NDS Labs Workbench x Clowder integration

As part of CDDR project, we are revisiting the old "tool launcher" concept for new version of workbench.

It is expected that there is a 1:1 Clowder/WB pairing and don't currently plan to support multiple workbenches for a single Clowder. Current proposed architecture involves development on both workbench and Clowder side:

CLOWDER

- · Implement API actions that can be queued for workbench
 - Send dataset 123 to workbench
 - Start container foo
 - Stop container bar
 - ° ...
 - $^{\circ}~$ EST: 4 days for implementing API queue service
 - 2 days for api endpoints to call service
- · Basic workbench management page for users to see what they started or start new ones
 - Is this necessary or can workbench UI work? for short term?
 - ° Request to create new dataset from some Workbench directory?
 - Connect to running container
 - ° EST: 1 week for basic UI to call API actions

NDS LABS

- Move API from Go to Python Flask for easier development
- Implement new API endpoints needed by Clowder (not sure if some of these exist)
 get /containers/:id return list of containers the user has running on WB
 - ...
 - EST: 2 days (see above)
- Implement sidecar shovel container
 - Mounts the same data volumes as the container(s?) it is associated with
 - Has a heartbeat service to ping RabbitMQ queue (or potentially Clowder)
 - if send dataset action, either download from Clowder and copy into mounted volume, or copy/symlink from locally mounted disk to analysis folder
 - can start/stop containers
 - EST: 1-2 weeks

API Endpoints

Workbench (Go)

| endpoint | description |
|---------------|----------------------------------|
| authenticate | get token with 200 |
| check_token | |
| refresh_token | |
| services | get array of service definitions |
| | add a service |
| accounts | get list of accounts |
| | add an account |
| stacks | get list of stacks |
| | add a stack |
| logs/stackid | get log for stack |
| start/stackid | start and stop existing stack |
| stop/stackid | |
| configs | service configuration options |

Clowder

| endpoint | description | |
|------------------------|--|--|
| api/workbench/transfer | queue an action for a remote container (transfer data) | |

| api/workbench/start | |
|---------------------|--|
| api/workbench/stop | |