

Deploying a Game Server on Red Hat OpenShift

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Webinar Materials Repo Link:

<http://ibm.biz/dgs-github-bradstondev>

IBM Developer



Important Announcement About Today's Session!!

There is something YOU can learn
EVEN if you are not
interested in Game Development!

Live Multiplayer Demonstration

The Art of the Possible

Innovation starts with inspiration from the Possible

“If I have seen further it is by standing on
the shoulders of Giants”

- Issac Newton (1627 – 1727)

About Me: Bradston Henry

7+ Years of Development and Industry Experience

- **Mobile:** iOS, React Native
- **Web:** React, JS/HTML/CSS
- **Cloud:** IBM Cloud, OpenShift, AWS
- **Game Dev:** Unity3D, Unreal(just a little)

Hobbies

- **Game Development:** Android, Itch.io, GMTK 2021
- **Gaming:** God of War, Apex, The Division 2, Minecraft
- **Podcasting:** Super Agile Bros (Spotify, SoundCloud)
- **Breakdancing/Bboying** (Retired)
- **MMA** (Mixed Martial Arts)

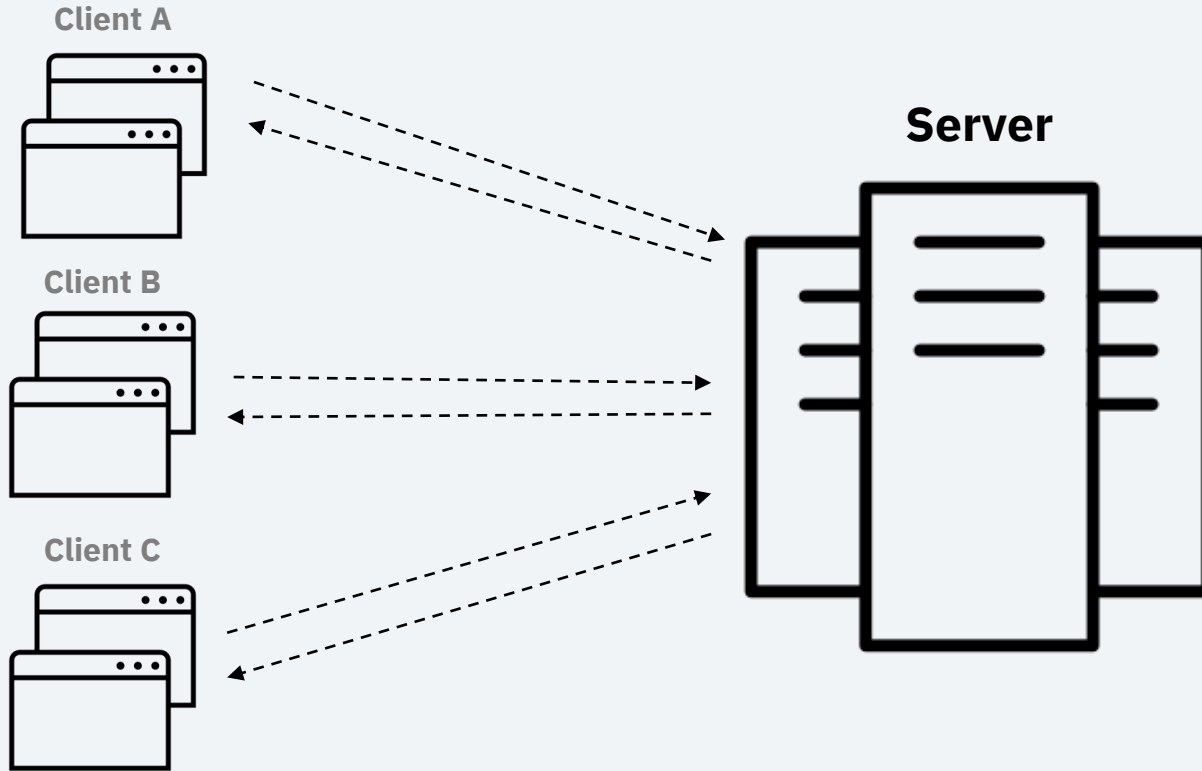


Agenda

- Basics of Client-Server Communication
- Creating Multiplayer Node Game Server
- Red Hat OpenShift Overview
- Deploying Game Server to RHOS
- Demo (w/ Unity3d)
- What's Next

Basics of Client-Server Communication

Basics of Client-Server Communication

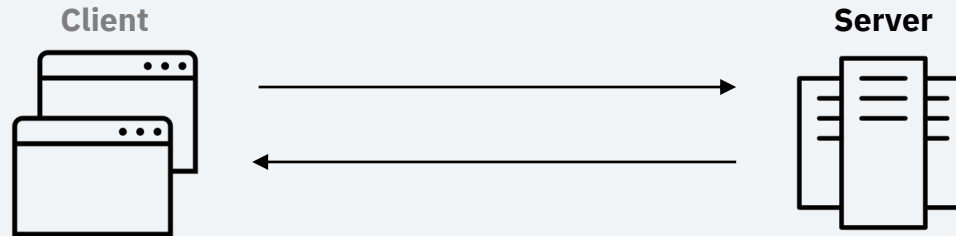


Basics of Client-Server Communication

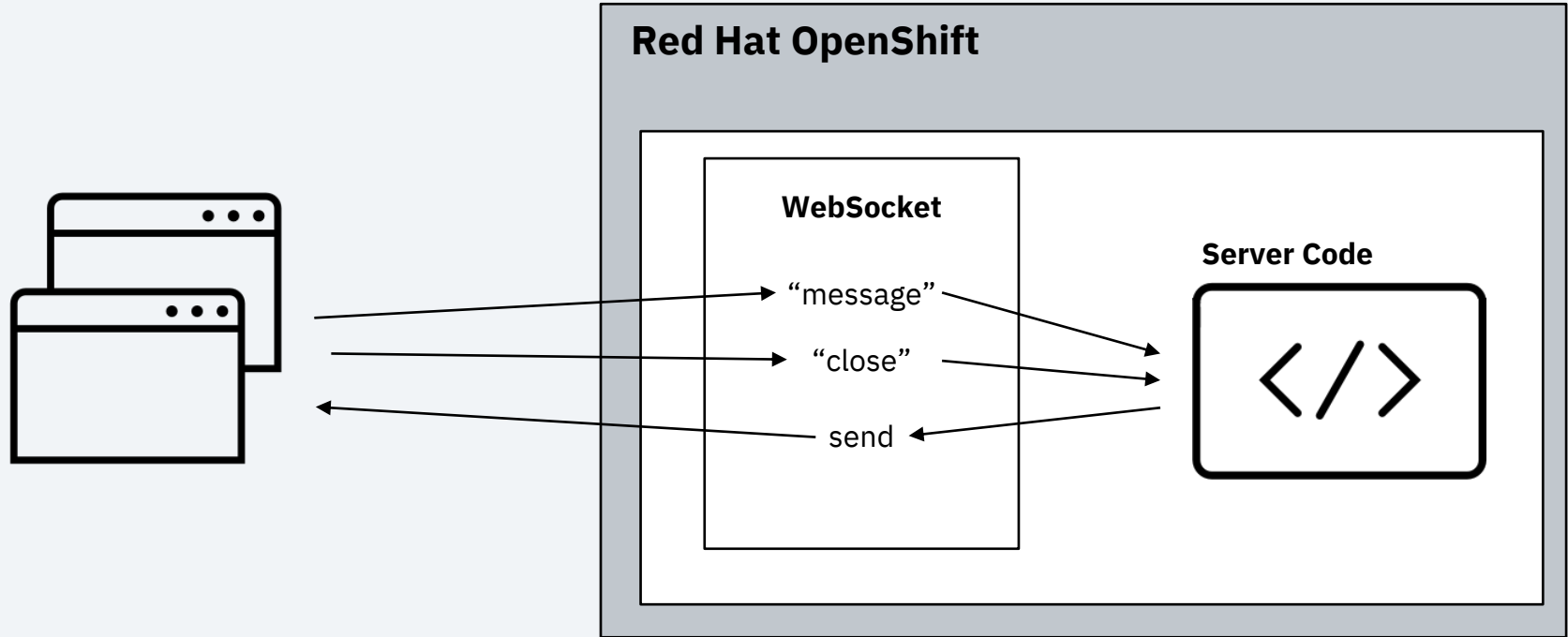
Non – Persistent Connection



Persistent Connection



Creating Multiplayer Game Server



Creating Multiplayer Game Server

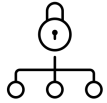
CODE ALONG

Red Hat OpenShift Overview

Red Hat OpenShift Overview



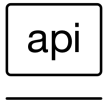
- **Containerization Orchestration Platform:** RHOS is a consistent container application platform and Certified Container Ecosystem. Allows teams to have a standardized platform for deploying, managing and monitoring their applications.



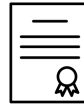
- **Built on Kubernetes:** Kubernetes is the container orchestration industry standard. OpenShift is trusted enterprise Kubernetes and Red Hat is the leading Kubernetes contributor since day 1. Allows Service Discovery and automatic load balancing using services.



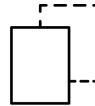
- **Continuous Monitoring:** Built-in self-analyzing metrics and aggregated logging tools for application monitoring. Also, allows for automatic applications scaling based on demand using tools like Ansible.



- **Hybrid/Multi-Cloud Solution:** Allows teams to host services and applications in various clouds while maintaining necessary connections using secrets and configuration management



- **Self-Healing:** Uses user defined health checks to restart and reschedule containers if some form of failure occurs



- **Unified UI:** A standardized user-interface allows teams to easily manage, monitor, and deploy applications in any supported web browser



- **Integrated Developer Workflow:** RHOS's Container Registry and CI/CD Pipelines allow developers to focus on development while RHOS manages deployments.

Learn More about Red Hat OpenShift [Here](#)

Deploying Game Server to RHOS

Connecting Unity3D Client to Server

Creating Multiplayer Game Client

Unity3D

OtherPlayer Script

Update

targetPosition
targetRotation
currentSpeed

SocketManager Script

Update

PlayerData
allPlayersJSON
player
playerBody

WebSocket

Connect
OnMessage
Send



Connecting Unity3D Client to Server

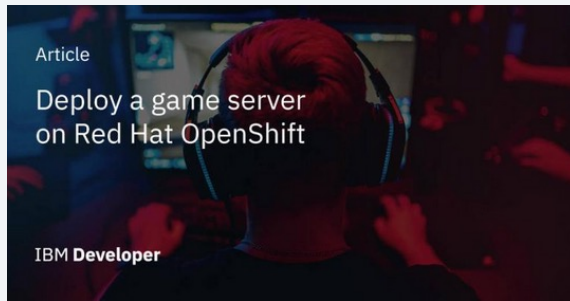
In Unity3D Game Engine

Testing our Game Server

What's Next

IBM Developer Article: “Deploy a game server on Red Hat OpenShift”

<http://ibm.biz/deploy-game-server-article-ibmdeveloper-bradstondev>



Digital Developer Conference: Cloud Security 2021 December 7th, 2021

<https://developer.ibm.com/conferences/digital-developer-conference-security/>



Creating a Multiplayer Game Series

Youtube:

<https://www.youtube.com/playlist?list=PLMygHu90DtpHqU0wSZ4yUY8yFe2cI56Ok>

Dev.to Blog:

<https://ibm.biz/creating-mutliplayer-game-server-ep-1-bradstondev>



Additional Learning Resources

Simple Guide to Deploying a Node Server to Red Hat OpenShift

<https://ibm.biz/deploying-node-to-red-hat-openshift-bradstondev>

What are Containers: How Video Games Have Inspired My Containerization Journey

<https://ibm.biz/what-are-containers-devto-bradstondev>

Red Hat OpenShift 101: Learn about Enterprise Kubernetes

<http://ibm.biz/red-hat-101-crowdcast-03022021>

Red Hat OpenShift 101 continued: Hybrid Cloud with Kubernetes, Logging and Databases

<http://ibm.biz/red-hat-101-pt2-crowdcast-03192021>

Level Up your Skills: Get Your “Build on Kubernetes” Badge with Dave Nugent (@drnugent)

<https://www.crowdcast.io/e/level-up-your-skills-get-2>

IBM Open Labs: Red Hat OpenShift on IBM Cloud

<https://ibm.biz/open-labs-red-ha-openshift-bradstondev>

Thank you for attending.

Special Thanks to [Kyle Smith](#)!

Bradston Henry

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