Experiment No. 4

Title:

Provisioning and Scaling a Website Using Codenvy

Objective:

To demonstrate the provisioning and scaling of a website using Codenvy, an integrated development environment (IDE) for cloud-based projects.

Tools used:

Codenvy, Internet, Web Browser

Prerequisite:

Basic understanding of website development, infrastructure provisioning, and scaling concepts.

Theory:

Codenvy is a cloud-based development environment that allows collaborative coding, debugging, and deployment of applications. It provides a platform for teams to work together on projects, offering support for various programming languages and integration with version control systems like Git. With Codenvy, users can develop and deploy applications without worrying about setting up individual development environments.

Steps to Setup and Demonstrate Provisioning and Scaling:

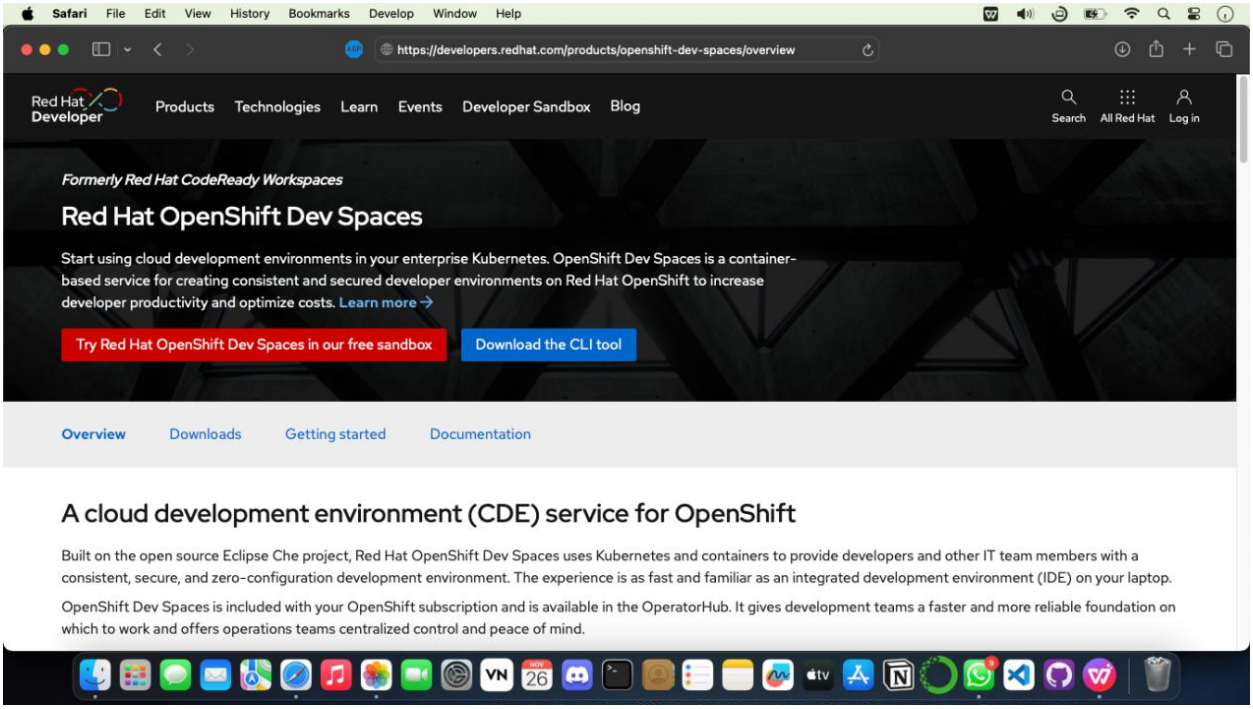
To access Codenvy, visit Codenvy's website www.codenvy.com But it is taken over by

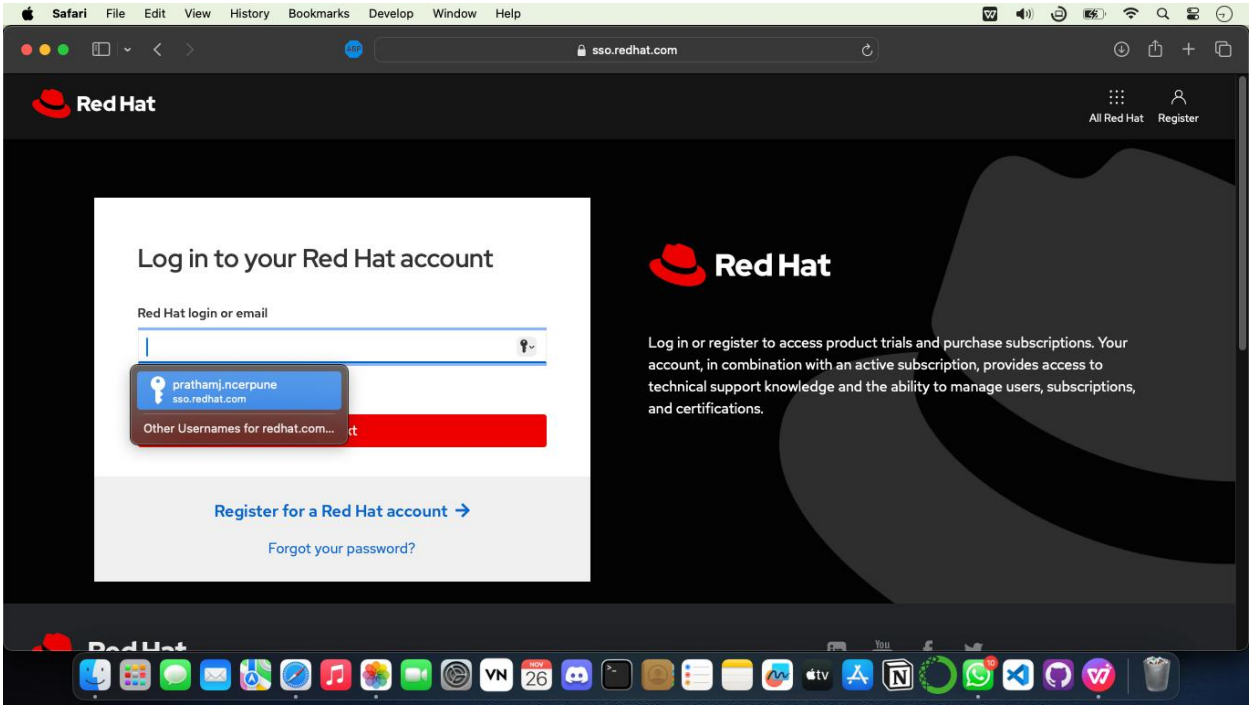
www.developers.redhat.com/products/openshift-dev-spaces/overview/

Once logged in, you can create a workspace and perform the steps mentioned above within the Codenvy interface.

Step 1: Sign in to Codenvy

- Access the Codenvy platform using your credentials via a web browser.

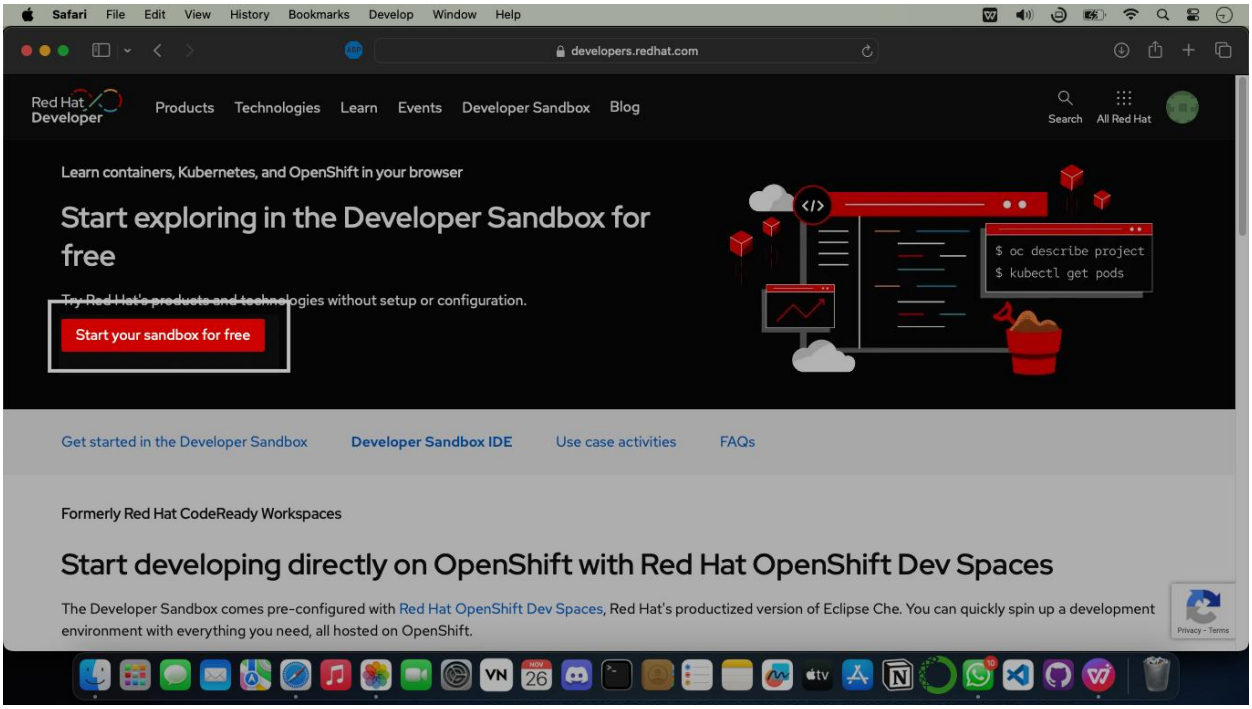


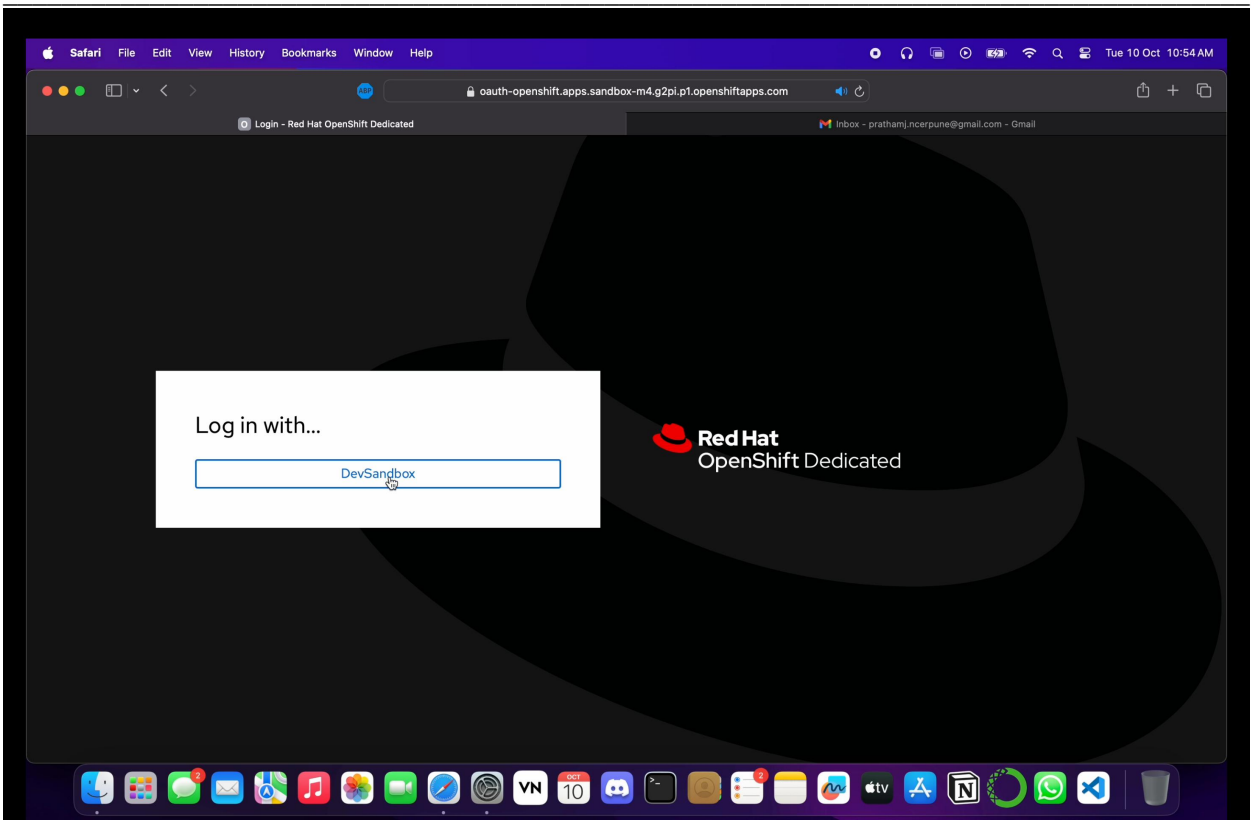


Step 2: Create a New Workspace

- Create a new workspace within Codenvy for your website project.

- Select the appropriate stack/environment based on your website's technology stack(ex-php,etc)




Safari File Edit View History Bookmarks Window Help
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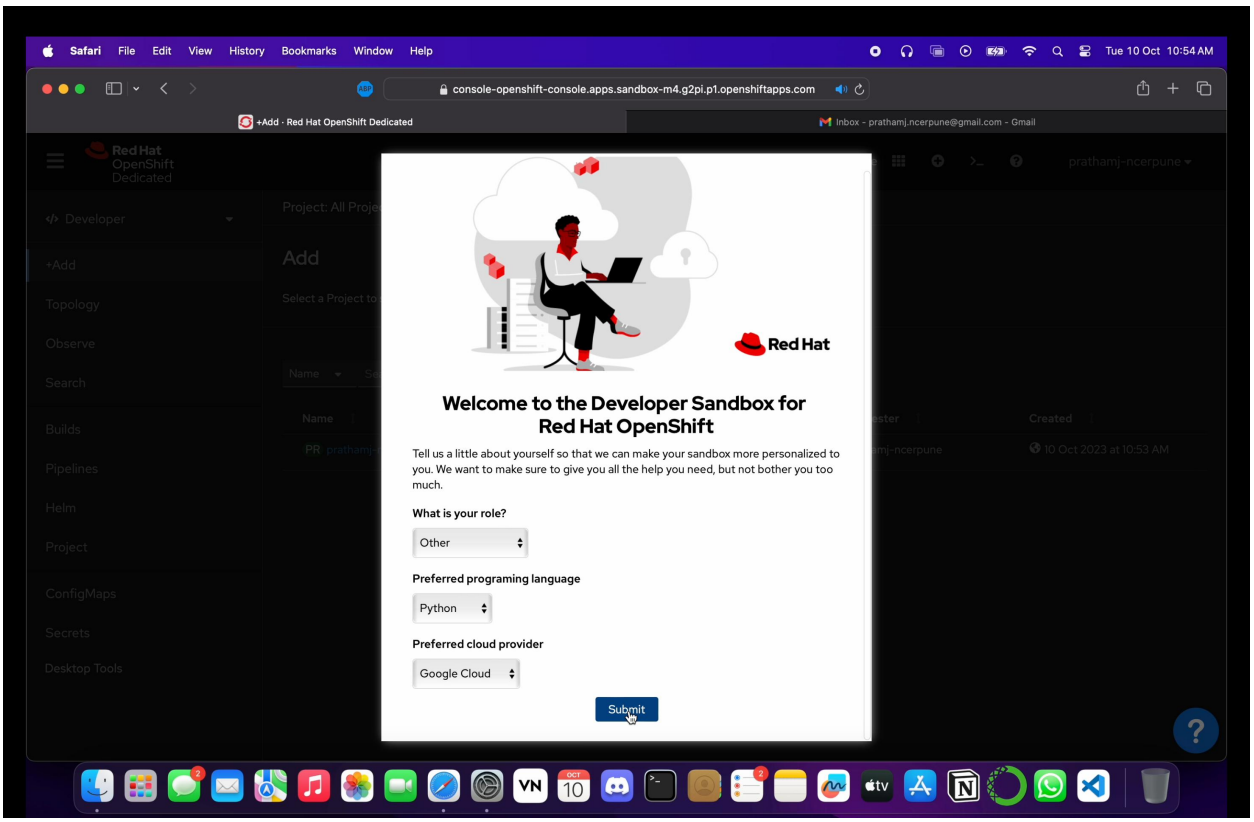
oauth-openshift.apps.sandbox-m4.g2pi.p1.openshiftapps.com
Login - Red Hat OpenShift Dedicated
Inbox - prathamj.ncerpune@gmail.com - Gmail
Log in with...
DevSandbox
Red Hat
OpenShift Dedicated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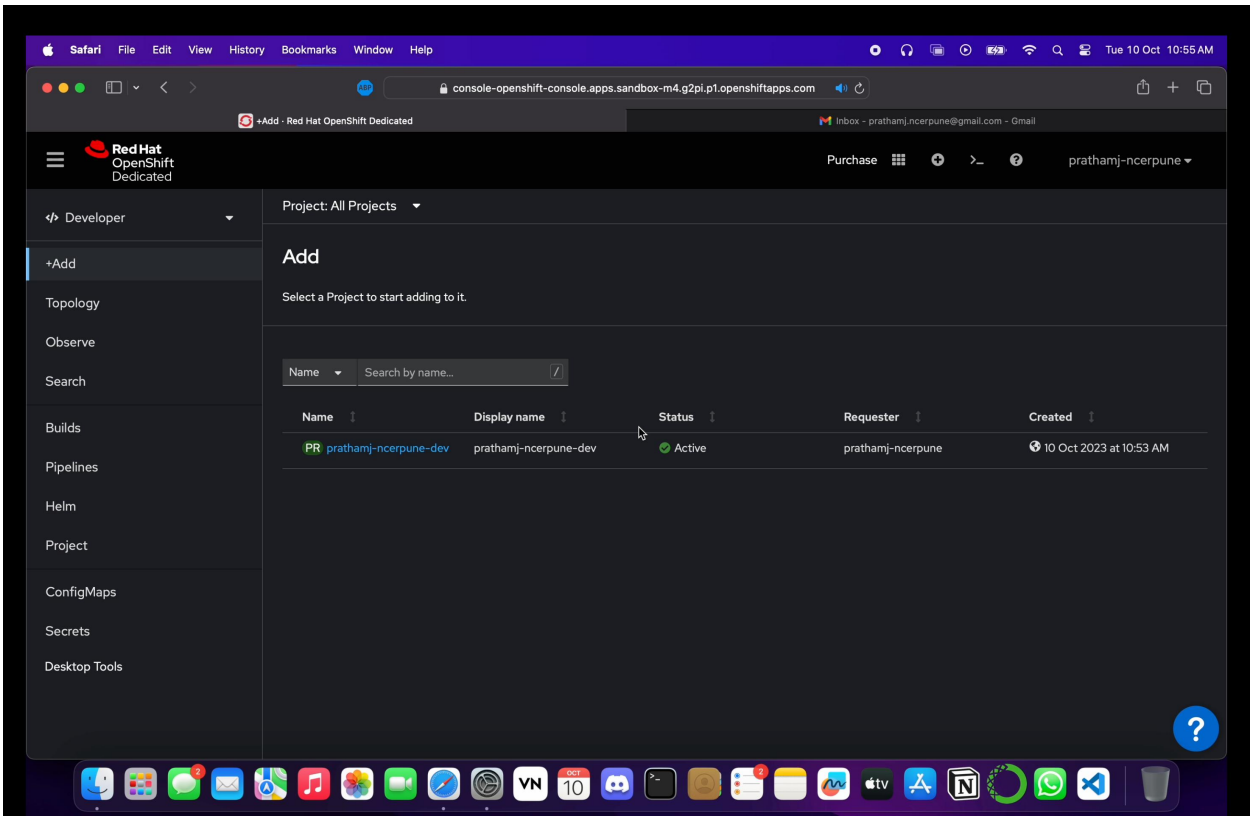
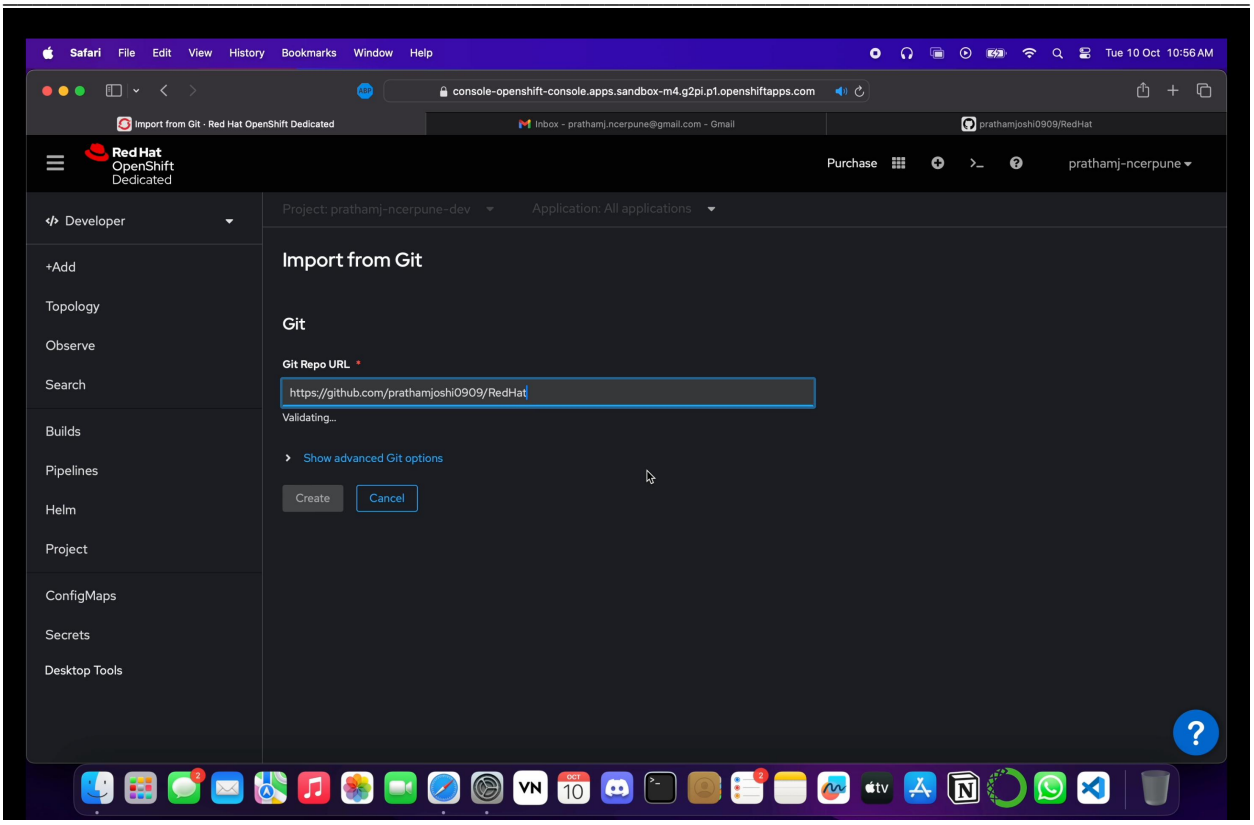
+Add · Red Hat OpenShift Dedicated
Inbox - prathamj.ncerpune@gmail.com - Gmail
Red Hat
Welcome to the Developer Sandbox for Red Hat OpenShift
Tell us a little about yourself so that we can make your sandbox more personalized to you. We want to make sure to give you all the help you need, but not bother you too much.
What is your role?
Other
Preferred programing language
Python
Preferred cloud provider
Google Cloud
Submit

Step 3: Code Development

- Develop or import the website/application code into the Codenvy workspace.

- Ensure the code is functional and works within the Codenvy environment

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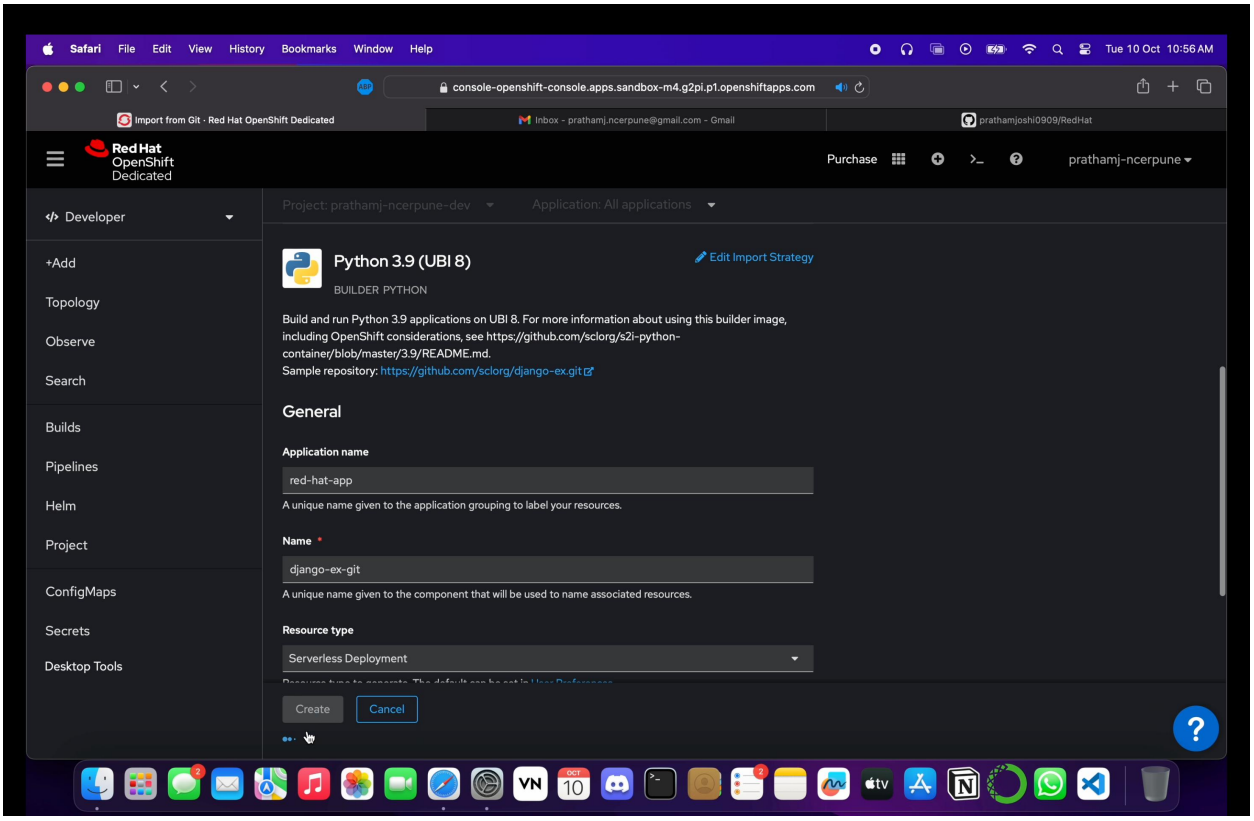
console-openshift-console.apps.sandbox-m4.g2pi.p1.openshiftapps.com
Import from Git - Red Hat OpenShift Dedicated
Inbox - prathamj.ncerpune@gmail.com - Gmail
prathamjoshi0909/RedHat
Red Hat OpenShift Dedicated
Purchase
prathamj-ncerpune
Developer
Project: prathamj-ncerpune-dev
Application: All applications
+Add
Topology
Observe
Search
Builds
Pipelines
Helm
Project
ConfigMaps
Secrets
Desktop Tools
Import from Git
Git
Git Repo URL *
https://github.com/prathamjoshi0909/RedHat
Validating...
Show advanced Git options
Create
Cancel

Step 4: Containerization (Optional)

- Dockerize the application if not already containerized.

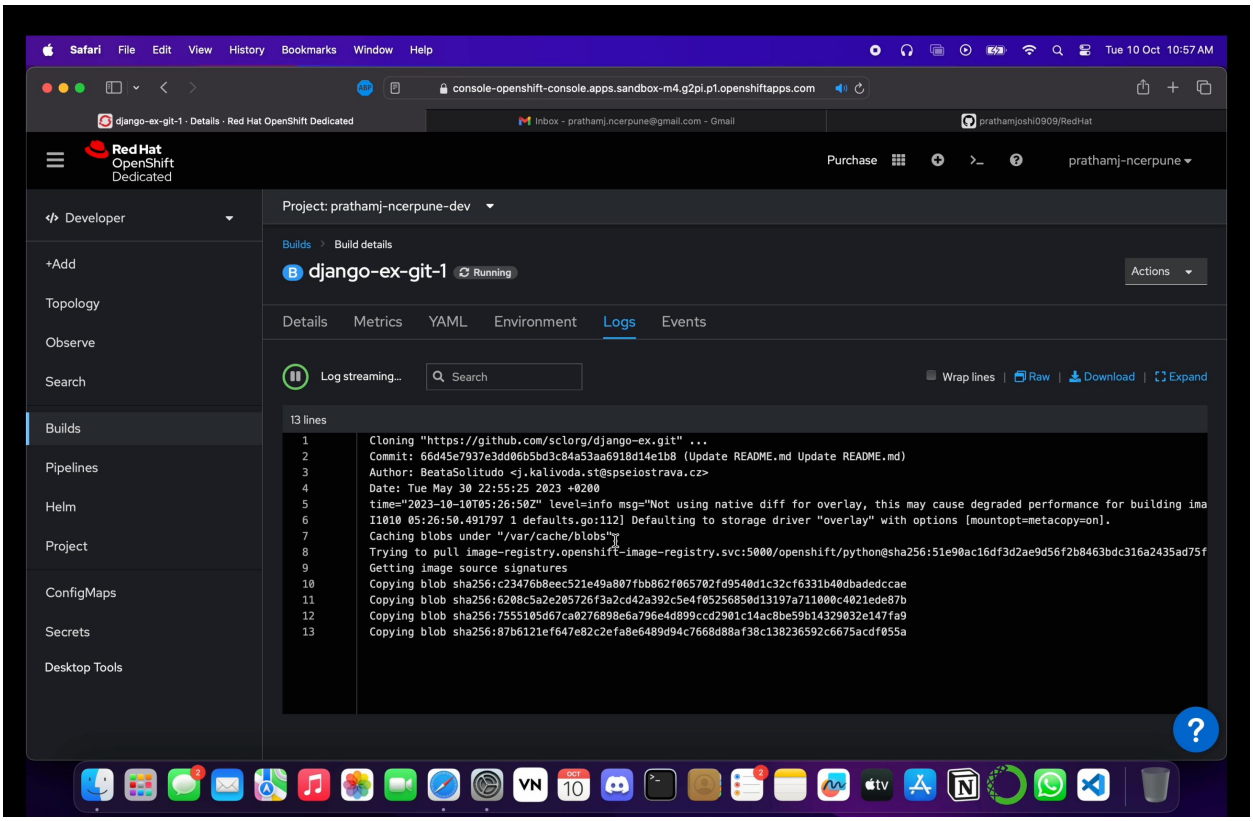
- Create a Dockerfile within the Codenvy workspace and build the Docker image if needed.

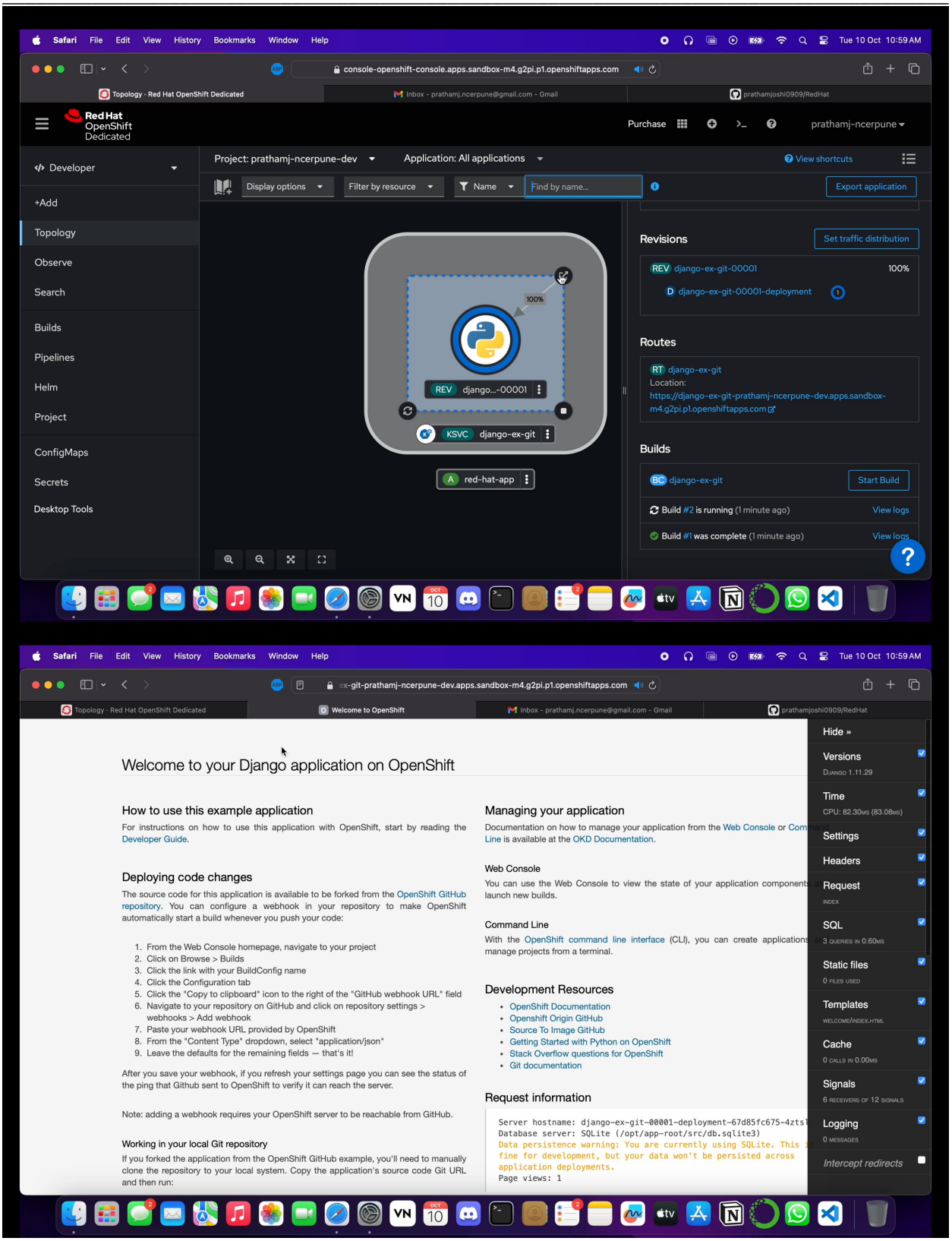


Step 5: Deployment

- Deploy the website/application within the Codenvy workspace.

- Verify the successful deployment and functionality of the website.

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Topology - Red Hat OpenShift Dedicated
Inbox - prathamj.ncerpune@gmail.com - Gmail
prathamjoshi0909/RedHat
Red Hat OpenShift Dedicated
Purchase
prathamj-ncerpune
Developer
+Add
Topology
Observe
Search
Builds
Pipelines
Helm
Project
ConfigMaps
Secrets
Desktop Tools
Project: prathamj-ncerpune-dev
Application: All applications
View shortcuts
Display options
Filter by resource
Name
Find by name...
Export application
100%
REV django...-00001
KSVC django-ex-git
A red-hat-app
Revisions
Set traffic distribution
REV django-ex-git-00001 100%
D django-ex-git-00001-deployment
Routes
RT django-ex-git
Location:
https://django-ex-git-prathamj-ncerpune-dev.apps.sandbox-m4.g2pi.p1.openshiftapps.com
Builds
BC django-ex-git
Start Build
Build #2 is running (1 minute ago)
View logs
Build #1 was complete (1 minute ago)
View logs

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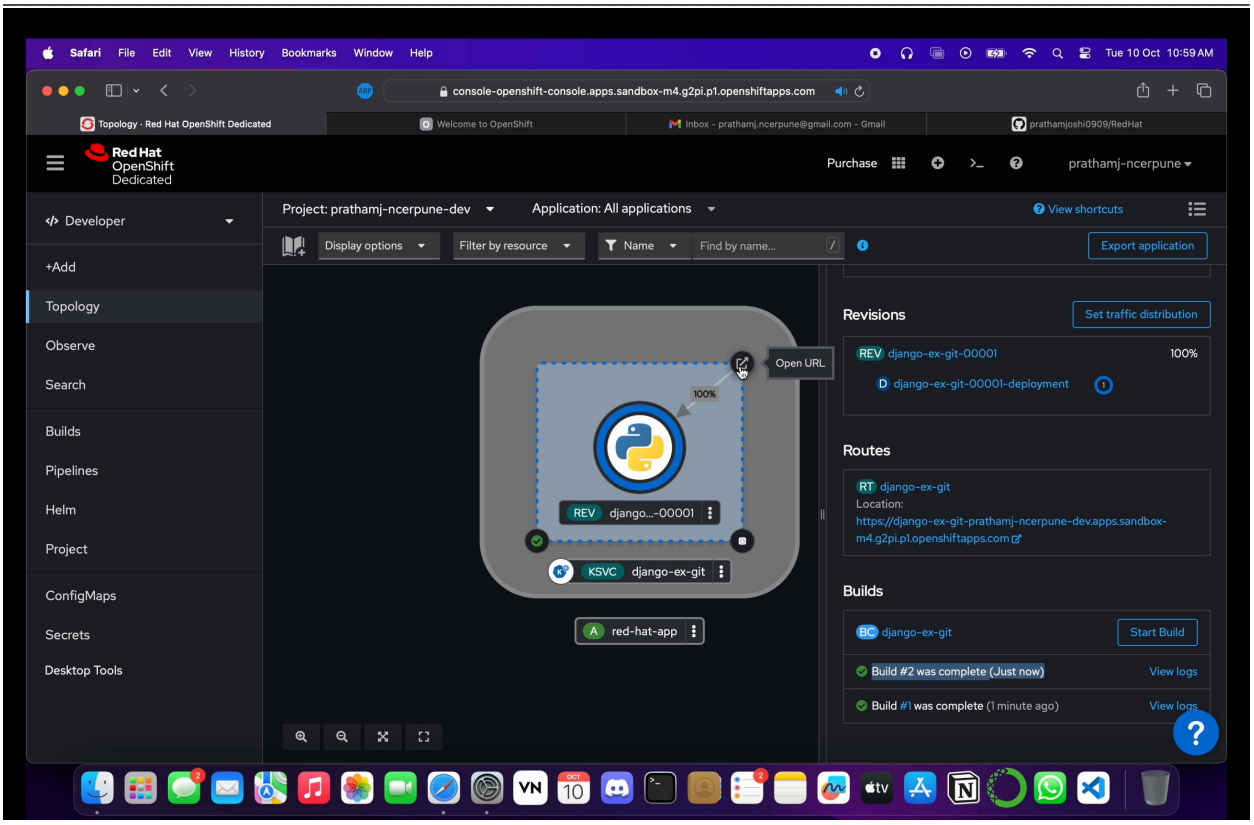
ex-git-prathamj-ncerpune-dev.apps.sandbox-m4.g2pi.p1.openshiftapps.com
Topology - Red Hat OpenShift Dedicated
Welcome to OpenShift
Inbox - prathamj.ncerpune@gmail.com - Gmail
prathamjoshi0909/RedHat
Welcome to your Django application on OpenShift
How to use this example application
For instructions on how to use this application with OpenShift, start by reading the Developer Guide.
Deploying code changes
The source code for this application is available to be forked from the OpenShift GitHub repository. You can configure a webhook in your repository to make OpenShift automatically start a build whenever you push your code:
1. From the Web Console homepage, navigate to your project
2. Click on Browse > Builds
3. Click the link with your BuildConfig name
4. Click the Configuration tab
5. Click the "Copy to clipboard" icon to the right of the "GitHub webhook URL" field
6. Navigate to your repository on GitHub and click on repository settings > webhooks > Add webhook
7. Paste your webhook URL provided by OpenShift
8. From the "Content Type" dropdown, select "application/json"
9. Leave the defaults for the remaining fields — that's it!
After you save your webhook, if you refresh your settings page you can see the status of the ping that Github sent to OpenShift to verify it can reach the server.
Note: adding a webhook requires your OpenShift server to be reachable from GitHub.
Working in your local Git repository
If you forked the application from the OpenShift GitHub example, you'll need to manually clone the repository to your local system. Copy the application's source code Git URL and then run:
Managing your application
Documentation on how to manage your application from the Web Console or Command Line is available at the OKD Documentation.
Web Console
You can use the Web Console to view the state of your application components and launch new builds.
Command Line
With the OpenShift command line interface (CLI), you can create applications and manage projects from a terminal.
Development Resources
OpenShift Documentation
Openshift Origin GitHub
Source To Image GitHub
Getting Started with Python on OpenShift
Stack Overflow questions for OpenShift
Git documentation
Request information
Server hostname: django-ex-git-00001-deployment-67d85fc675-4ztsl
Database server: SQLite (/opt/app-root/src/db.sqlite3)
Data persistence warning: You are currently using SQLite. This is fine for development, but your data won't be persisted across application deployments.
Page views: 1
Hide »
Versions
Django 1.11.29
Time
CPU: 82.30ms (83.08ms)
Settings
Headers
Request
INDEX
SQL
3 QUERIES IN 0.60MS
Static files
0 FILES USED
Templates
WELCOME/INDEX.HTML
Cache
0 CALLS IN 0.00MS
Signals
6 RECEIVERS OF 12 SIGNALS
Logging
0 MESSAGES
Intercept redirects



Conclusion:

Successfully demonstrated the provisioning and scaling of a website using Codenvy. This experiment highlighted the process of setting up a development environment, deploying a website, and dynamically adjusting resources to accommodate varying loads, ensuring efficient performance under different conditions.