

OpenShift Overview

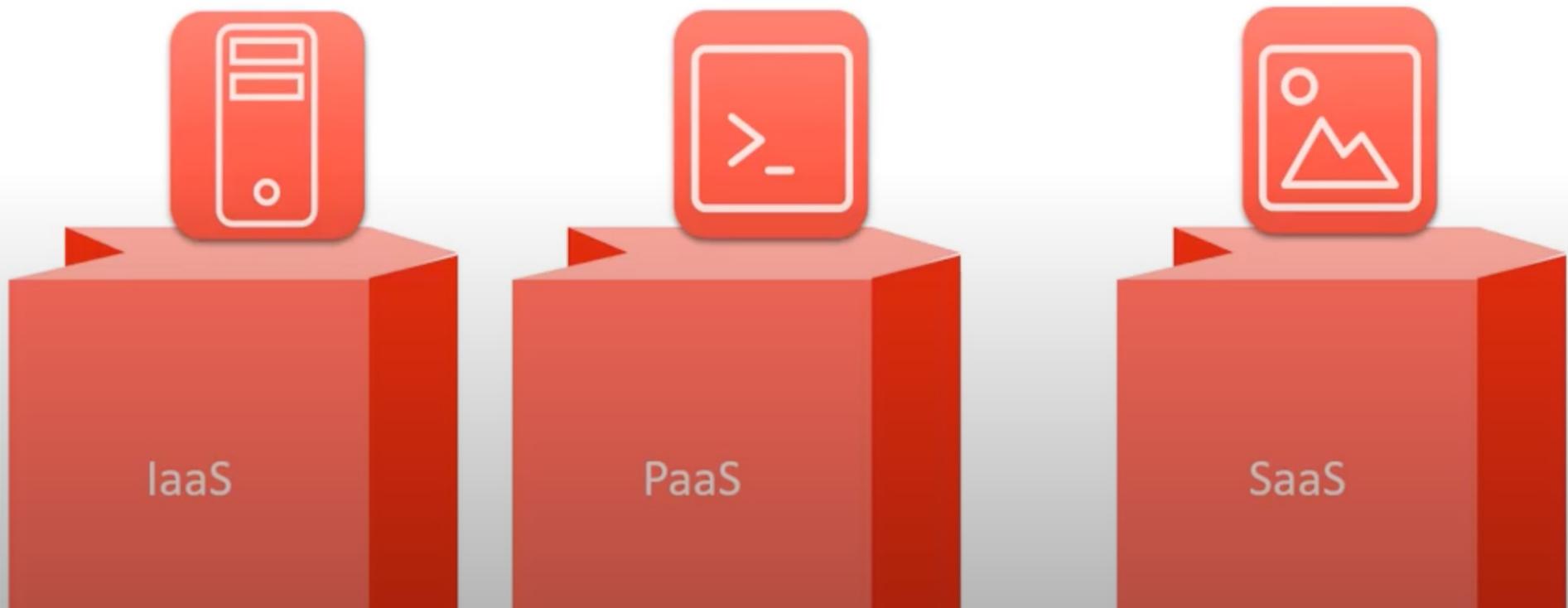


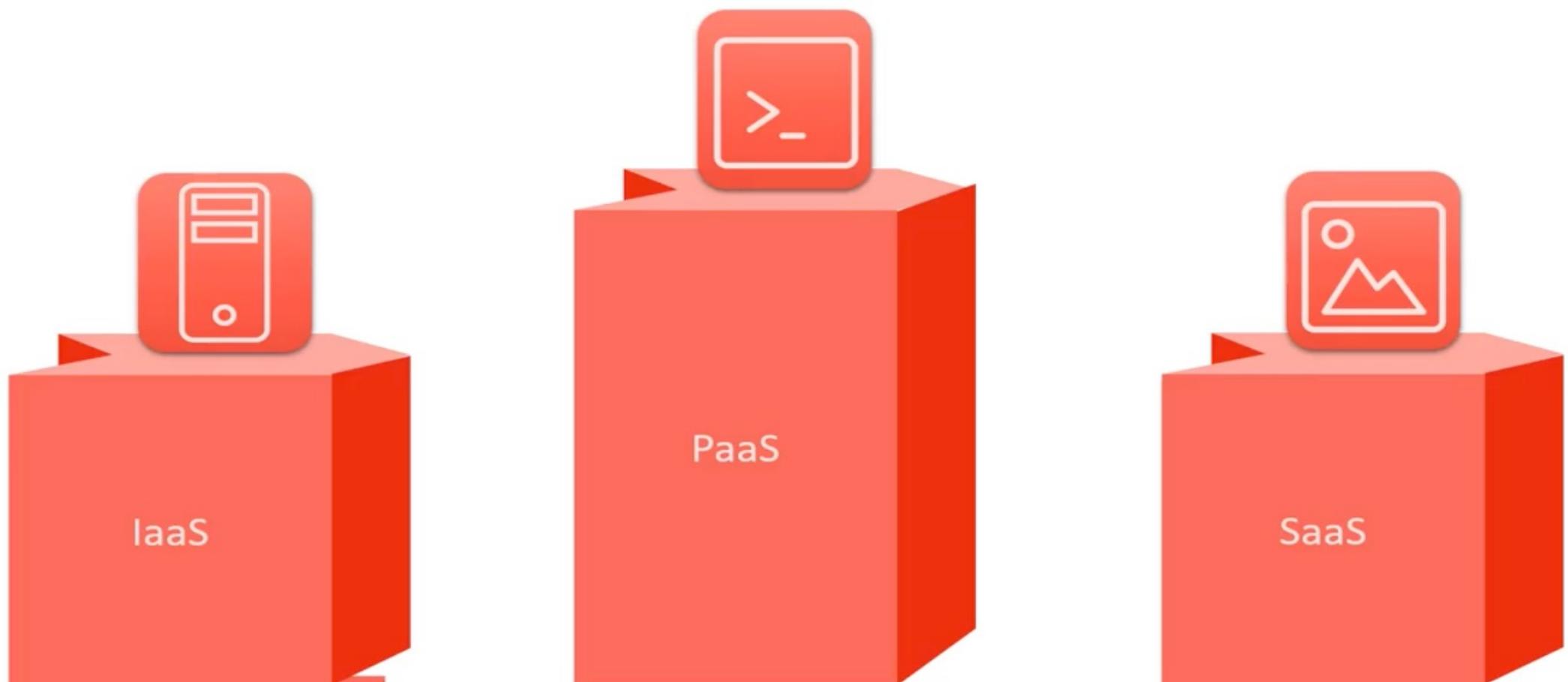
Karan Chaturvedi
Developer Advocate, IBM
Twitter : @ec08karan

Agenda

- What is OpenShift
- OpenShift Components
- Kubernetes VS OpenShift
- OpenShift Functionalities
- What is Operator
- Walkthrough of OpenShift on IBM Cloud
- Demo - How to deploy a sample application on OpenShift Cluster available on IBM Cloud





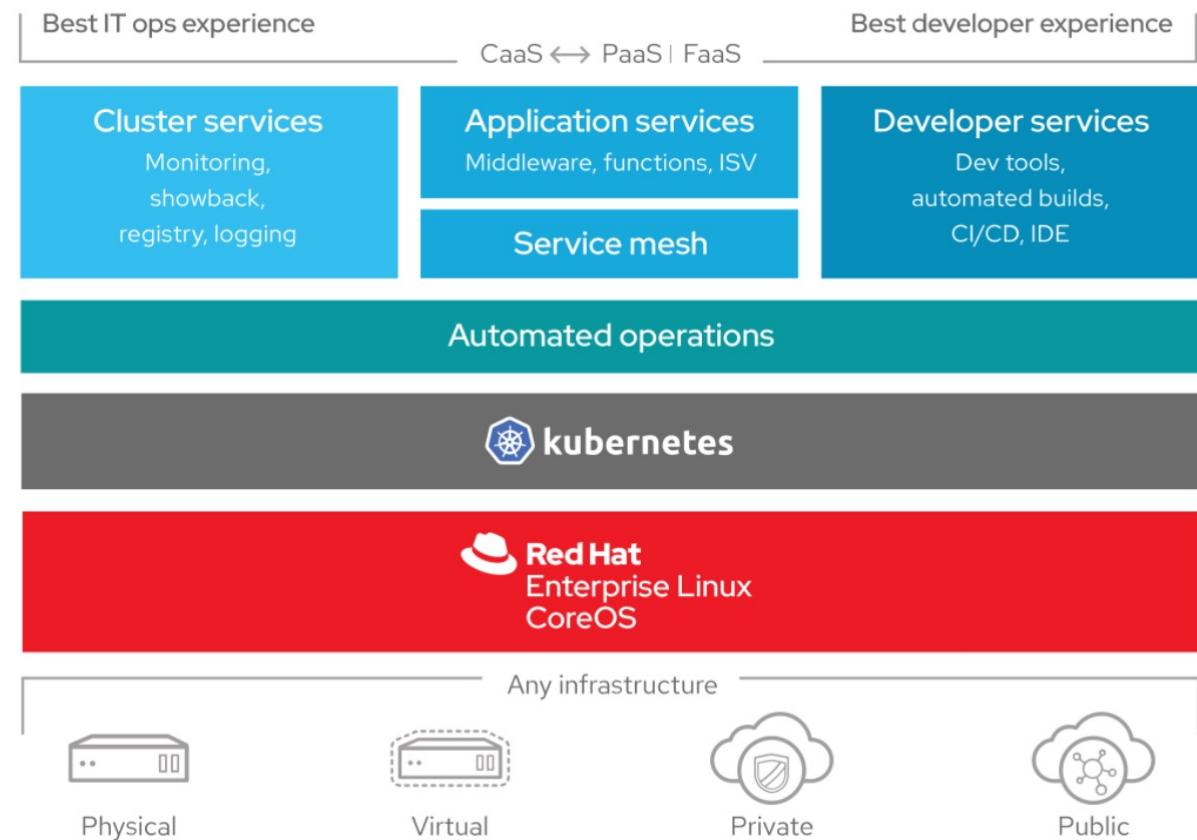




What is OpenShift?

Red Hat® OpenShift® is an enterprise-ready Kubernetes container platform, including an enterprise-grade **Linux operating system, container runtime, networking, monitoring, registry, and authentication** and **authorization** solutions.

Red Hat OpenShift is optimized to **improve developer productivity** with full-stack automated operations to manage **hybrid** cloud and **multicloud** deployments.



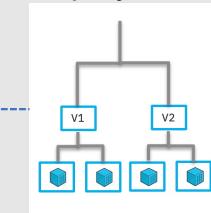
OpenShift Components



Services



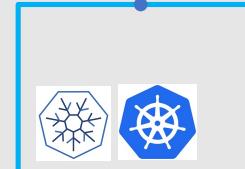
Deployment



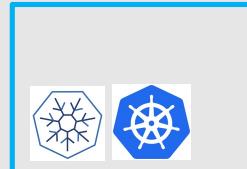
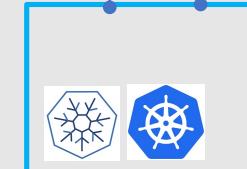
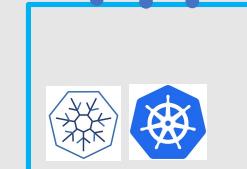
images



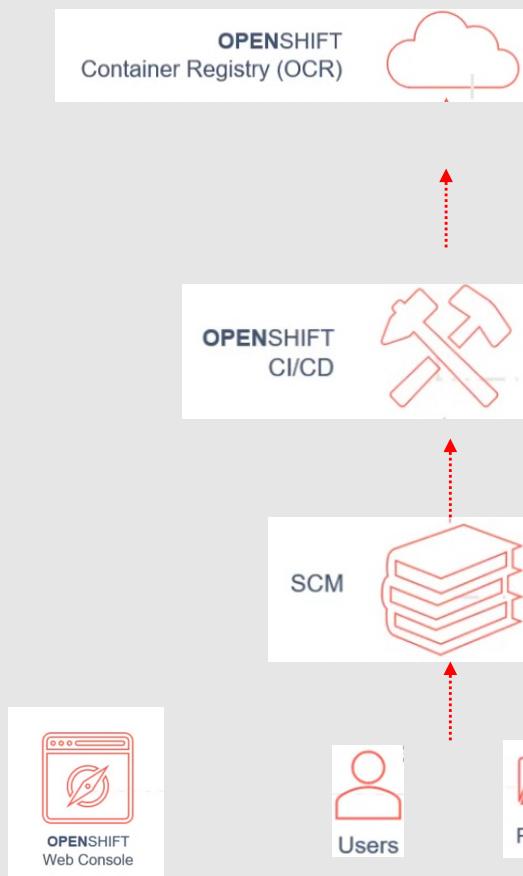
Containers



PODs



Kubernetes





DevOps Tools and User Experience

Web Console, CLI, REST API, SCM integration

Containerized Services

Auth, Networking, Image Registry

Runtimes and xPaaS

Java, Ruby, Node.js and more

Kubernetes

Container orchestration
and management

Etcd

Cluster state and configs

OpenShift Kubernetes Extensions

Docker

Container API and packaging format

RHEL

Container optimized OS

OpenShift

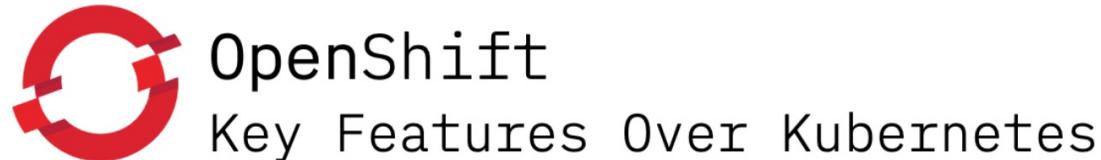
HOSTED SERVICES		SELF-MANAGED
 Red Hat OpenShift Dedicated <p>• Private, high-availability Red Hat OpenShift clusters hosted on Amazon Web Services</p> <p>• Delivered as a hosted service and supported by Red Hat</p> <p>✓ Supported by Red Hat</p> <a data-bbox="316 1107 467 1133" href="#">Learn more	 Red Hat  Microsoft Azure <p>• Highly available Red Hat OpenShift clusters hosted on Microsoft Azure</p> <p>• Delivered as a hosted service jointly engineered, operated, and supported by Red Hat and Microsoft</p> <p>✓ Supported by Red Hat and Microsoft</p> <a data-bbox="781 1107 954 1133" href="#">Learn more	 Red Hat  IBM <p>• A flexible, fully-managed service of OpenShift on IBM's public cloud</p> <p>• Delivered as a hosted service and supported by IBM</p> <p>✓ Supported by Red Hat and IBM</p> <a data-bbox="1260 1107 1432 1133" href="#">Learn more
		 Red Hat OpenShift Container Platform <p>• A Kubernetes platform on your own infrastructure designed with security in mind</p> <p>• Build, deploy and manage your container-based applications consistently across cloud and on-premises infrastructure</p> <p>✓ Supported by Red Hat</p> <a data-bbox="1731 1107 1904 1133" href="#">Learn more



Get started developing and deploying in the public cloud

[Learn more](#)

3 x key features of OpenShift over Kubernetes. Automation, Agility and Security.



I. Automation

Automated installation, upgrades, and lifecycle management throughout the container stack—the operating system, Kubernetes and cluster services, and applications—**on any cloud.**

II. Agility

Helps teams build with speed, agility, confidence, and choice. Code in production mode anywhere you choose to build.

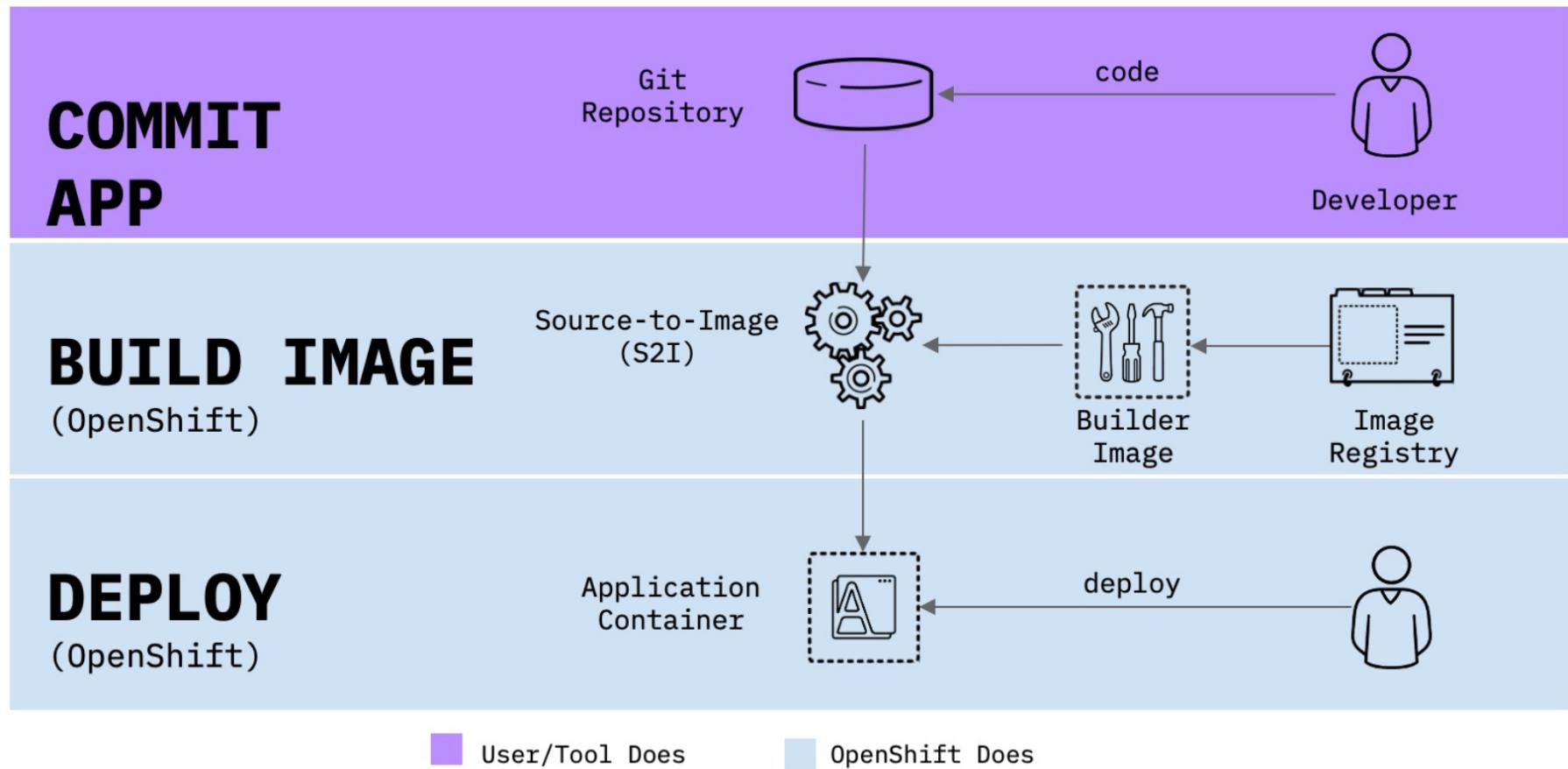
III. Security

Security at every level of the container stack and throughout the application lifecycle.



OpenShift

Source to Image (S2I)





OpenShift

CLI vs. Console

The screenshot shows the Kubernetes Dashboard interface. On the left, there's a sidebar with navigation links like Cluster, Cluster Roles, Namespaces, Nodes, Persistent Volumes, Storage Classes, Namespace (default), Overview (which is selected), Workloads, Cron Jobs, Daemon Sets, Deployments, Jobs, Pods, Replica Sets, Replication Controllers, Stateful Sets, and Discovery and Load Balancing. The main area has a title "Workloads" and a section titled "Workload Status" with three green circles labeled "Deployments", "Pods", and "Replica Sets". Below that is a "Deployments" table with one row for "myapp-deploy" in the "default" namespace, showing 4/4 pods created 11 hours ago using the "myapp:v3" image. There's also a "Pods" table below it.



Dashboard

The screenshot shows the Red Hat OpenShift Container Platform console. The top bar includes the Red Hat logo, the text "Red Hat OpenShift Container Platform", and a user account indicator. The left sidebar has a "Developer" section with "+Add" (selected), "Topology", "Builds", and "Advanced". The main area is titled "Add" and says "Select a way to create an application, component or service from one of the options". It lists six options in a grid: "From Git" (Import code from your git repository to be built and deployed), "Container Image" (Deploy an existing image from an image registry or image stream tag), "From Catalog" (Browse the catalog to discover, deploy and connect to services), "From Dockerfile" (Import your Dockerfile from your git repo to be built & deployed), "YAML" (Create resources from their YAML, or JSON definitions), and "Database" (Browse the catalog to discover database services to add to your application).



vs.

Console



kubernetes



OPENSHIFT

Production-Grade Open Source Project

Quarterly minor releases, no long-term Support

Community support

Platform certification: (AKS, EKS, GKE, IKS)

core framework / limited security

platform or user responsible to integrate beyond core

Production-Grade Open Source based Product

Quarterly releases, support for major release 3+ years

Enterprise support

Ecosystem certification: platform and app containers

Kubernetes core plus abstractions / console / security

Opinionated integration of common features

Project vs. Product



OpenShift

Cloud Platform Agnostic



kubernetes



Azure Kubernetes Service (AKS)



IBM Cloud
Kubernetes Service



Amazon
EKS



Google Kubernetes Engine

Vendor-specific
Architecture/Configuration



RED HAT[®]
OPENSHIFT
Container Platform



IBM Cloud Google Cloud

Identical Architecture
/Unified Experience



OpenShift

On IBM Cloud

Red Hat® OpenShift on IBM Cloud™ is a fully managed OpenShift service that leverages the enterprise scale and security of IBM Cloud, so you can focus on growing applications, not scaling the master.

IBM has added unique security and productivity capabilities designed to eliminate substantial time spent on updating, scaling and provisioning.

"It's directly integrated into the same Kubernetes service that maintains 25 billion on-demand forecasts daily at The Weather Company"



IBM Cloud



OpenShift

Push, Deploy and Expose

```
mo@Ms-MacBook-Pro ~ % oc get pods
NAME                           READY   STATUS    RESTARTS   AGE
codeready-operator-74c6b5df66-kgmqf   1/1     Running   0          2d21h
death-cases-5b6b568b89-lvhkw        1/1     Running   0          6d3h
positive-cases-66c9c9cd99-v2rgb     1/1     Running   0          6d3h
postgres-9c97d6f56-2tqwv           0/1     Pending   0          2d21h
ui-app-5766f874fd-slhwrt          1/1     Running   0          6d3h
mo@Ms-MacBook-Pro ~ %
```

Via OC CLI



OpenShift

IBM Cloud Container Registry

Container Registries

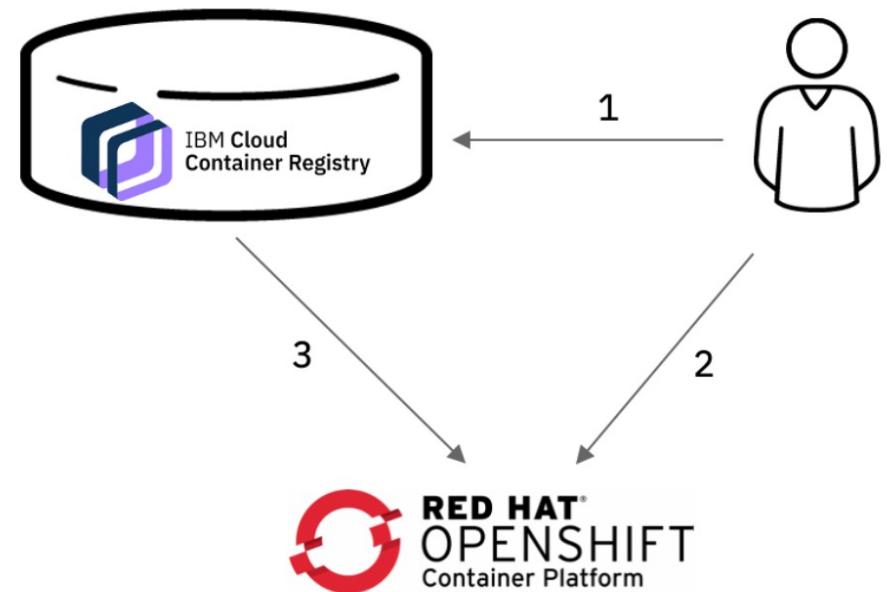
“A registry is a service for storing and retrieving container images.

A registry contains a collection of one or more Docker image repositories.

Each image repository contains one or more tagged images.

Docker provides its own registry, the Docker Hub, but you may also use private or third-party registries.”

By default, your Red Hat OpenShift on IBM Cloud clusters are set up with an internal registry to pull images that you store in your private IBM Cloud Container Registry repositories.





OpenShift

OC commands

The developer CLI allows interaction with the various objects that are managed by OpenShift Container Platform.

Many common oc operations are invoked using the following syntax:

```
oc <action> <object_type> <object_name>
```

An <action> to perform, such as get or describe.

The <object_type> to perform the action on, such as service or deployment

The <object_name> of the specified <object_type>



OpenShift

Push, Deploy and Expose

A screenshot of the Red Hat OpenShift Container Platform interface. The top navigation bar includes the Red Hat logo, 'Red Hat OpenShift Container Platform', a user dropdown with 'IAM#mo.haghghi@ibm.com', and a search bar. The left sidebar is titled 'Developer' and contains options: '+Add' (which is selected), 'Topology', 'Builds', and 'Advanced'. The main content area is titled 'Add' and prompts 'Select a way to create an application, component or service from one of the options.' It features six cards arranged in two rows of three:

- From Git**: Import code from your git repository to be built and deployed.
- Container Image**: Deploy an existing image from an image registry or image stream tag.
- From Catalog**: Browse the catalog to discover, deploy and connect to services.
- From Dockerfile**: Import your Dockerfile from your git repo to be built & deployed.

- YAML**: Create resources from their YAML or JSON definitions.
- Database**: Browse the catalog to discover database services to add to your application.

Via Console

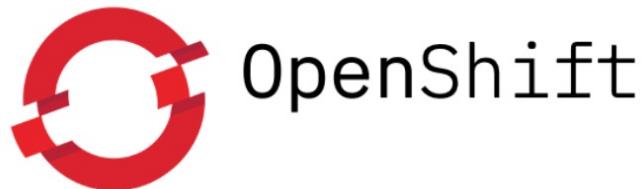


OpenShift CodeReady Workspaces





CodeReady Workspaces is a developer tool that makes cloud-native development practical for teams, using Kubernetes and containers to provide any member of the development or IT team with a consistent, preconfigured development environment.



Red Hat CodeReady Workspaces

Allows you to share an instance of your workspace, including all the libraries, dependencies and tools.

Sharing process is as easy as sharing a URL with your team.

Can be accessed from any operating system, browser or IDE, including extension for VS code.

it includes a powerful in-browser IDE, with version control system and keyboard shortcuts.



OpenShift

CodeReady Workspaces

Red Hat
OpenShift Container Platform

Administrator

Project: default

Home

Dashboards

Projects

Search

Explore

Events

Operators

OperatorHub

All Items

AI/Machine Learning

Application Runtime

Big Data

Cloud Provider

Database

Developer Tools

Integration & Delivery

Logging & Tracing

Monitoring

Networking

Storage

OpenShift Optional

Security

Storage

Streaming & Messaging

INSTALL STATE

Installed (!)

code

All Items

5 items

Joget DX Operator

provided by Joget, Inc.

No-code/low-code application platform to visually build, run and maintain apps

Joget Operator

provided by Joget, Inc.

No-code/low-code application platform to visually build, run and maintain apps

Community

Red Hat CodeReady Toolchain

provided by Red Hat, Inc.

CodeReady Toolchain is a suite of dev tools and runtimes for development

Red Hat CodeReady Workspaces

provided by Red Hat

A Kube-native development solution that delivers port

vFunction Operator

provided by vFunction

vFunction is a cutting-edge code analysis, machine learning, and automation to

Red Hat CodeReady Workspaces

provided by Red Hat

A Kube-native development solution that delivers port

vFunction Operator

provided by vFunction

vFunction is a cutting-edge code analysis, machine learning, and automation to

OpenShift Operators

The screenshot shows the OpenShift Container Platform interface. A pink box highlights the top navigation bar which includes the Red Hat OpenShift logo, a container platform icon, and the text "Container Platform". Another pink box highlights the left sidebar under the "Administrator" heading, specifically the "Operators" section which is currently selected. This section contains two sub-options: "OperatorHub" and "Installed Operators". The main content area displays a table titled "Installed Operators" with one row visible. The table columns are "Name", "Namespace", "Deployment", and "Status". The single row shows "Red Hat CodeReady Workspaces" in the Name column, "default" in the Namespace column, "codeready-operator" in the Deployment column, and "Succeeded Up to date" in the Status column.

Name	Namespace	Deployment	Status
Red Hat CodeReady Workspaces	default	codeready-operator	Succeeded Up to date

Operators

Operators are small programs in your cluster that monitor your applications continuously and make sure they are running according to your instructions. When an operator detects a difference between the actual and the ideal states, it will act to correct it.

OperatorHub

A catalogue of applications/operators that can be installed by the administrator and added to individual projects by developers in OpenShift 4.



OpenShift

CodeReady Workspaces

The screenshot shows the Red Hat OpenShift Container Platform interface. On the left, there's a navigation sidebar with sections like Home, Dashboards, Projects, Search, Explore, Events, Operators, OperatorHub, Installed Operators, Workloads, Networking, Storage, Builds, Monitoring, Compute, and User Management. The Operators section is currently selected. On the right, under the Operators heading, there's a sub-section for OperatorHub. A specific operator entry for "Red Hat CodeReady Workspaces" is highlighted with a pink border. The entry includes the operator icon, name, version (2.2.0), provider (Red Hat), and repository information.



Red Hat CodeReady Workspaces

2.2.0 provided by Red Hat

Install

OPERATOR VERSION

2.2.0

PROVIDER TYPE

Red Hat

PROVIDER

Red Hat

REPOSITORY

A collaborative Kubernetes-native development IDE for rapid cloud application development. This operator installs the Red Hat CodeReady Workspaces server, as well as client components.

How to Install

Press the **Install** button, choose the upgrade strategy, and follow the prompts.

When the operator is installed, create a new CRD for the operator. The operator CRD spec contains all defaults (see below).

You can start using CodeReady Workspaces when the operator is installed.



OpenShift

CodeReady Workspaces

Red Hat
OpenShift Container Platform

Administrator

Home

Dashboards

Projects

Search

Explore

Events

Operators

OperatorHub

Installed Operators

Workloads

Networking

Storage

Builds

Monitoring

OperatorHub > Operator Subscription

Create Operator Subscription

Install your Operator by subscribing to one of the update channels to keep the Operator up to date. The strategy determines either manual or automatic updates.

Installation Mode *

All namespaces on the cluster (default)
This mode is not supported by this Operator

A specific namespace on the cluster
Operator will be available in a single namespace only.
PR test

Update Channel *

latest

previous

Approval Strategy *

Automatic

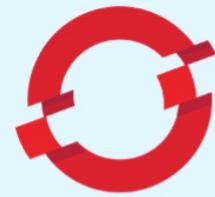
Manual

Red Hat CodeReady Workspaces
provided by Red Hat

Provided APIs

CodeReady Workspaces Cluster
CodeReady Workspaces cluster with DB and Auth Server

Subscribe Cancel



OpenShift

CodeReady Workspaces

The screenshot shows the OpenShift Container Platform interface. A pink box highlights the 'Installed Operators' section in the center, which displays a table of installed operators. A second pink box highlights the 'Installed Operators' item in the 'Operators' sidebar on the left.

Installed Operators

Name	Namespace	Deployment	Status	Provided APIs
Red Hat CodeReady Workspaces	default	codeready-operator	Succeeded Up to date	CodeReady Workspaces Cluster

Operators

- OperatorHub
- Installed Operators**

Builds

Monitoring

Compute

User Management



OpenShift

CodeReady Workspaces

Red Hat
OpenShift Container Platform

Administrator

Home

Dashboards

Projects

Search

Explore

Events

Operators

OperatorHub

Installed Operators

Workloads

Networking

Storage

Builds

Monitoring

Compute

User Management

Project: default

Installed Operators > Operator Details

Red Hat CodeReady Workspaces
2.2.0 provided by Red Hat

Actions

Overview YAML Subscription Events CodeReady Workspaces Cluster

Provided APIs

CodeReady Workspaces Cluster

CodeReady Workspaces cluster with DB and Auth Server

Create Instance

Description

A collaborative Kubernetes-native development solution that delivers OpenShift workspaces and in-browser IDE for rapid cloud application development. This operator installs PostgreSQL, Red Hat SSO, and the Red Hat CodeReady Workspaces server, as well as configures all three services.

How to Install

Press the **Install** button, choose the upgrade strategy, and wait for the **Installed Operator** status.

When the operator is installed, create a new CR of Kind CheCluster (click the **Create New** button). The CR spec contains all defaults (see below).

Provider
Red Hat

Created At
Jul 9, 6:27 pm

Links
Product Page
<https://developers.redhat.com/products/codeready-workspaces/overview>

Documentation
https://access.redhat.com/documentation/en-us/red_hat_codeready_workspaces/

Operator GitHub Repo
<https://github.com/eclipse/che-operator>

Maintainers
Nick Boldt



OpenShift

CodeReady Workspaces

The screenshot shows the OpenShift Container Platform interface. The top navigation bar includes the Red Hat logo, the project dropdown set to "test", and the user "IAM#mo.haghghi@ibm.com". The left sidebar has a "Administrator" dropdown and sections for Home, Operators (selected), OperatorHub, Installed Operators (selected), Workloads, Networking, Storage, Builds, Monitoring, Compute, and User Management. The main content area shows the "Installed Operators" page for "Red Hat CodeReady Workspaces" version 2.2.0. The tabs include Overview, YAML, Subscription, Events, and CodeReady Workspaces Cluster (which is highlighted with a pink border). Below this is the "CheClusters" section, which contains a "Create CheCluster" button (also highlighted with a pink border) and a "Filter by name..." input field. A message states "No Operands Found" and provides a description: "Operands are declarative components used to define the behavior of the application."

Project: test

Installed Operators > Operator Details

Red Hat CodeReady Workspaces
2.2.0 provided by Red Hat

Actions

Overview YAML Subscription Events CodeReady Workspaces Cluster

CheClusters

Create CheCluster

No Operands Found

Operands are declarative components used to define the behavior of the application.



OpenShift

CodeReady Workspaces

The screenshot shows the Red Hat OpenShift Container Platform interface. The left sidebar is titled "Administrator" and includes sections for Home, Operators (selected), OperatorHub, Installed Operators, Workloads, Networking, Storage, Builds, Monitoring, Compute, User Management, and Administration. The main content area is titled "Create CheCluster" under "Red Hat CodeReady Workspaces > Create CheCluster". It displays a YAML configuration file for a CheCluster:

```
1 apiVersion: org.eclipse.che/v1
2 kind: CheCluster
3 metadata:
4   name: codeready-workspaces
5   namespace: test
6 spec:
7   server:
8     cheImageTag: ''
9     cheFlavor: codeready
10    devfileRegistryImage: ''
11    pluginRegistryImage: ''
12    tlsSupport: true
13    selfSignedCert: false
14   database:
15     externalDb: false
16     chePostgresHostName: ''
17     chePostgresPort: ''
18     chePostgresUser: ''
19     chePostgresPassword: ''
20     chePostgresDb: ''
21   auth:
22     openShiftAuth: true
23     identityProviderImage: ''
24     externalIdentityProvider: false
25     identityProviderURL: ''
26     identityProviderRealm: ''
```

Below the code editor are "Create" and "Cancel" buttons, and above them is a "View shortcuts" link. To the right, a sidebar titled "CheCluster" provides the schema definition:

Schema

- **apiVersion** string
APIVersion defines the versioned schema of this representation of an object. Servers should convert recognized schemas to the latest internal value, and may reject unrecognized values. More info:
<https://git.k8s.io/community/contributors/devel/sig-architecture/api-conventions.md#resources>
- **kind** string
Kind is a string value representing the REST resource this object represents. Servers may infer this from the endpoint the client submits requests to. Cannot be updated. In CamelCase. More info:
<https://git.k8s.io/community/contributors/devel/sig-architecture/api-conventions.md#types>



OpenShift

CodeReady Workspaces

orm

grid icon + ? IAM#mo.haghghi@ibm.com ▾

Project: test ▾

Installed Operators > Operator Details

 Red Hat CodeReady Workspaces
2.2.0 provided by Red Hat

Actions ▾

Overview YAML Subscription Events CodeReady Workspaces Cluster

CheClusters

[Create CheCluster](#) /

Name ↑	Labels ↓	Kind ↓	Status ↓	Version ↓	Last Updated ↓	⋮
CC codeready-workspaces	No labels	CheCluster	Unknown	Unknown	⌚ a minute ago	⋮



OpenShift

CodeReady Workspaces

Red Hat
OpenShift Container Platform

IAM#mo.haghghi@ibm.com ▾

Deployment	Service	ReplicaSet	Pod	Secret	ConfigMap	Select All Filters
Name	Kind	Status	Created			
P devfile-registry-6785b4f967-kbkmc	Pod	Running	less than a minute ago			
P keycloak-8bf578486-5zrjm	Pod	Running	a minute ago			
P plugin-registry-694d4d6b76-fbfzs	Pod	Running	a few seconds ago			
P postgres-f56d449f6-9kj4c	Pod	Running	4 minutes ago			
P codeready-7974bfd8b6-sn6k5	Pod	Pending	Jul 13, 8:13 am			
CM che	ConfigMap	Created	a few seconds ago			
S che-host	Service	Created	2 minutes ago			



OpenShift

CodeReady Workspaces

The screenshot shows the OpenShift Admin Console interface. The left sidebar has a dark theme with various navigation items like Home, Operators, Workloads, Networking, Storage, Builds, Monitoring, Compute, User Management, and Administration. The 'Operators' item is currently selected and highlighted in blue. The main content area is titled 'CodeReady Workspaces Cluster Overview'. It displays the following information:

Setting	Value
Name	codeready-workspaces
Namespace	NS test
Labels	No labels
Annotations	0 Annotations Edit
Created At	8 minutes ago
Owner	No owner
Status	Available
OpenShift oAuth	<input type="checkbox"/> False
TLS Mode	<input checked="" type="checkbox"/> True
CodeReady Workspaces URL	codeready-test.myoc43-2841051a6073aca7cf26665e142edfa-0000.us-south.containers.appdomain.cloud
Red Hat SSO Admin Console URL	keycloak-test.myoc43-2841051a6073aca7cf26665e142edfa-0000.us-south.containers.appdomain.cloud
CodeReady Workspaces version	2.2

A pink rectangular box highlights the 'CodeReady Workspaces URL' section, which contains the generated URL for accessing the workspace cluster.



OpenShift

CodeReady Workspaces

CODEREADY WORKSPACES

Register

First name

Last name

Email

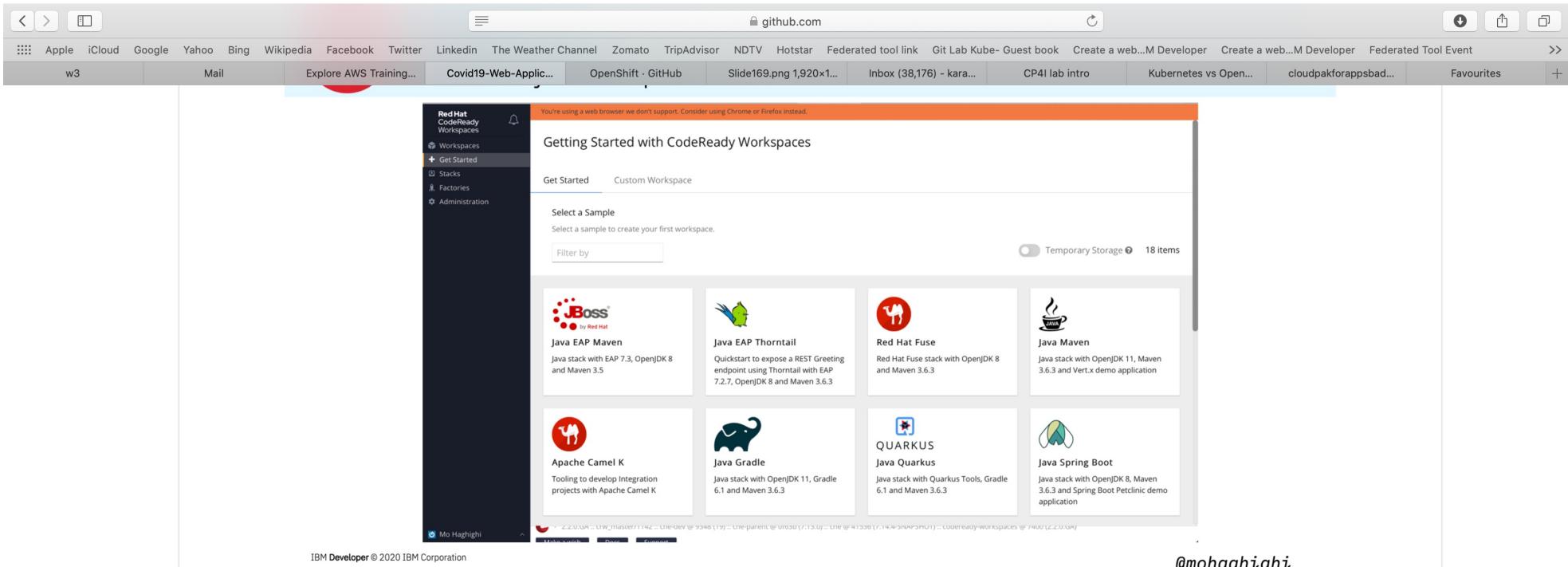
Username

Password

Confirm password

[« Back to Login](#)

Register

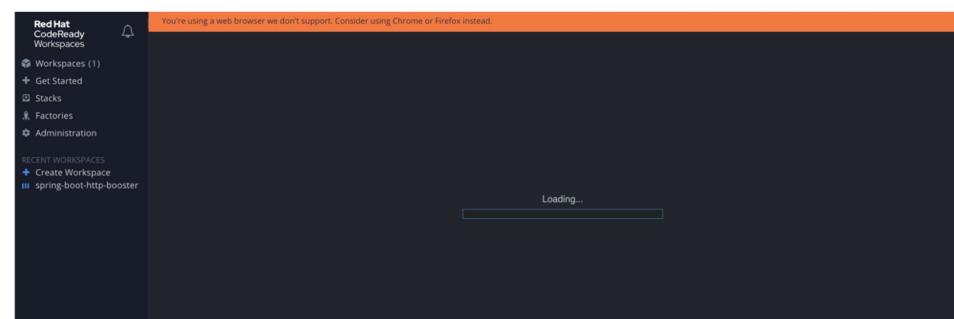


The screenshot shows a web browser window for github.com with a tab for "Covid19-Web-Applic...". The main content is the "Getting Started with CodeReady Workspaces" page. On the left, there's a sidebar with "Red Hat CodeReady Workspaces" and links for "Workspaces", "Get Started" (which is selected), "Stacks", "Factories", and "Administration". A notification bar at the top says "You're using a web browser we don't support. Consider using Chrome or Firefox instead." Below this, there are two tabs: "Get Started" and "Custom Workspace". A section titled "Select a Sample" allows users to choose a sample workspace. A "Temporary Storage" button is shown with 18 items. Eight workspace cards are displayed in a grid:

- Java EAP Maven**: Java stack with EAP 7.3, OpenJDK 8 and Maven 3.5.
- Java EAP Thorntail**: Quickstart to expose a REST Greeting endpoint using Thorntail with EAP 7.2.7, OpenJDK 8 and Maven 3.6.3.
- Red Hat Fuse**: Red Hat Fuse stack with OpenJDK 8 and Maven 3.6.3.
- Java Maven**: Java stack with OpenJDK 11, Maven 3.6.3 and Vert.x demo application.
- Apache Camel K**: Tooling to develop Integration projects with Apache Camel K.
- Java Gradle**: Java stack with OpenJDK 11, Gradle 6.1 and Maven 3.6.3.
- QUARKUS**: Java Quarkus stack with Quarkus Tools, Gradle 6.1 and Maven 3.6.3.
- Java Spring Boot**: Java stack with OpenJDK 8, Maven 3.6.3 and Spring Boot Petclinic demo application.

At the bottom left, it says "IBM Developer © 2020 IBM Corporation". On the right, there's a watermark "@mohaghighi".

It takes a few minutes for the workspace IDE to initialised.



The screenshot shows the same Red Hat CodeReady Workspaces interface as the previous one, but the main content area is dark and displays a "Loading..." message with a progress bar. The sidebar and navigation links are visible on the left.



OpenShift

CodeReady Workspaces

You're using a web browser we don't support. Consider using Chrome or Firefox instead.

Red Hat
CodeReady
Workspaces

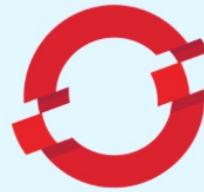
- Workspaces (1)
- + Get Started
- Stacks
- Factories
- Administration

- RECENT WORKSPACES
- + Create Workspace
- spring-boot-http-booster

Loading...

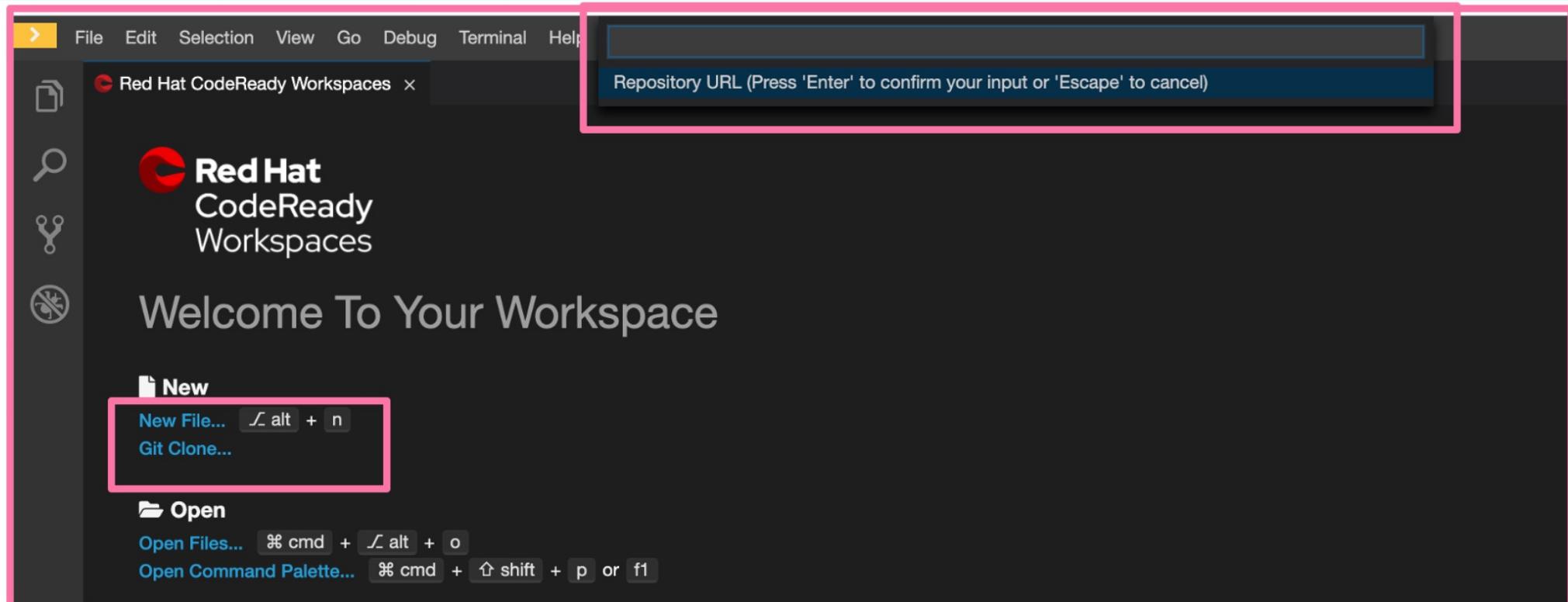
```
Processing plugin redhat/java8/latest
  Installing plugin extension 1/2
    Downloading plugin from https://plugin-registry-test.myoc43-2841051a6073aca7cfcd26665e142edfa-0000.us-south.containers.appdomain.cloud/v3/resources/download.jboss.org/jbosstools/vscode/3rdparty/vscode-java-debug/vscode-java-debug-0.24.0.vsix
  Installing plugin extension 2/2
    Downloading plugin from https://plugin-registry-test.myoc43-2841051a6073aca7cfcd26665e142edfa-0000.us-south.containers.appdomain.cloud/v3/resources/download.jboss.org/jbosstools/static/dt.ls/stable/java-0.62.0-2157.vsix
Processing plugin redhat/dependency-analytics/latest
  Installing plugin extension 1/1
    Downloading plugin from https://plugin-registry-test.myoc43-2841051a6073aca7cfcd26665e142edfa-0000.us-south.containers.appdomain.cloud/v3/resources/github.com/fabric8-analytics/fabric8-analytics-vscode-extension/releases/download/0.0.13/redhat.fabric8-analytics-0.0.13.vsix
  Saving log of installed plugins
All plugin artifacts have been successfully downloaded
Pulling image "registry.redhat.io/codeready-workspaces/jwtproxy-rhel8@sha256:f65afa92c6067601c5e66408c4c5503c2d16d8bcb15e3e985fd9d9b7aeelc3d2"
Successfully pulled image "registry.redhat.io/codeready-workspaces/jwtproxy-rhel8@sha256:f65afa92c6067601c5e66408c4c5503c2d16d8bcb15e3e985fd9d9b7aeelc3d2"
Created container che-jwtproxybg3d0s8z
Started container che-jwtproxybg3d0s8z
Pulling image "registry.redhat.io/codeready-workspaces/plugin-java8-rhel8@sha256:663781fb227e06ec8f75ab7e26fc08141ffcd093c56a35ed6c393845b36701a"
```

Mo Haghghi



OpenShift

CodeReady Workspaces



The screenshot shows the Red Hat CodeReady Workspaces interface. A pink box highlights the top navigation bar and the central workspace area. Another pink box highlights the "New" and "Open" sections in the command palette.

File Edit Selection View Go Debug Terminal Help

Red Hat CodeReady Workspaces

Red Hat
CodeReady
Workspaces

Welcome To Your Workspace

New

- New File... ⌘ alt + n
- Git Clone...

Open

- Open Files... ⌘ cmd + ⌥ alt + o
- Open Command Palette... ⌘ cmd + ⌂ shift + p or f1

Repository URL (Press 'Enter' to confirm your input or 'Escape' to cancel)

ⓘ Che Workspace: Finished importing projects. X

ⓘ Che Workspace: Starting importing projects. X

2

Demo

How to deploy a sample application on OpenShift Cluster available on IBM Cloud

<https://github.com/IBMDevConnect/OpenShift-World-Tour/tree/main/openshift-labs/Red%20Hat%20OpenShift%20on%20IBM%20Cloud%20-%20Part%201>

Thank You ☺