

Using Artifactory with Substrate

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Introduction

Artifactory is used to access Substrate accounts for artifact management. Here we will go over its integration with Substrate environments; specifically in the context of CodeFresh pipelines.

Artifactory Introduction

Artifactory is a solution for hosting, managing and distributing binaries and artifacts. An artifact is just any item, often a file, produced by the software development process. Artifactory by JFrog is the original universal artifact repository. Initially it was used largely for jar files, although now it can house containers, images and helm charts.

For accessing Artifactory, navigate to <https://epicgames.okta.com> and find the Artifactory 'tile' under your My Apps dashboard (shown below). Clicking this tile should auto redirect you to the Artifactory home page. If after clicking you don't see a Welcome message in the top right, talk to your manager to get you access.

image2021-7-14_13-46-9.png

How to use Artifactory with CodeFresh

Generally speaking, you can use Artifactory along with CodeFresh and/or GitHub Actions. JFrog Artifactory can send a custom webhook to GitHub, which is the source used in Substrate. Simply pushing your image to Artifactory can trigger this chain of actions.



For the purposes of Substrate: Artifactory comprises part of a Substrate environment. It is a replacement for Nexus.

Artifactory uses the concept of 'projects' which are similar (although not the same as) namespaces in other tools. When new Substrate environments are provisioned, new CodeFresh accounts are provisioned, and this then produces Artifactory projects. The projects consist of a set of Artifactory repositories. Connectivity from Artifactory to Codefresh is also fully supported. For specific details, see [Using Artifactory from Codefresh](#).

Connect Artifactory to Substrate

To allow a Substrate cluster to reach Artifactory, carry out the following steps:

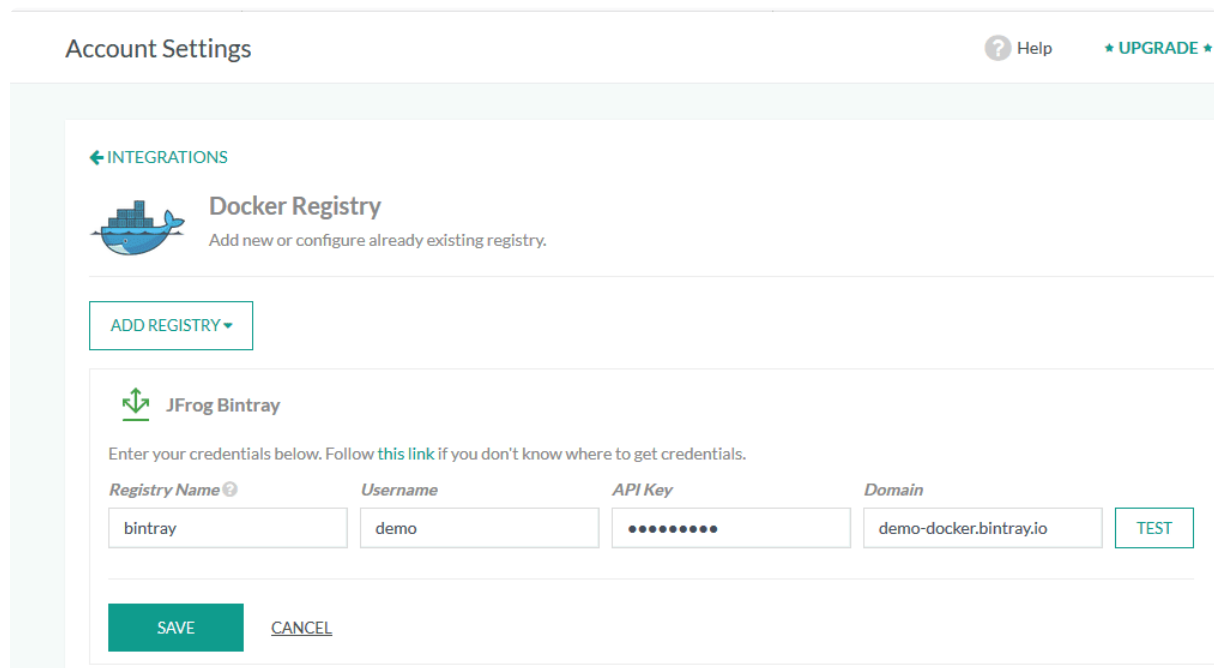
Using the [Substrate proxy \(wiki\)](#), the steps are:

1. Modify the K8s cluster's Terraform to enable connectivity to [artifacts.ol.epicgames.net](#) via the Substrate proxy ([example PR](#))
2. Apply the changes following the procedure detailed in the `substrate/infrastructure` repository ([README for reference](#))

Writing to Artifactory in the CI pipeline

From CodeFresh account settings, you can configure your Docker Registry settings and add your Artifactory Registry. Ensure that you've created an API Key in Artifactory beforehand.

(Bintray is simply the SaaS version of Artifactory. The steps for on-premises Artifactory should be similar).



The screenshot shows the 'Account Settings' page in CodeFresh. At the top right, there are links for 'Help' and 'UPGRADE'. The main section is titled 'INTEGRATIONS' and contains a 'Docker Registry' subsection. Below this, there is an 'ADD REGISTRY' button. The 'JFrog Bintray' integration is shown with a form to enter credentials. The form includes fields for 'Registry Name' (filled with 'bintray'), 'Username' (filled with 'demo'), 'API Key' (masked with dots), and 'Domain' (filled with 'demo-docker.bintray.io'). There is a 'TEST' button next to the domain field. At the bottom of the form are 'SAVE' and 'CANCEL' buttons.

Connecting Bintray to your CodeFresh account

In your *codefresh.yaml*, add the following as a step:

```
pushingTo_jfrog_Registry:
  stage: 'push'
  type: push
  title: jfrog_Pushing To Registry
  candidate: ${MyAppDockerImage}
  tag: ${CF_SHORT_REVISION}
  registry: artifactory
```

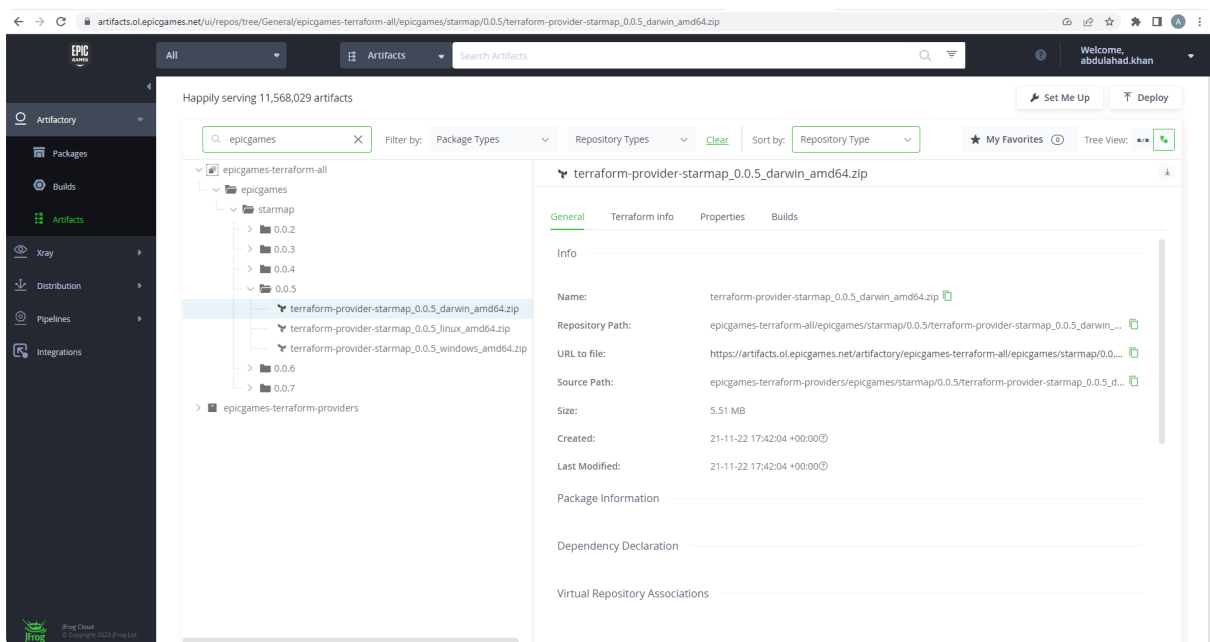
Using the API Key, CodeFresh now has access to push to Artifactory.

Findings Artifacts in the UI

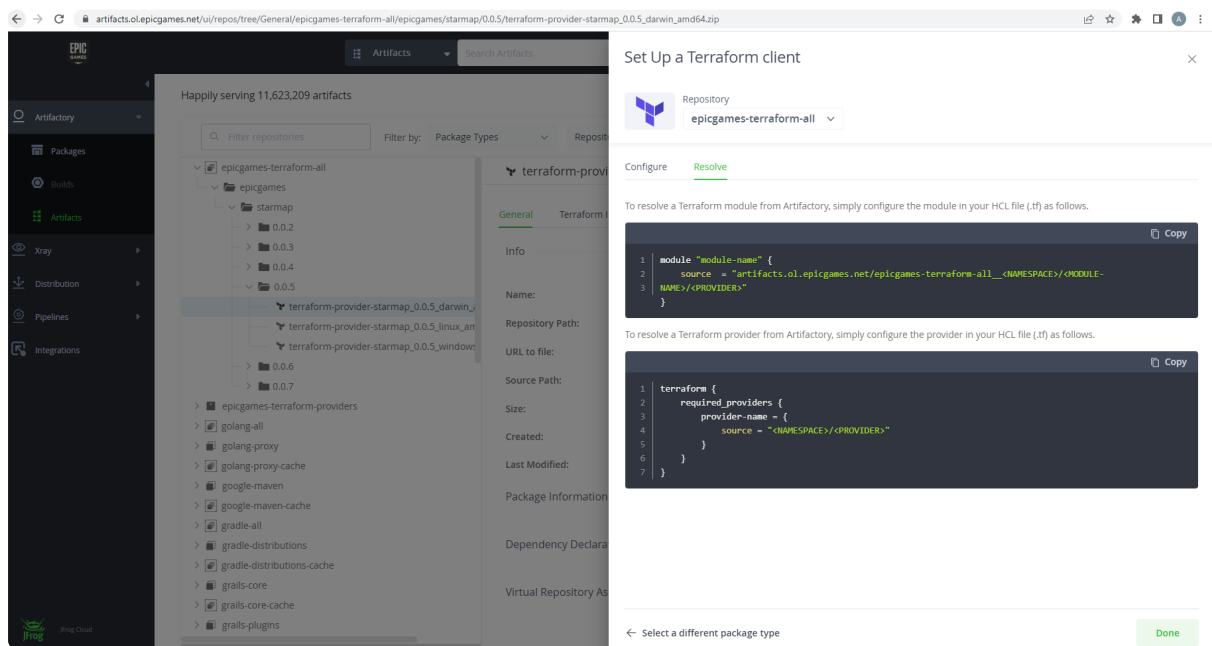
Once the pipeline has run successfully, you can view the pushed image or artifact from within Artifactory.

From the left side, select Artifactory > Artifacts and search for your artifact name (in this case, I searched for 'epicgames').

You can then narrow down to and view an exact file according to the file structure. View details and properties of that file as needed.



You can also set up the artifact to be used directly from within code. For e.g. if the artifact is a Terraform provider, clicking "Set me up" will provide the code to use the artifact in your Terraform modules:



Reading Artifacts from the pipeline

An example of reading an image from Artifactory might look like the following:

```
DownloadNewVersion:
stage: 'Bintray download'
title: Download from Bintray
image: codefresh/cfstep-bintray:master
working_directory: download-example/
environment:
- BINTRAY_COMMAND=d1v
- BINTRAY_ARGS= codefresh-demo/test/cf-demo/v4.0 --unpublished
```

Full reference found here: <https://codefresh.io/blog/deploying-to-jfrog-bintray/>

Where to get help with Artifactory?

Look for the Slack channel *#cloud-ops-support-ext* for technical support.
For access related issues, you may also reach out to *#it-helpdesk-ext*.

Additional Resources

Epic Games Artifactory User Guide

<https://confluence-epicgames.atlassian.net/wiki/display/TeamOnline/Artifactory+User+Guide>.

Artifactory CodeFresh Access

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