

Optimizing your CodeReady Toolchain resource usage

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When you sign up to use CodeReady Toolchain, you get an OpenShift Online account with enough resources to run a basic application. Your OpenShift Online Starter account includes two pods and therefore can accommodate two workspaces in CodeReady Toolchain. This document guides you on how you can optimize your resource usage within CodeReady Toolchain.

Optimizing CodeReady Toolchain resource usage

After creating your first quickstart project, you will now learn to optimize your memory usage in CodeReady Toolchain using the following steps:

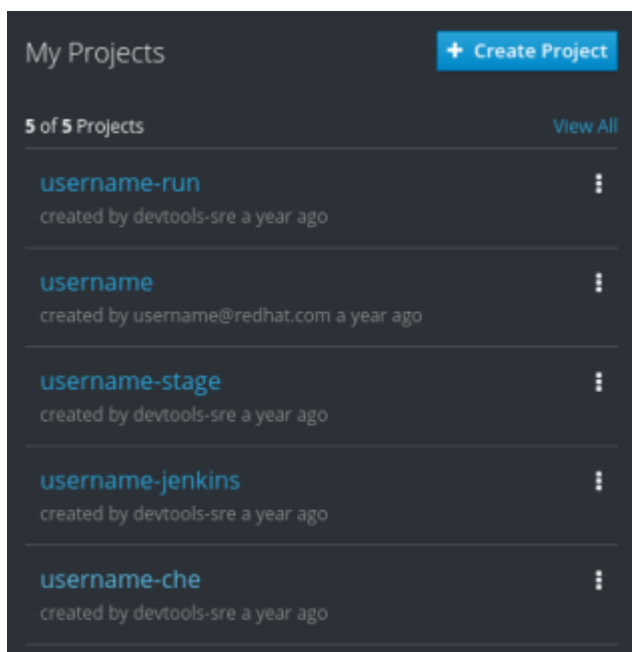
1. Review the resource usage details for your project.
2. Reduce your quickstart project's memory usage and commit the changes.
3. Compare the change in your OpenShift Online memory quota usage.

Chapter 1. Reviewing detailed resource information in OpenShift Online

The memory allowances for each OpenShift pod is 512 MiB. As a result, each application consumes nearly 1 GiB of memory for the **Stage** and **Run** environments.

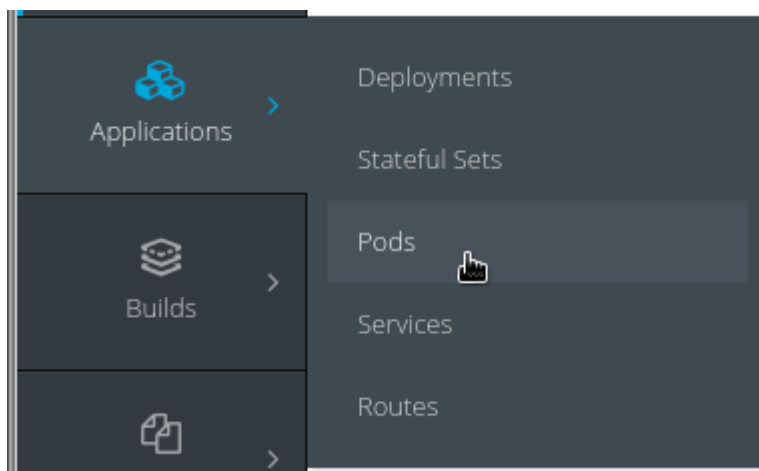
To check your resource information details in OpenShift:

1. In a new browser tab, navigate to the OpenShift Online console at console.starter-us-east-2.openshift.com.
2. From the list of projects at the right side of the page, click **username-run** to see the resources used for the **Run** environment or **username-stage** to see the resources for the **Stage** environment.



See [Viewing projects in OpenShift Online](#) for details about the listed projects.

3. Click [**Applications**] and then select **Pods** in the displayed submenu.



4. The **Pods** page lists your Hello World project pod. Click the project name to see the resource

information for the project.

Name	Status	Containers Ready	Container Restarts	Age
helloworldvertx-3-6t776	Running	1/1	0	16 minutes

5. The **Details** page lists the **Status** of the pod and the container resource information:

Template

Containers

vertx

- Image: [username-stage/booster-mission-runtime](#) 9865eb3 178.2 MIB
- Ports: 8080/TCP (http), 8778/TCP (jolokia), 9779/TCP (prometheus)
- Mount: default-token-l7kqj → /var/run/secrets/kubernetes.io/serviceaccount read-only
- CPU: 20 millicores to 1 core
- Memory: 256 MIB to 512 MIB
- Readiness Probe: GET / on port 8080 (HTTP) 1s timeout
- Liveness Probe: GET / on port 8080 (HTTP) 1s timeout

[Open Java Console](#)

Volumes

default-token-l7kqj

Type: secret (populated by a secret when the pod is created)
Secret: [default-token-l7kqj](#)

[Add Storage to booster-mission-runtime](#) | [Add Config Files to booster-mission-runtime](#)

Use this page to review the memory usage for your CodeReady Toolchain project. Note this information and leave this tab open to compare the resource information after optimizing your memory usage.

Save the details to compare after following the steps in [Reducing project memory usage](#).

Chapter 2. Reducing project memory usage

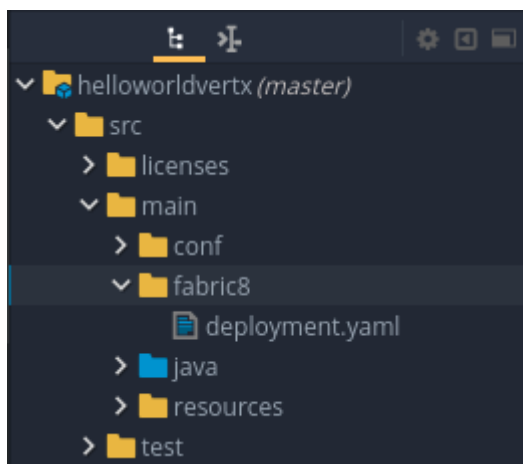
Optimizing memory usage is important when using the Free Tier of OpenShift Online because this tier provides limited memory. Also, each additional project in CodeReady Toolchain requires an additional share of your OpenShift Online resources.

You can optimize your new quickstart to use less memory as follows:

1. Return to your CodeReady Toolchain workspace tab. If you need to reopen the workspace:
 - a. In your CodeReady Toolchain browser tab, click [**Create**] and then [**Codebases**].
 - b. Ensure that the workspace is selected in the drop-down list and click [**Open**] to run your workspace.

NAME	CREATED DATE	LAST COMMIT	WORKSPACES
> username/helloworldvertx	Dec 7, 2018, 2:13:20 PM	Dec 7, 2018, 2:13:23 PM	1fext <input type="button" value="Open"/>

2. In the workspace file explorer panel, double-click your project and navigate to `src > main > fabric8`.



3. Right-click the `fabric8` folder and select **New > File**.
4. Name the new file `deployment.yml` and click [**OK**]. The new file displays in the editor.
5. Copy the contents of the following file to your new YAML file: [deployment.yaml](#).



Spaces are meaningful in YAML files. Ensure that you copy the correct spacing into your YAML file from the link.

6. Use `Ctrl+s` (or `Cmd+s` for macOS) to save your changes.

Chapter 3. Committing and pushing changes to GitHub

After making the required changes to your code, commit and push the modifications to your project GitHub repository.



Before committing your changes, ensure that your project pipeline build is promoted and at the **Rollout to Run** stage.

1. In your Che workspace, click **Git** from the menu bar options and select **Commit** from the displayed options.
2. In the **Commit to repository** dialog box:
 - a. If they are not already, select all the changed and new files to add them to the commit.
 - b. Add a commit message describing your changes.
 - c. Select the **Push committed changes to** check box.
 - d. Click [**Commit**].

When the commit succeeds, the following message displays:

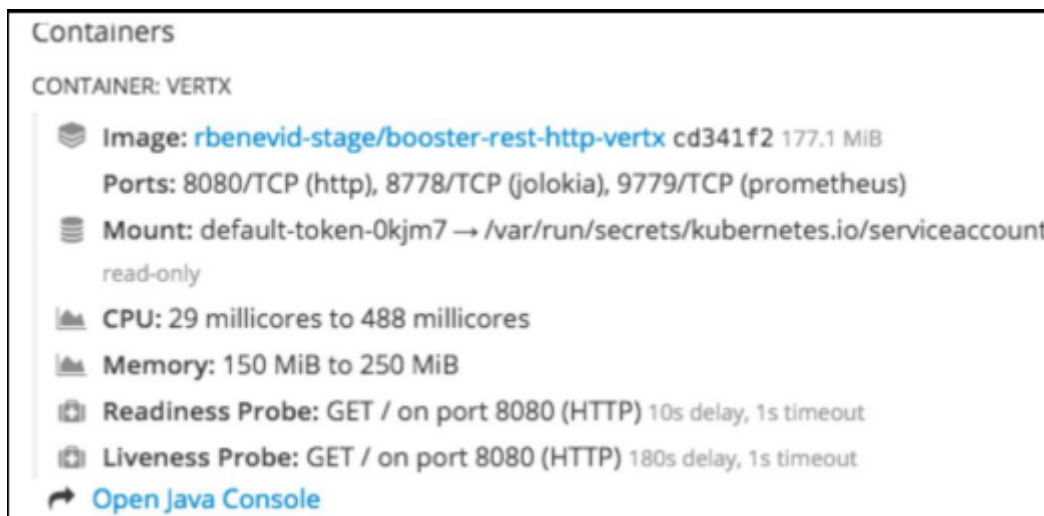


You have now committed your code changes to GitHub.

Chapter 4. Viewing your detailed OpenShift Online quota usage

After committing your changes, view the resource details for your project again in OpenShift Online. Use the following instructions to see these details:

1. Click **Create** and then **Pipelines** to view the new pipeline build. Committing and pushing your new YAML file triggers a new pipeline build for your CodeReady Toolchain project. Allow several minutes for the pipeline build to roll out to **Stage**.
2. After the pipeline build is ready, return to the OpenShift Online console browser tab to review the optimized memory usage for your Hello World project:



3. [Promote the application](#) to the **Run** environment.

You can now compare these details to the details in [Reviewing detailed resource information in OpenShift Online](#) to see the resource usage improvements.

4. You have now completed the task, **Optimize CodeReady Toolchain resource usage**, in the **Test Iteration**. Navigate to the **Plan** tab and ensure that you change the state of the work item to **Closed**.