/subscriptions",
    "organizations_url": "https://api.github.com/users/RiveraWA04/orgs",
    "repos_url": "https://api.github.com/users/RiveraWA04/repos",
    "events_url": "https://api.github.com/users/RiveraWA04/events{/privacy}",
    "received_events_url": "https://api.github.com/users/RiveraWA04/received_events",
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    "site_admin": false
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  ],
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  ],
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  "comments": 0,
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  "updated_at": "2024-01-16T16:50:27Z",
  "closed_at": null,
  "author_association": "NONE",
  "active_lock_reason": null,
  "draft": false,
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    "diff_url": "https://github.com/amehlhase316/memoranda/pull/41.diff",
    "patch_url": "https://github.com/amehlhase316/memoranda/pull/41.patch",
    "merged_at": null
  },
  "body": " Optimize Calendar Rendering",
  "closed_by": null,
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    "hooray": 0,
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    "heart": 0,
    "rocket": 0,
    "eyes": 0
  },
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  "performed_via_github_app": null,
  "state_reason": null
},
{
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  "labels_url": "https://api.github.com/repos/amehlhase316/memoranda/issues/40/labels{/name}",
  "comments_url": "https://api.github.com/repos/amehlhase316/memoranda/issues/40/comments",
  "events_url": "https://api.github.com/repos/amehlhase316/memoranda/issues/40/events",
  "html_url": "https://github.com/amehlhase316/memoranda/pull/40",
  "id": 2084410996,
  "node_id": "PR_kwDOCc3JOs5kN-Yq",
  "number": 40,
```

Define **stateless vs. stateful communication**:

- Stateless communication (e.g., HTTP) does not retain information about previous interactions.
- Stateful communication retains context, allowing continuity across interactions.

Task 2:

You can make the following GET requests

- /file/sample.html -- returns the content of the file sample.html
- /json -- returns a json of the /random request
- /random -- returns index.html

File Structure in www (you can use /file/www/FILENAME):

- index.html
- root.html

```
                    *○◆▼◆‡
                          ─◆
Received: null
FINISHED PARSING HEADER

Received: null
FINISHED PARSING HEADER

Received: GET / HTTP/1.1
Received: Host: ec2-52-55-154-73.compute-1.amazonaws.com:9000
Received: Connection: keep-alive
Received: Cache-Control: max-age=0
Received: Upgrade-Insecure-Requests: 1
Received: User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/130.0.0.0 Safari/537.36
Received: Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-
xchange;v=b3;q=0.7
Received: Accept-Encoding: gzip, deflate
Received: Accept-Language: en-US,en;q=0.9,ar;q=0.8
Received:
FINISHED PARSING HEADER

Received: GET / HTTP/1.1
Received: Host: ec2-52-55-154-73.compute-1.amazonaws.com:9000
Received: Connection: keep-alive
Received: Cache-Control: max-age=0
Received: Upgrade-Insecure-Requests: 1
Received: User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/130.0.0.0 Safari/537.36
Received: Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-
xchange;v=b3;q=0.7
Received: Accept-Encoding: gzip, deflate
Received: Accept-Language: en-US,en;q=0.9,ar;q=0.8
Received:
FINISHED PARSING HEADER

Received: GET / HTTP/1.1
Received: Host: ec2-52-55-154-73.compute-1.amazonaws.com:9000
Received: Connection: keep-alive
Received: Cache-Control: max-age=0
Received: Upgrade-Insecure-Requests: 1
Received: User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/130.0.0.0 Safari/537.36
Received: Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-
xchange;v=b3;q=0.7
Received: Accept-Encoding: gzip, deflate
Received: Accept-Language: en-US,en;q=0.9,ar;q=0.8
Received:
FINISHED PARSING HEADER

<───────────> 75% EXECUTING [1h 24m 47s]
> :FunWebServer
```

1.
   - Filter: ip.addr == 52.55.154.73 && tcp.port == 9000
   -      Explanation: This filter captures only the traffic between your primary system and your AWS server (IP 52.55.154.73) on port 9000, allowing you to focus specifically on HTTP communication relevant to your WebServer. This eliminates unrelated network traffic from the capture, making analysis easier.

2.
   -      Description: Clicking the "Random" button sends a request to the server to perform an action (e.g., generating a random number or content) and returns a response with that new data.
   -      Comparison: When you refresh the page, it reloads the entire page content from the server, whereas clicking "Random" may only update a specific part of the page or trigger a specific operation. The traffic in Wireshark will show distinct request-response pairs for each action, with potentially different content or headers.

3.
   -      200 OK: This indicates a successful request where the server has returned the requested resource.
   -      404 Not Found: If you request a page or endpoint that doesn't exist, the server returns this code, indicating it could not locate the specified resource.
   -      Explanation: These response codes are part of HTTP's status protocol, which helps understand the outcome of each request, identifying issues or confirming successful communication.

4.
   -      200 OK: Seen when a request to a valid URL is successful, indicating that the server has processed and returned the expected resource.
   -      404 Not Found: Occurs when you try to access a non-existent page or incorrect URL on the server. The server responds with this code, indicating it cannot find the requested resource.
   -      Explanation: Each HTTP response code provides feedback on request status, which aids in understanding server behavior and debugging requests.

5.   Yes, in the Wireshark capture, you can locate the "Data" section of the server response. This area contains the actual content sent back by the server, such as HTML, JSON, or other data, depending on the request made. It shows the information transmitted to render the requested page or resource.

6.
 HTTPS is more common because it encrypts data exchanged between client and server, providing a secure communication channel. This encryption prevents third parties from intercepting or tampering with the transmitted data, which is crucial for protecting sensitive information. HTTP, in contrast, transmits data in plain text, making it vulnerable to interception.

7.
   The server listens on port 9000 for HTTP requests in this setup.
   -      Explanation: Port 9000 is a non-standard port for HTTP, as HTTP typically uses port 80 and HTTPS uses port 443. While custom applications often use ports like 9000, 80 and 443 are more common for web traffic.

8.
Each request from your primary system to the WebServer on AWS uses a dynamically assigned ephemeral port on your local machine. These ports are usually in the range of 49152–65535 and are assigned by the operating system for outgoing connections.

2.4

1.
Answer: The URL to access the main page is: http://52.55.154.73
This URL allows you to reach the Java WebServer via nginx on port 80, without specifying port 9000 directly.

2.
   -      Answer: The traffic is now directed to port 80, the standard HTTP port, which differs from the previous port 9000. This change is expected and correct, as nginx is configured to forward requests from port 80 to the Java WebServer on port 9000.

3.
   -      Answer: It is still using HTTP. The configuration here involves standard HTTP traffic because we have not set up SSL/TLS certificates, which are necessary to enable HTTPS. HTTP remains unencrypted, while HTTPS requires additional setup with certificates for secure communication.

4.
   -      Answer: Yes, you could now adjust AWS security settings (Security Groups) to only allow traffic through port 80, blocking direct access to port 9000. This change enhances security by limiting external access to nginx, which then forwards traffic to the Java WebServer.

5.

You can make the following GET requests

- /file/sample.html -- returns the content of the file sample.html
- /json -- returns a json of the /random request
- /random -- returns index.html

File Structure in www (you can use /file/www/FILENAME):

- index.html
- root.html


```
> :FunWebServer
^[^C[ec2-user@ip-172-31-90-253 WebServer]$ sudo service nginx restart
Redirecting to /bin/systemctl restart nginx.service
[ec2-user@ip-172-31-90-253 WebServer]$ gradle FunWebServer

> Task :FunWebServer
Received: GET / HTTP/1.0
Received: Host: localhost:9000
Received: Connection: close
Received: Upgrade-Insecure-Requests: 1
Received: User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like
dg/130.0.0.0
Received: Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,
xchange;v=b3;q=0.7
Received: Accept-Encoding: gzip, deflate
Received: Accept-Language: en-US,en;q=0.9
Received:
FINISHED PARSING HEADER

<=========----> 75% EXECUTING [1m 14s]
> :FunWebServer
```