Launcher Test Plan:

GitHub Repo: https://github.com/BioDepot/biodepot-launcher

This is a test plan that outlines what steps should be taken by the reader to test features that are part of the Launcher. The Launcher will be tested in Windows, Ubuntu, and Mac (M-series). Ensuring the Launcher works the same in all of these operating systems is essential and required for the final release. The test plan will be the same for each operating system.

Follow the steps in each test case listed below. Some test cases will have dependencies, like having or NOT having specific software installed. For the dependencies, the test cases start with no dependencies being met. Dependencies are then gradually installed or downloaded in accordance with their necessity. Keep track of any personal comments, discrepancies, malfunctions, bugs, or errors related to each test case in a separate document.

Test Cases

1. **Test**: Have pop-up notifying that Docker is required.
   Dependencies: Docker (not installed), AWS CLI (doesn't matter), Docker-Machine (doesn't matter), Bwb (doesn't matter), launcher-utils (doesn't matter)
   Description: A pop-up will display notifying that Docker needs to be installed. The user shouldn't be able to exit this pop-up by pressing Esc or clicking an X in the top right of the pop-up. The only method of closing this pop-up is by clicking the "Exit" button, which closes the Launcher.

2. **Test**: Have pop-ups notifying that Bwb and launcher-utils are required. The Bwb pop-up shows first, launcher-utils shows second.
   Dependencies: Docker (installed), AWS CLI (doesn't matter), Docker-Machine (doesn't matter), Bwb (not installed), launcher-utils (not installed)
   Description: First, a pop-up will display asking the user to download Bwb. If the user chooses to not download Bwb, they can exit using the appropriate button. If the user chooses to download Bwb, a message will appear stating that Bwb is downloading. During the downloading period, the user should not be able to exit the pop-up by pressing Esc or click an X in the top right of the pop-up. Upon the download finishing, the user will be prompted to close to pop-up. This will bring the user to the next pop-up asking the user to download launcher-utils. If the user chooses to download launcher-utils, a message will appear stating that launcher-utils is downloading. During the downloading period, the user should not be able to exit the pop-up by pressing Esc or click an X in the top right of the pop-up. Upon the download finishing, the user will be prompted to close to pop-up.

3. **Test**: Download the salmon_demo workflow.

Dependencies: Docker (installed), AWS CLI (doesn't matter), Docker-Machine (doesn't matter), Bwb (installed), launcher-utils (installed)
Description: Start the Launcher. The Launcher will start with the "Workflow repository" button selected in the left pane and the "DNA" category selected in the right pane. Select "RNA" in the right pane. There will be several repositories listed in the right pane. Click the "Install Now" button associated with the "salmon_demo" workflow. New text ("Installing") and a spinner should appear, indicating the workflow is downloading. Once a green dot and "Installed" text appears, the workflow will be downloaded. To check that the workflow downloaded, click the "RNA" button under "Installed Workflows" in the left pane. "salmon_demo" should be listed with a green status dot, an "Updated" status, a grayed out documentation button, and a tiny computer icon for launching. To verify that the workflow downloaded correctly, go into the .storage folder (this folder may be hidden by your OS) in the home directory of the Launcher. There should be a file labeled "RNA-salmon_demo". Check that the contents of this file match the associated workflow at the following link:
https://github.com/Biodepot-workflows/launcher-selection/blob/main/hash.txt

4. **Test**: Rebase a workflow.
   Dependencies: Docker (installed), AWS CLI (doesn't matter), Docker-Machine (doesn't matter), Bwb (installed), launcher-utils (installed)
   Description: Place an empty folder in the RNA/salmon_demo folder. Start the Launcher. In the left pane, click on the "RNA" button. The status should be "Rebase". Click the "Rebase" status button and a Warning should pop-up stating the local changes will be lost. Click the "Rebase" button. A spinner should appear and the workflow will update to the current state in the launcher-selection GitHub repo.

5. **Test**: Launch a workflow locally.
   Dependencies: Docker (installed), AWS CLI (doesn't matter), Docker-Machine (doesn't matter), Bwb (installed), launcher-utils (installed)
   Description: Start the launcher. In the left pane, click on the "RNA" button. Click on the tiny computer associated with the salmon_demo. Click the "Browser" button in the pop-up. A spinner should appear, with new text. Following the automatic closing of the pop-up, a browser window will appear with the salmon_demo loaded in Bwb.

6. **Test**: Launch a workflow on GitPod
   Dependencies: Docker (installed), AWS CLI (doesn't matter), Docker-Machine (doesn't matter), Bwb (installed), launcher-utils (installed)
   Description: Start the launcher. In the left pane, click on the "RNA" button. Click on the tiny computer associated with the salmon_demo. Click the "GitPod" button in the pop-up. The pop-up will close and a browser window will appear with GitPod. This is the end of the test case.

7. **Test**: Fail to launch a workflow on AWS

Dependencies: Docker (installed), AWS CLI (not installed), Docker-Machine (doesn't matter), Bwb (installed), launcher-utils (installed)
Description: Start the launcher. In the left pane, click on the "RNA" button. Click on the tiny computer associated with the salmon_demo. Click the "AWS" button in the pop-up. A new pop-up will display telling the user that AWS needs to be installed.

8. **Test**: Launch a workflow on AWS
   Dependencies: Docker (installed), AWS CLI (installed), Docker-Machine (installed), Bwb (installed), launcher-utils (installed)
   Description: Start the launcher. In the left pane, click on the "RNA" button. Click on the tiny computer associated with the salmon_demo. Click the "AWS" button in the pop-up. A new pop-up will display asking the user to select a region and instance type. Select the top most region and the only listed instance type. DO NOT input other variables at this time, use the ones specified. Click the launching button. New text should appear saying that the instance is launching. Waiting for the instance to launch takes anywhere from 3-5 minutes. When the instance launches the salmon_demo workflow will be shown in Bwb in a browser window. To shut off the launched AWS instance (this is only available using docker-machine AFTER the browser window displays), in a terminal, (depending on your OS, you can type docker-machine from anywhere, or you will need to be in the Launcher folder) type "docker-machine ls" and retrieve the name of the instance launched. It will be along the lines of ####-salmon-demo. Next type "docker-machine rm <instance name> -f". Again, type "docker-machine ls" and the instance should be gone.

9. **Test**: Launch the documentation of a workflow.
   Dependencies: Docker (installed), AWS CLI (doesn't matter), Docker-Machine (doesn't matter), Bwb (installed), launcher-utils (installed)
   Description: Start the launcher. In the right pane, select the "RNA" category. Install the GDC_mRNA-multi_dr32chr22 workflow. It will take several minutes to download. Once downloaded, select the "RNA" button in the left pane. Click on the book button and the documentation will open in a new browser window.

10. **Test**: Launch the documentation of Bwb.
    Dependencies: Docker (installed), AWS CLI (doesn't matter), Docker-Machine (doesn't matter), Bwb (installed), launcher-utils (installed)
    Description: Start the launcher. In the left pane, scroll down if necessary, and click the "Bwb Docs" button. A new browser window will open with the Bwb documentation.

11. **Test**: Launch the documentation of GitPod.
    Dependencies: Docker (installed), AWS CLI (doesn't matter), Docker-Machine (doesn't matter), Bwb (installed), launcher-utils (installed)
    Description: Start the launcher. In the left pane, scroll down if necessary, and click the "GitPod Docs" button. A new browser window will open with the GitPod documentation.

12. **Test**: Reload the launcher.
    Dependencies: Docker (installed), AWS CLI (doesn't matter), Docker-Machine (doesn't matter), Bwb (installed), launcher-utils (installed)
    Description: Start the launcher. In the left pane, click the "Reload" button. The launcher should restart.

13. **Test**: Update a workflow.
    Dependencies: Docker (installed), AWS CLI (doesn't matter), Docker-Machine (doesn't matter), Bwb (installed), launcher-utils (installed)
    Description: Make sure that you have salmon_demo installed. In the .storage folder (will be hidden on Ubuntu and Mac) found in the binaries folder when downloading the launcher, there will be a file named RNA-salmon_demo. Open the file in a text editor and place the character 'x' at the end of the string of characters. Open the launcher and click the 'RNA' button under 'Installed Workflows'. The salmon_demo should have a button which says 'Update Available'. Click the 'Update Available' button and then select the 'Update' button that is shown in the pop-up. A spinner should appear and the workflow will update to the current state in the launcher-selection GitHub repo. Once the spinner has vanished, reopen the RNA-salmon-demo file in the .storage folder and verify that the 'x' at the end of the string is no longer present.