

## Arvados Epics - Story #9053

### Port API server to Go

04/26/2016 02:35 PM - Tom Clegg

<b>Status:</b> New	<b>Start date:</b> 04/01/2021
<b>Priority:</b> Normal	<b>Due date:</b> 09/30/2021
<b>Assigned To:</b>	<b>% Done:</b> 0%
<b>Category:</b>	<b>Estimated time:</b> 0.00 hour
<b>Target version:</b>	
<b>Description</b>	
<b>Background</b>	
We want to replace our Rails server with a Go server. However:	
<ul style="list-style-type: none"><li>• Porting the entire code base to Go, and cutting over everything at once, seems unlikely to go smoothly.</li><li>• In the time it takes to port, the Rails functionality will change. Keeping them in sync will be challenging.</li><li>• Porting the functionality and the corresponding tests at once is likely to result in unnoticed errors and omissions.</li></ul>	
<b>Development approach</b>	
The first version of the Go service is just an HTTP proxy: it forwards each request to a configured upstream Rails API server. Nginx configs in the install docs (and existing deployments) are updated to send API requests to this new server. <a href="#">#13497</a>	
Next, port <i>some</i> functional/integration tests from the Rails server code base to the Go code base. These tests will pass because Go server is already proxying the relevant requests to the Rails server. (Mocking won't be portable, though!)	
Each test that has been ported to Go can be skipped in the Rails code base.	
When enough Rails tests are skipped to remove an API from Rails <i>without making the remaining tests fail</i> , that API can be ported to Go. The relevant tests are already in place in the Go code base, so they should be a reasonable way to confirm that the new Go port is correct.	
Repeat until all tests are ported to Go, and they pass even with the proxy-to-Rails feature removed.	
<b>Caveats / TBD</b>	
Rails tests are fast (at least faster than Workbench tests, for example) because they use transaction rollback to reset database state. This option won't be available when tests run in a different (Go) process. Practically, this means the Go tests will need to use the "database reset" API, and they will run slowly.	
<ul style="list-style-type: none"><li>• Perhaps we can start by implementing "database reset" in Go? It will have direct access to the Postgres database, and it could take a snapshot of the database at startup instead of reading the Rails YAML fixtures.</li><li>• Is there a better way around this?</li></ul>	
<b>Related issues:</b>	
Related to Arvados - Story #9502: [API] Update permissions cache as needed af...	<b>Resolved</b> 06/28/2016
Related to Arvados - Feature #13493: Federated record retrieval	<b>Resolved</b> 06/28/2018
Related to Arvados - Story #13995: [Controller] Port "collection update" func...	<b>New</b>
Related to Arvados - Story #13997: [Controller] Port "collection update" API ...	<b>New</b>
Blocked by Arvados - Story #13497: [API] Initial "arvados-controller" server ...	<b>Resolved</b> 06/15/2018

#### History

#1 - 04/26/2016 03:05 PM - Tom Clegg

- Description updated

#2 - 04/26/2016 03:08 PM - Tom Clegg

- Description updated

**#3 - 05/16/2018 04:32 PM - Tom Clegg**

- Related to Feature #13493: Federated record retrieval added

**#4 - 05/16/2018 07:08 PM - Tom Clegg**

- Subject changed from [API] Deployable Go API server that proxies unimplemented APIs to Rails to [Epic] Port APIs to Go  
- Description updated

**#5 - 05/16/2018 07:08 PM - Tom Clegg**

- Blocked by Story #13497: [API] Initial "arvados-controller" server that proxies API endpoints to Rails server added

**#6 - 08/08/2018 02:45 PM - Tom Clegg**

- Description updated

**#7 - 08/08/2018 03:19 PM - Tom Clegg**

- Related to Story #13995: [Controller] Port "collection update" functional tests from Rails API to controller test suite added

**#8 - 08/08/2018 04:01 PM - Tom Clegg**

- Related to Story #13997: [Controller] Port "collection update" API from Rails added

**#9 - 11/14/2018 08:00 PM - Tom Morris**

- Release deleted (12)

**#10 - 01/18/2020 01:00 AM - Peter Amstutz**

- Subject changed from [Epic] Port APIs to Go to Port API server to Go  
- Project changed from Arvados to Arvados Epics

**#11 - 01/18/2020 01:02 AM - Peter Amstutz**

- Start date set to 08/01/2020  
- Due date set to 02/01/2021

**#12 - 01/18/2020 01:04 AM - Peter Amstutz**

- Release set to 28

**#13 - 04/01/2020 05:24 PM - Peter Amstutz**

- Start date changed from 08/01/2020 to 09/01/2020  
- Due date changed from 02/01/2021 to 03/01/2021

**#14 - 04/01/2020 05:25 PM - Peter Amstutz**

- Start date changed from 09/01/2020 to 10/01/2020  
- Due date changed from 03/01/2021 to 04/01/2021

**#15 - 06/23/2020 02:10 PM - Peter Amstutz**

- Start date changed from 10/01/2020 to 02/01/2021  
- Due date changed from 04/01/2021 to 07/30/2021

**#16 - 09/21/2020 03:12 PM - Peter Amstutz**

- Start date changed from 02/01/2021 to 04/01/2021  
- Due date changed from 07/30/2021 to 09/30/2021