



Experiment No. 4

Title: Working in Codenvy to demonstrate Provisioning and Scaling of a website.

Objective: To learn Codenvy Platform as a Service (using Redhat Openshift Developer sandbox because now this service is Aquired by redhat openshift)

Tools used:

Internet, Redhat Openshift Developer sandbox, Github

Prerequisite:

Understanding of Platform as service model of cloud computing.

Theory: Codenvy, now acquired by Red Hat and integrated into the Red Hat OpenShift platform, is a cloud-based integrated development environment (IDE) that provides developers with the necessary tools to code, build, test, and run applications. The platform is designed to simplify the development process by eliminating the need to install software and manage servers, thereby allowing developers to focus solely on writing code.

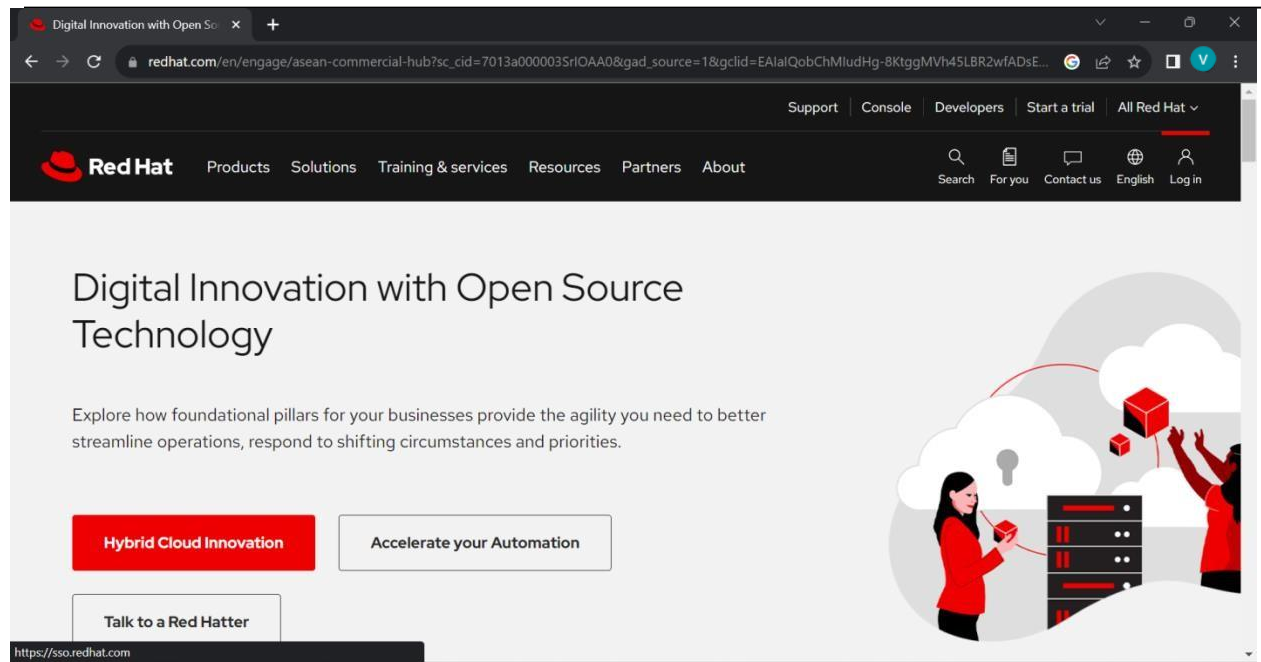
In this experiment, we are using Codenvy to demonstrate the provisioning and scaling of a website. Provisioning refers to the process of setting up IT infrastructure. It can also refer to the steps required to manage access to data and resources, and make them available to users and systems.

Scaling, on the other hand, is the ability of the system to handle and adapt to an increasing amount of work. In the context of a website, this could mean the ability to serve more users concurrently, handle more data, or run more complex applications.

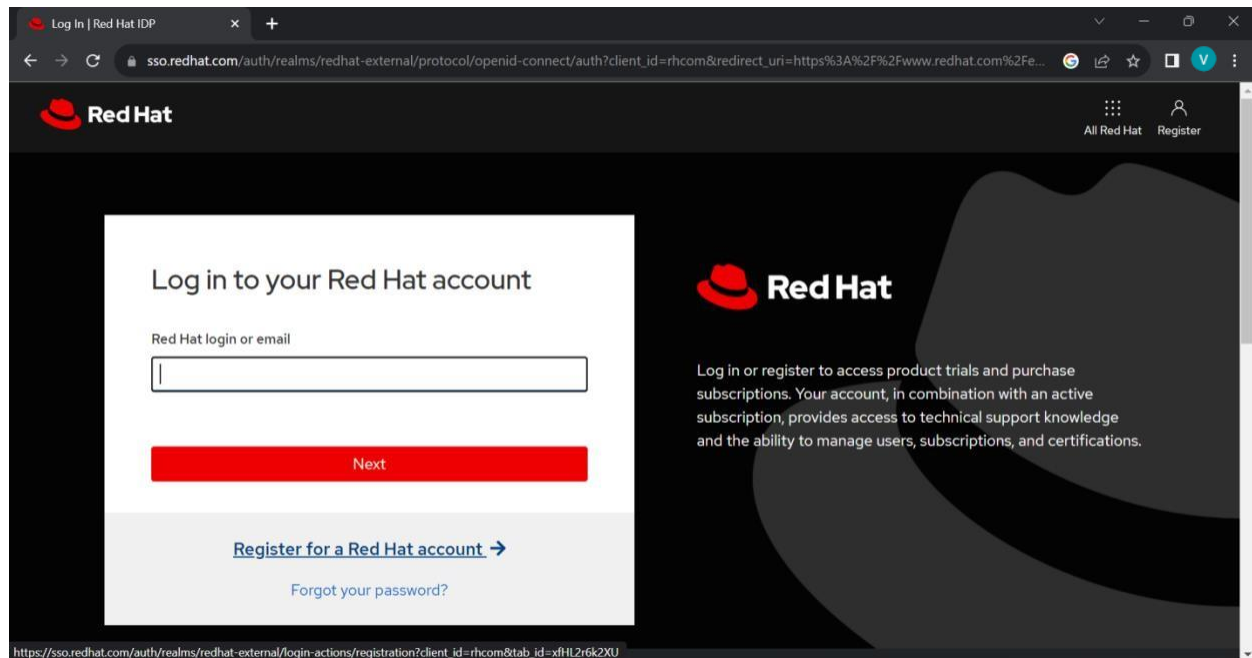
Red Hat OpenShift is a family of containerization software products developed by Red Hat. Its flagship product is the OpenShift Container Platform—an on-premises platform as a service built around Docker containers orchestrated and managed by Kubernetes on a foundation of Red Hat Enterprise Linux.

Steps to perform the experiment:

Step 1: Creating Account For Red hat Account, click on login.



Step 2: Click on register for a Red Hat account.



Step 3: Fill details and click and create my account.

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Register | Red Hat IDP

sso.redhat.com/auth/realms/redhat-external/login-actions/registration?client_id=rhcom&tab_id=xfHL2r6k2XU

* All fields required

Login information

Choose a Red Hat login *

Your login is a user ID for accessing your account across all Red Hat sites. It must be at least 5 characters and **cannot be changed once created**.

Choose a password *

— Must be at least 14 characters
— Must include at least 3 of the following: lowercase letter, uppercase letters, numbers, symbols
— Cannot contain the word(s) "redhat" or "password"

Personal information

First name * Last name *

Register | Red Hat IDP

sso.redhat.com/auth/realms/redhat-external/login-actions/registration?client_id=rhcom&tab_id=xfHL2r6k2XU

Cannot contain the word(s) "redhat" or "password"

Personal information

First name * Last name *

Email address *

Marketing opt-in

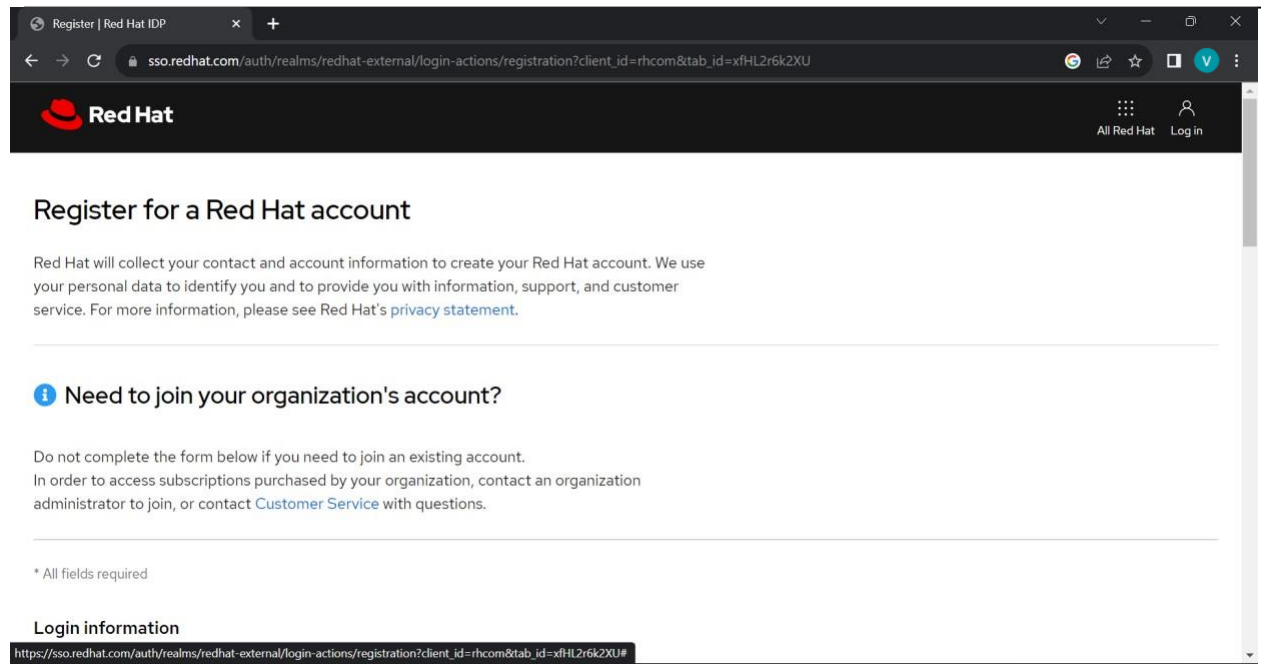
Red Hat may use your personal data to inform you about its products, services, and events.

☐ Notify me about products, services, and events.

You can stop receiving marketing emails by clicking the unsubscribe link in each email or withdraw your consent at any time in the [preference center](#). See [privacy statement](#) for details.

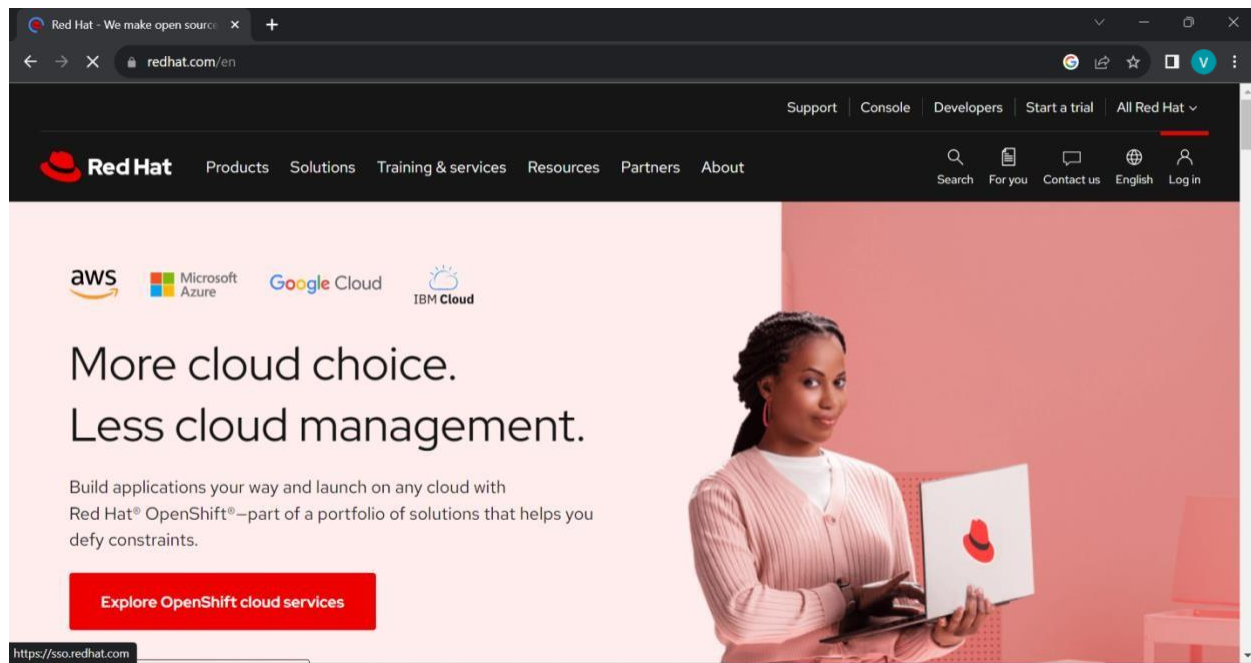
[Create my account](#) [Back to login page](#)

Step 4: Click on Red Hat icon.



The screenshot shows the Red Hat registration page in a web browser. The address bar displays the URL: `sso.redhat.com/auth/realms/redhat-external/login-actions/registration?client_id=rhcom&tab_id=xfHL2r6k2XU`. The page header includes the Red Hat logo and navigation links for "All Red Hat" and "Log in". The main heading is "Register for a Red Hat account". Below this, a paragraph states: "Red Hat will collect your contact and account information to create your Red Hat account. We use your personal data to identify you and to provide you with information, support, and customer service. For more information, please see Red Hat's [privacy statement](#)." A section titled "Need to join your organization's account?" with an information icon contains the text: "Do not complete the form below if you need to join an existing account. In order to access subscriptions purchased by your organization, contact an organization administrator to join, or contact [Customer Service](#) with questions." A footnote indicates "* All fields required". At the bottom, there is a "Login information" section with a URL: `https://sso.redhat.com/auth/realms/redhat-external/login-actions/registration?client_id=rhcom&tab_id=xfHL2r6k2XU#`.

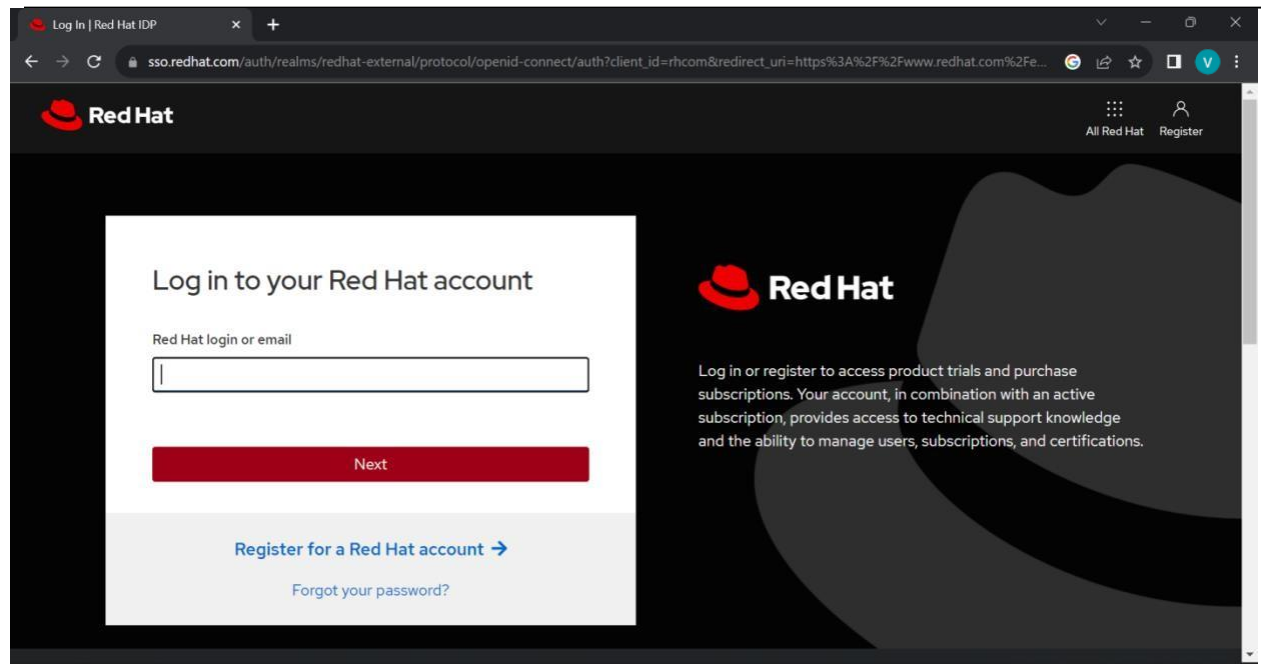
Step 5: Click on login.



The screenshot shows the Red Hat website in a web browser. The address bar displays the URL: `redhat.com/en`. The page header includes the Red Hat logo and navigation links for "Support", "Console", "Developers", "Start a trial", and "All Red Hat". Below this is a secondary navigation bar with links for "Products", "Solutions", "Training & services", "Resources", "Partners", and "About". The main content area features a large banner with the text "More cloud choice. Less cloud management." and a sub-headline "Build applications your way and launch on any cloud with Red Hat® OpenShift®—part of a portfolio of solutions that helps you defy constraints." A red button labeled "Explore OpenShift cloud services" is visible. On the right side of the banner, there is an image of a woman holding a laptop with the Red Hat logo on it. The footer of the page shows the URL `https://sso.redhat.com`.

Step 6: Write email and then click on next and then write password and then click on Log in.

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Log in | Red Hat IDP

sso.redhat.com/auth/realms/redhat-external/protocol/openid-connect/auth?client_id=rhcom&redirect_uri=https%3A%2F%2Fwww.redhat.com%2F...

Red Hat

All Red Hat Register

Log in to your Red Hat account

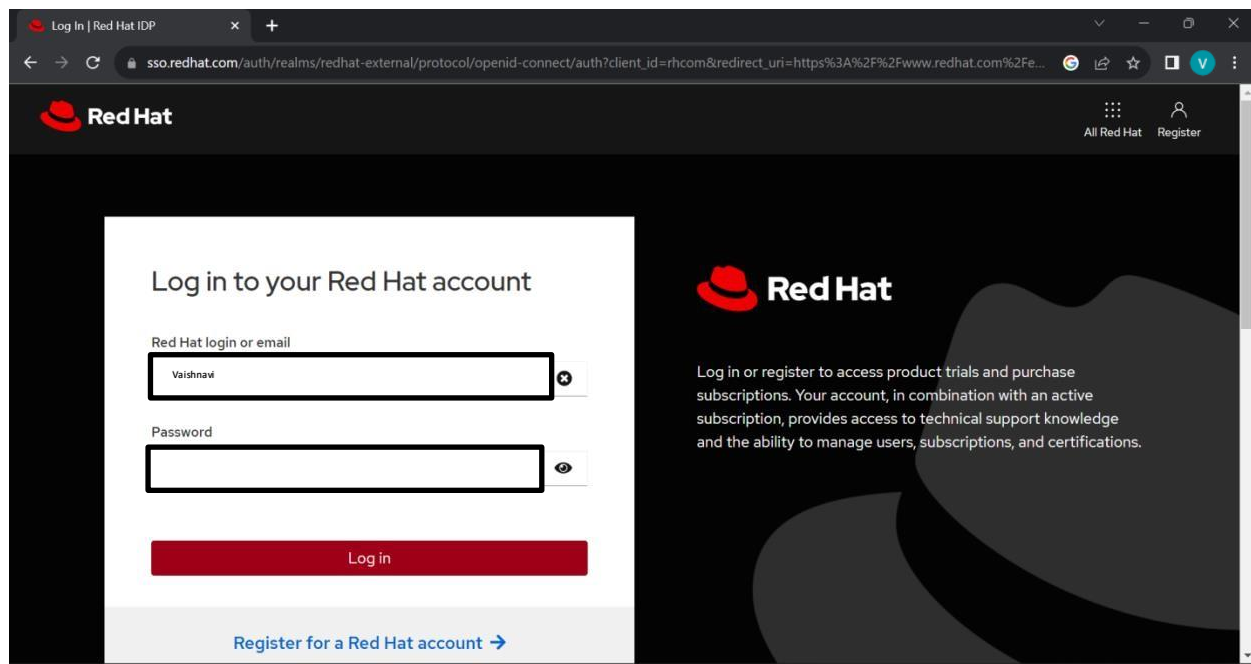
Red Hat login or email

Next

[Register for a Red Hat account →](#)

[Forgot your password?](#)

Log in or register to access product trials and purchase subscriptions. Your account, in combination with an active subscription, provides access to technical support knowledge and the ability to manage users, subscriptions, and certifications.



Log in | Red Hat IDP

sso.redhat.com/auth/realms/redhat-external/protocol/openid-connect/auth?client_id=rhcom&redirect_uri=https%3A%2F%2Fwww.redhat.com%2F...

Red Hat

All Red Hat Register

Log in to your Red Hat account

Red Hat login or email

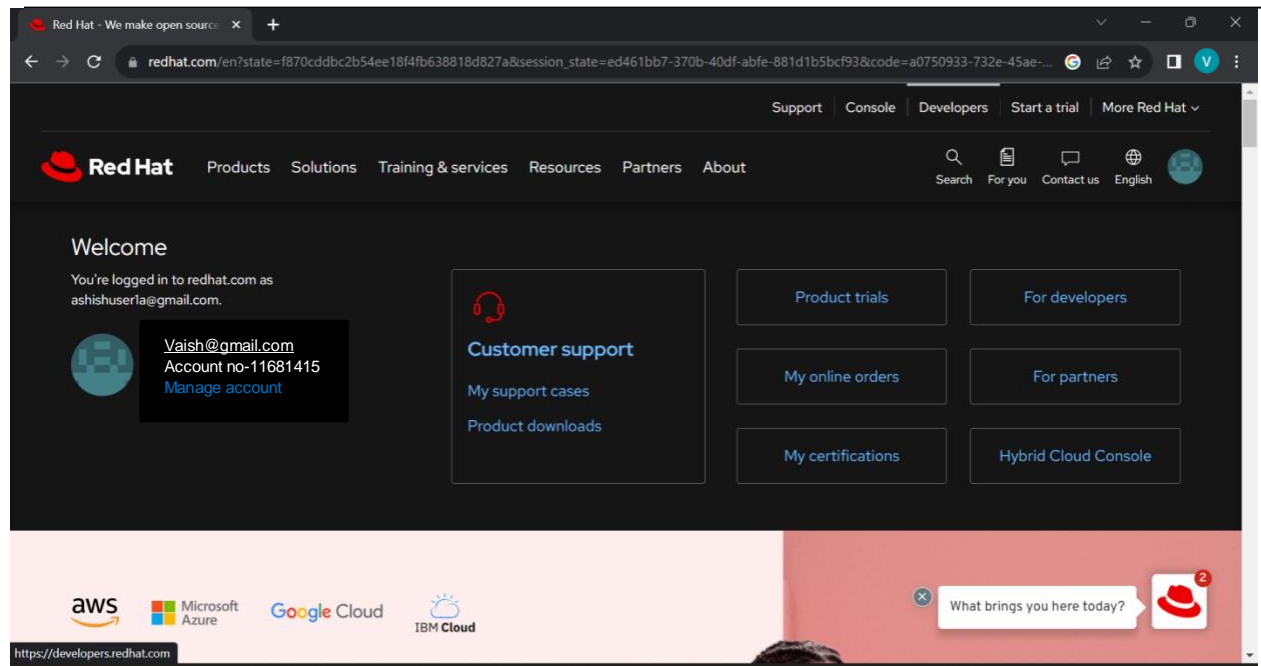
Password

Log in

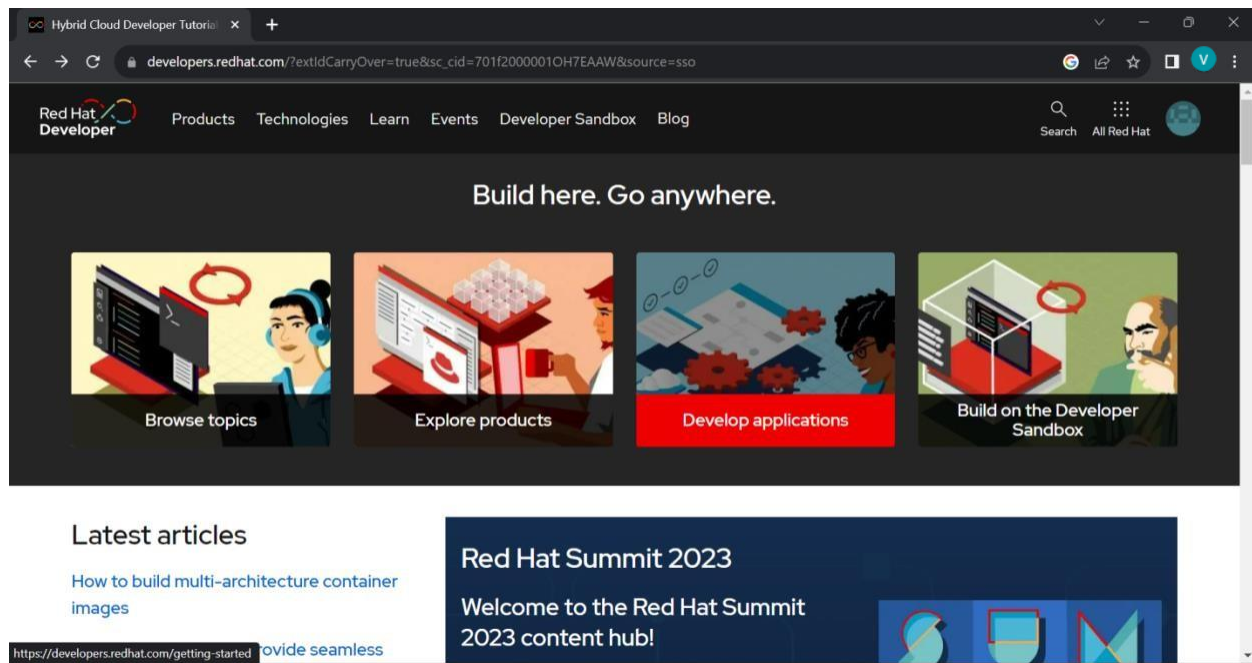
[Register for a Red Hat account →](#)

Log in or register to access product trials and purchase subscriptions. Your account, in combination with an active subscription, provides access to technical support knowledge and the ability to manage users, subscriptions, and certifications.

Step 7: click on developer.

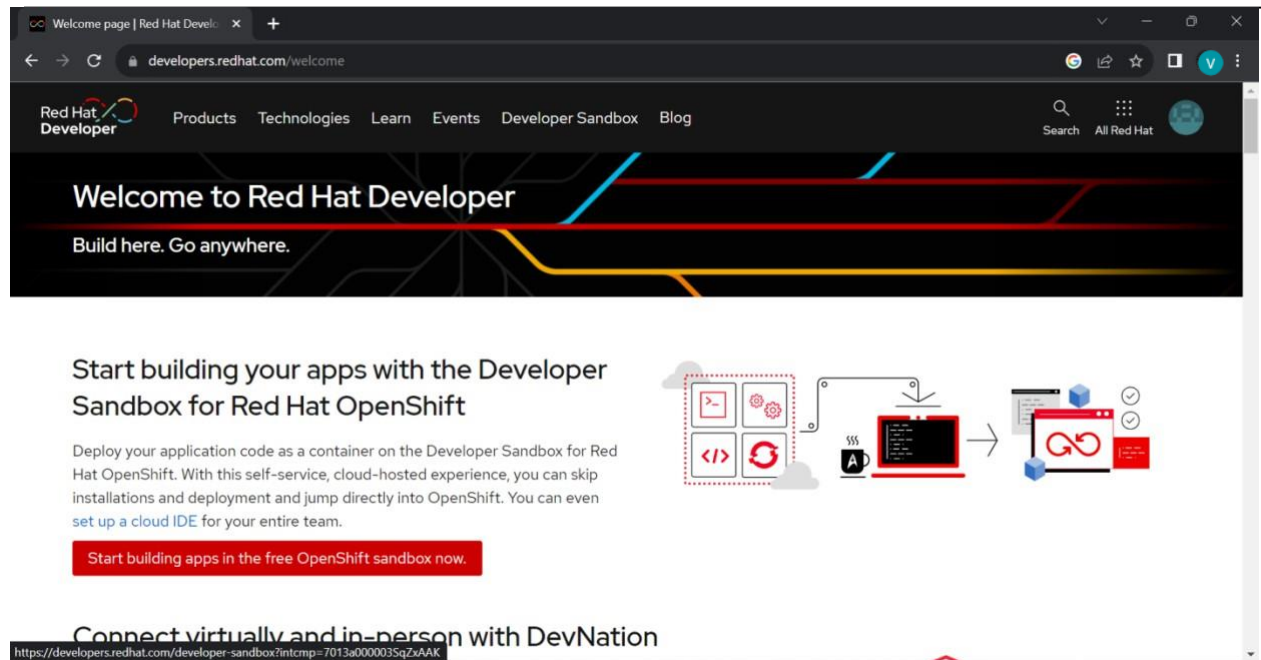


Step 8: click on develop application.



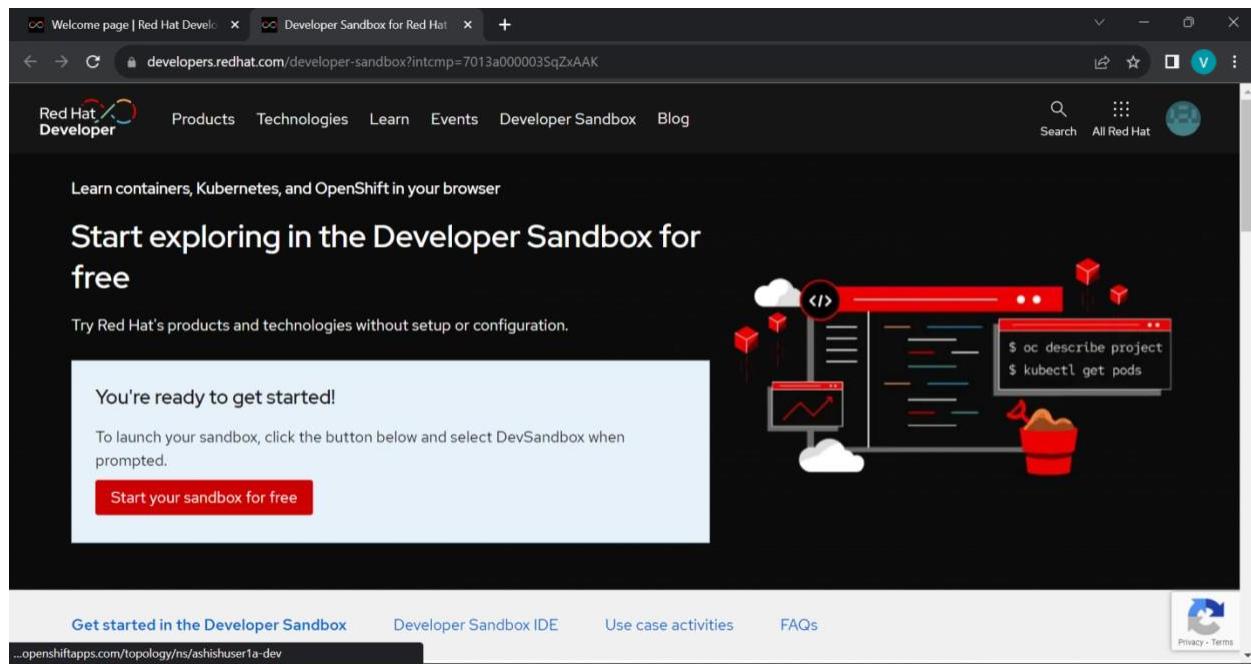
Step 9: click on start building apps in the free OpenShift sandbox now.

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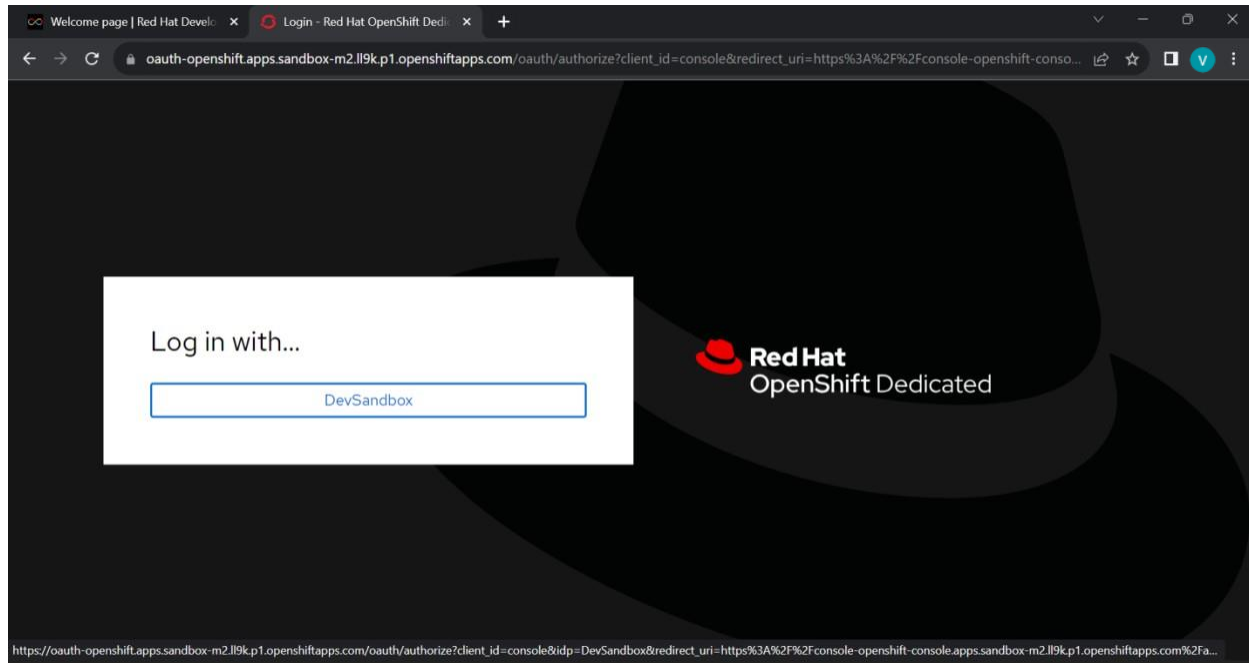
The screenshot shows the Red Hat Developer website. The header includes the Red Hat Developer logo and navigation links: Products, Technologies, Learn, Events, Developer Sandbox, and Blog. A search bar and 'All Red Hat' link are on the right. The main heading is 'Welcome to Red Hat Developer' with the tagline 'Build here. Go anywhere.' Below this, a section titled 'Start building your apps with the Developer Sandbox for Red Hat OpenShift' describes the service. It mentions that users can deploy application code as containers, skip installations, and jump directly into OpenShift. A red button says 'Start building apps in the free OpenShift sandbox now.' To the right is a diagram showing a workflow from a code editor to a containerized application. At the bottom, a link says 'Connect virtually and in-person with DevNation'.

Step 10: click on start your sandbox for free.

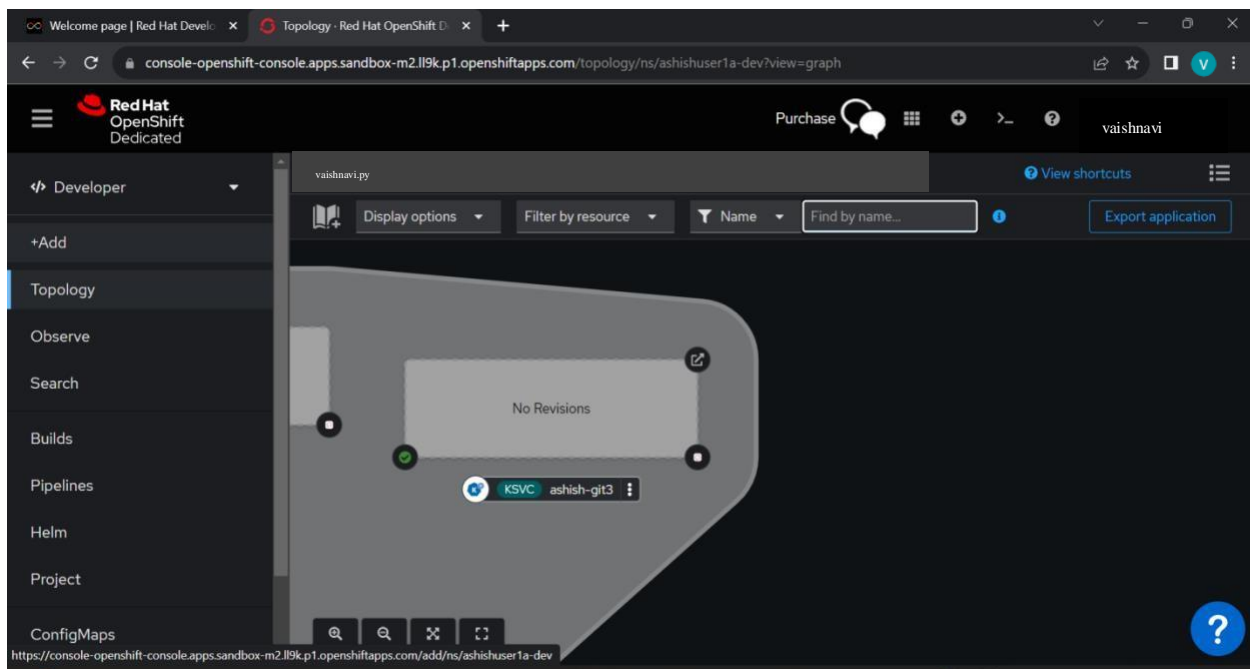


The screenshot shows the 'Developer Sandbox for Red Hat' page. The header is similar to the previous page. The main heading is 'Start exploring in the Developer Sandbox for free'. Below it, it says 'Try Red Hat's products and technologies without setup or configuration.' A light blue box contains the text 'You're ready to get started!' and 'To launch your sandbox, click the button below and select DevSandbox when prompted.' A red button says 'Start your sandbox for free'. To the right is a diagram showing a workflow from a code editor to a containerized application. At the bottom, there are links: 'Get started in the Developer Sandbox', 'Developer Sandbox IDE', 'Use case activities', and 'FAQs'. A footer link says '...openshiftapps.com/topology/ns/ashishuser1a-dev'.

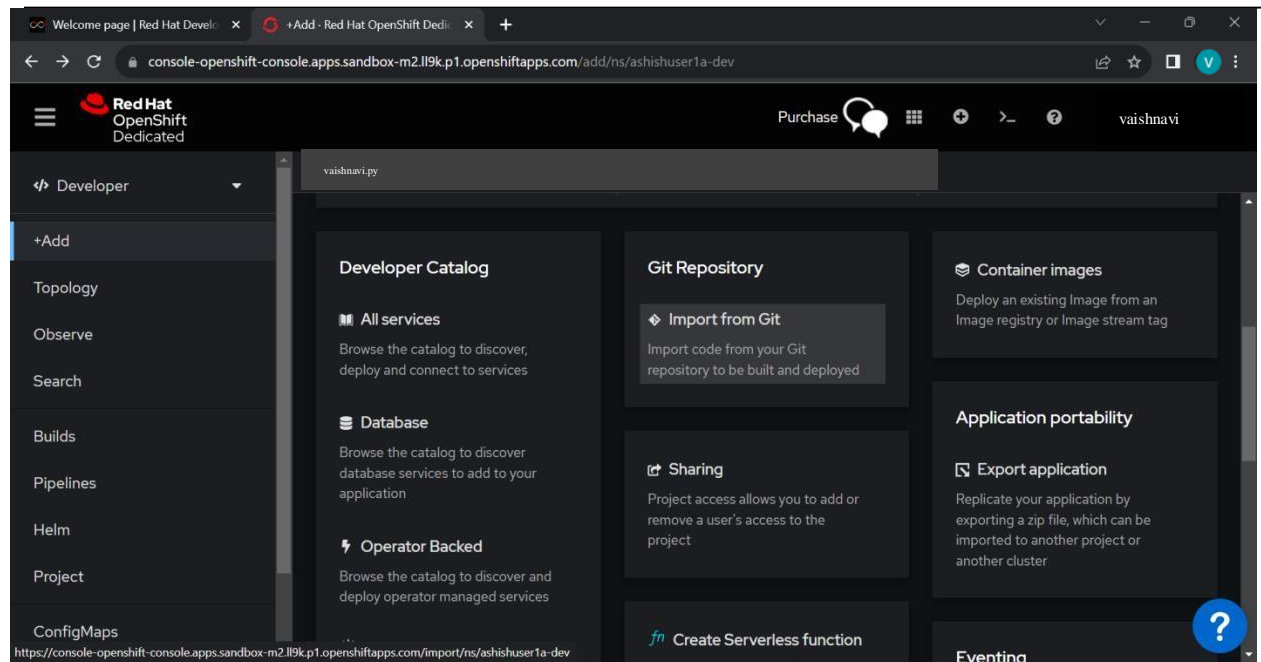
Step 11: click on DevSandbox.



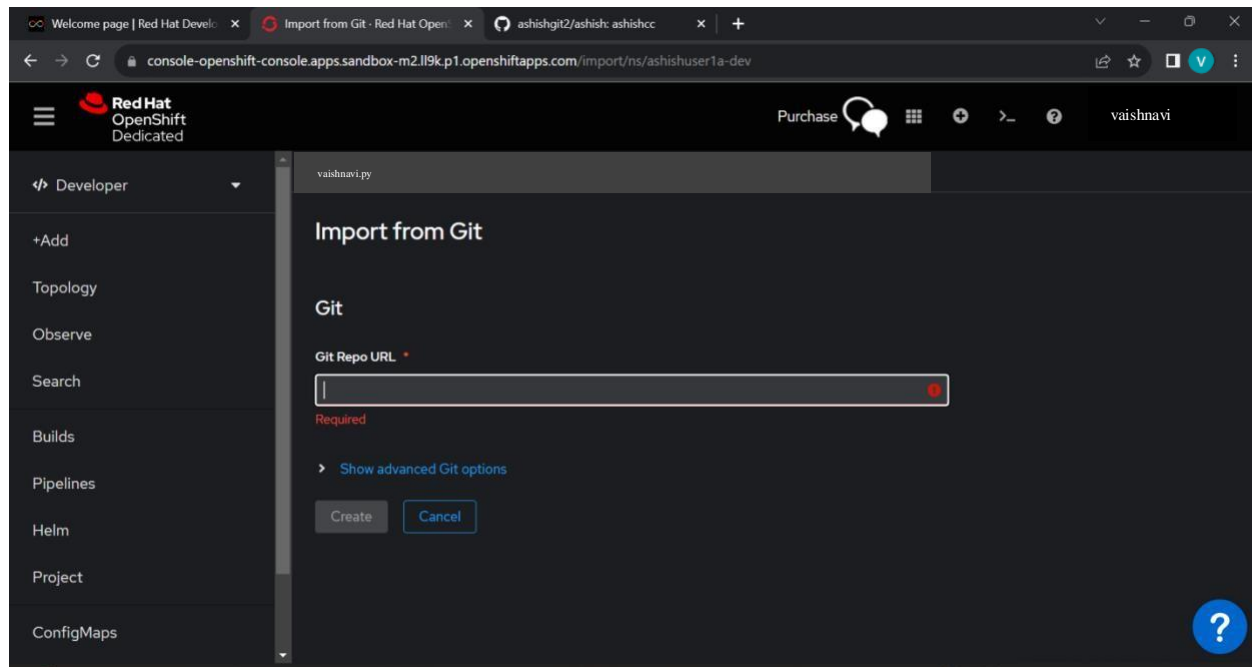
Step 12: click on +add.



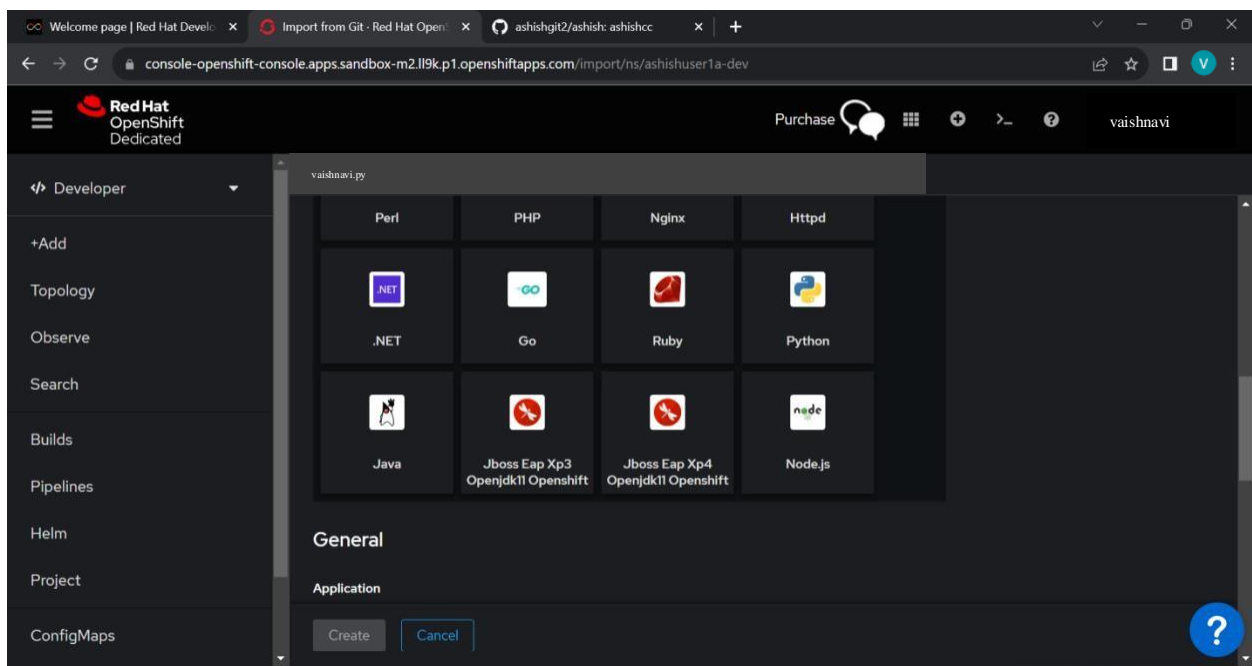
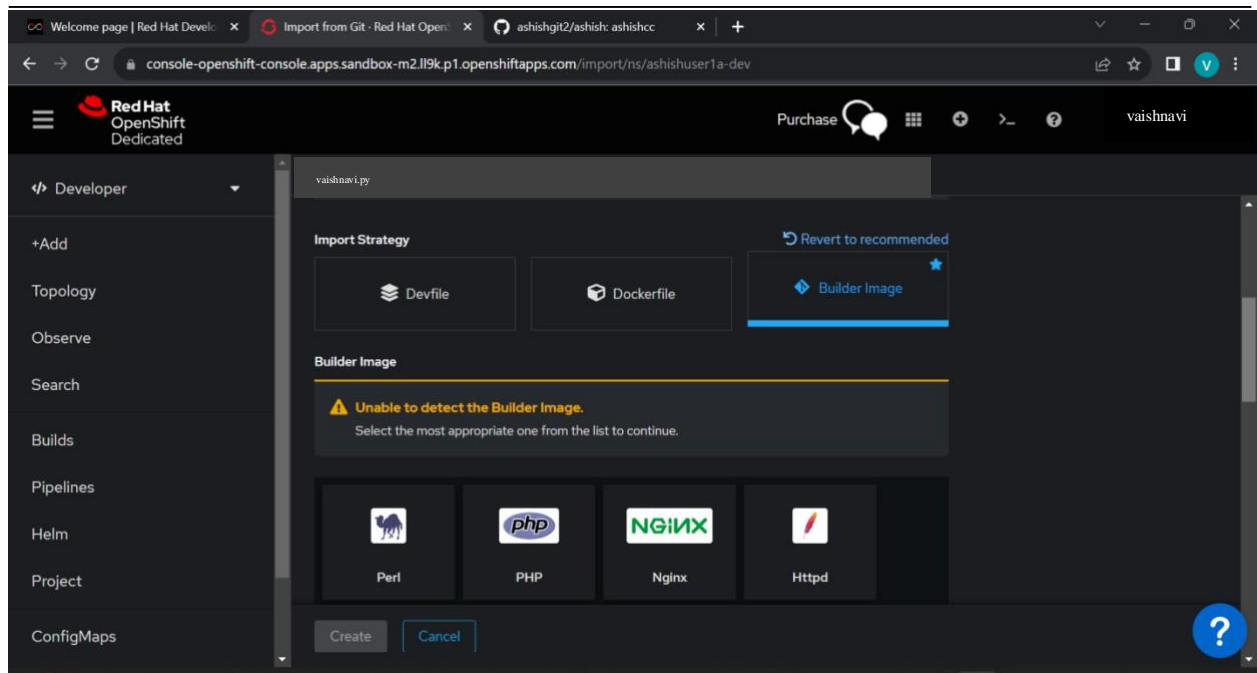
Step 13: click on import from Git.

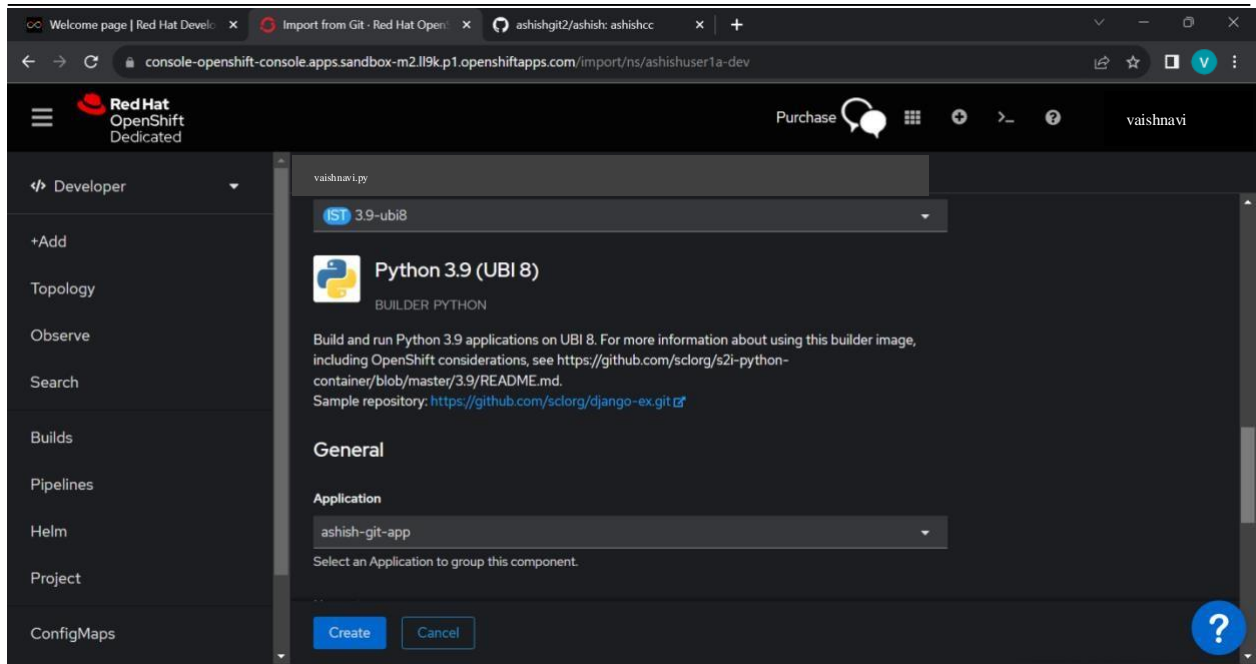


Step 14: type Git Repo UR and click on crate.

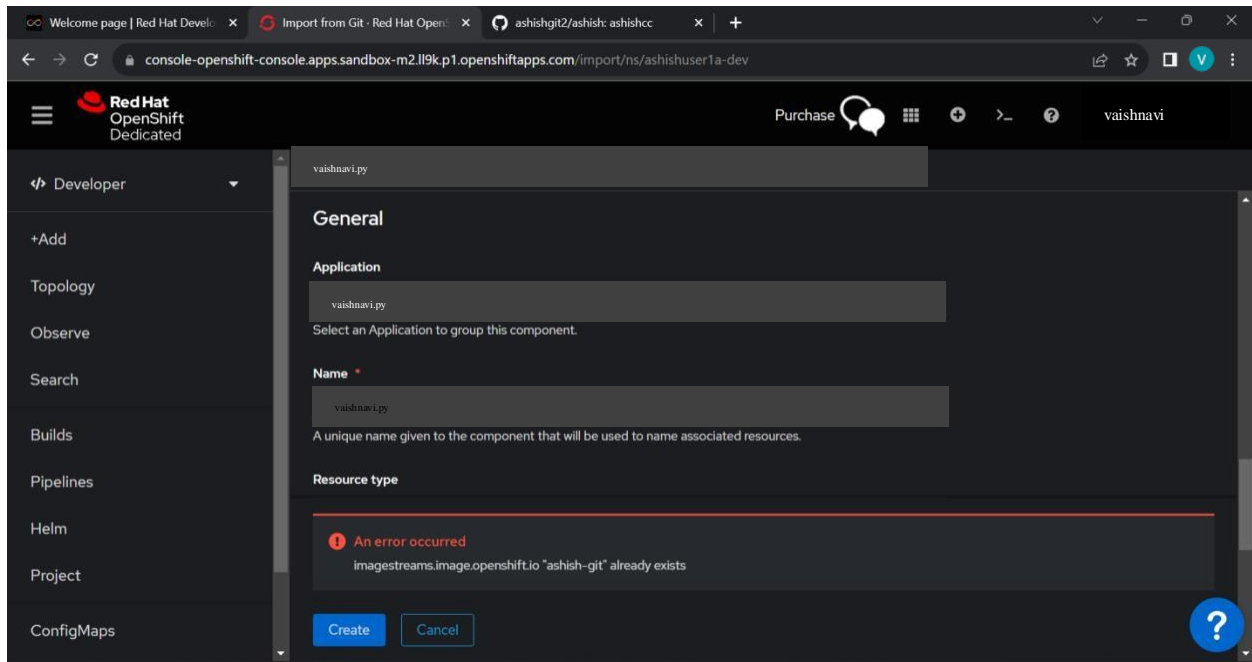


Step 15: Select builder image and fill details.

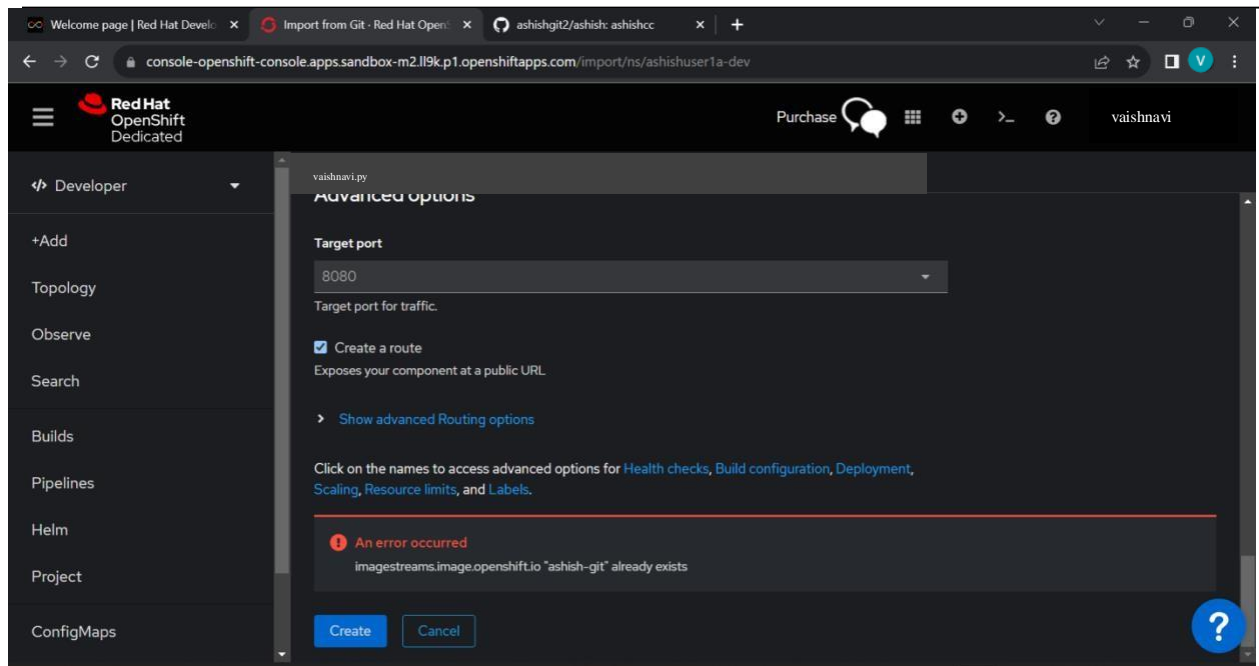




The screenshot shows the Red Hat OpenShift console interface. The left sidebar contains navigation options: Developer, +Add, Topology, Observe, Search, Builds, Pipelines, Helm, Project, and ConfigMaps. The main content area displays the 'Python 3.9 (UBI 8)' builder image. Below the image name, there is a description: 'Build and run Python 3.9 applications on UBI 8. For more information about using this builder image, including OpenShift considerations, see <https://github.com/sclorg/s2i-python-container/blob/master/3.9/README.md>. Sample repository: <https://github.com/sclorg/django-ex.git>'. The 'General' section shows the 'Application' dropdown set to 'ashish-git-app'. At the bottom, there are 'Create' and 'Cancel' buttons.

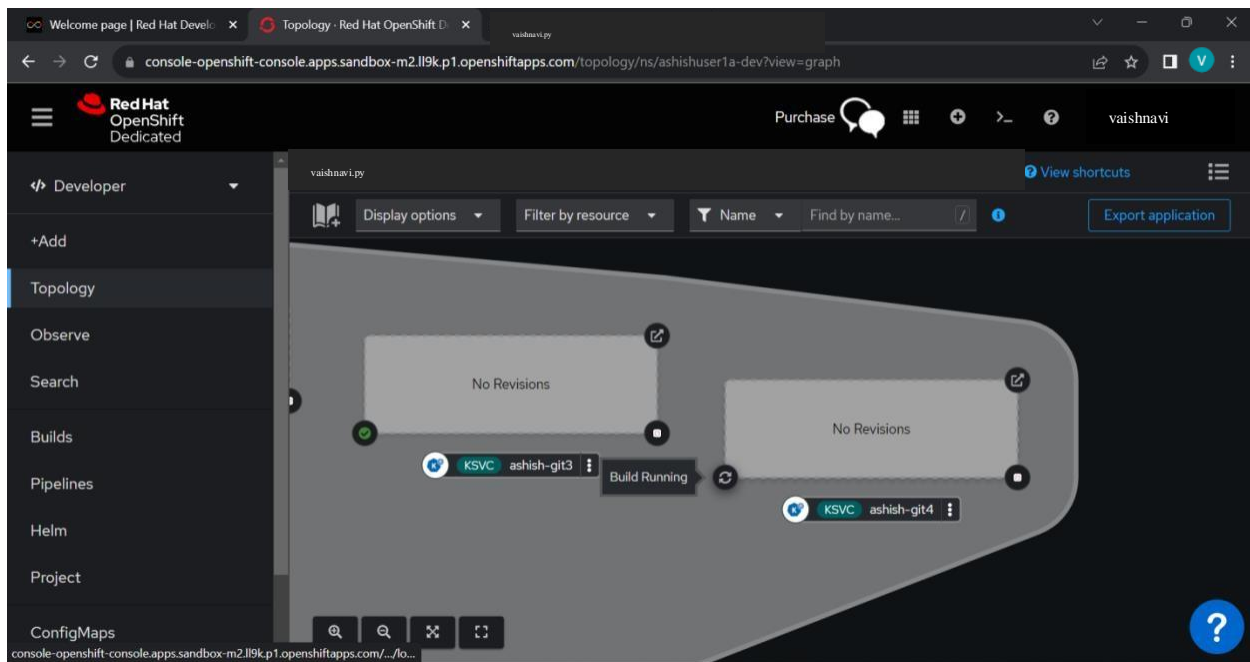


The screenshot shows the Red Hat OpenShift console interface. The left sidebar contains navigation options: Developer, +Add, Topology, Observe, Search, Builds, Pipelines, Helm, Project, and ConfigMaps. The main content area displays the 'General' section for a component named 'vaishnavi.py'. The 'Application' dropdown is set to 'vaishnavi.py'. The 'Name' field is also set to 'vaishnavi.py'. Below the 'Resource type' section, there is an error message: 'An error occurred: imagetstreams.image.openshift.io "ashish-git" already exists'. At the bottom, there are 'Create' and 'Cancel' buttons.

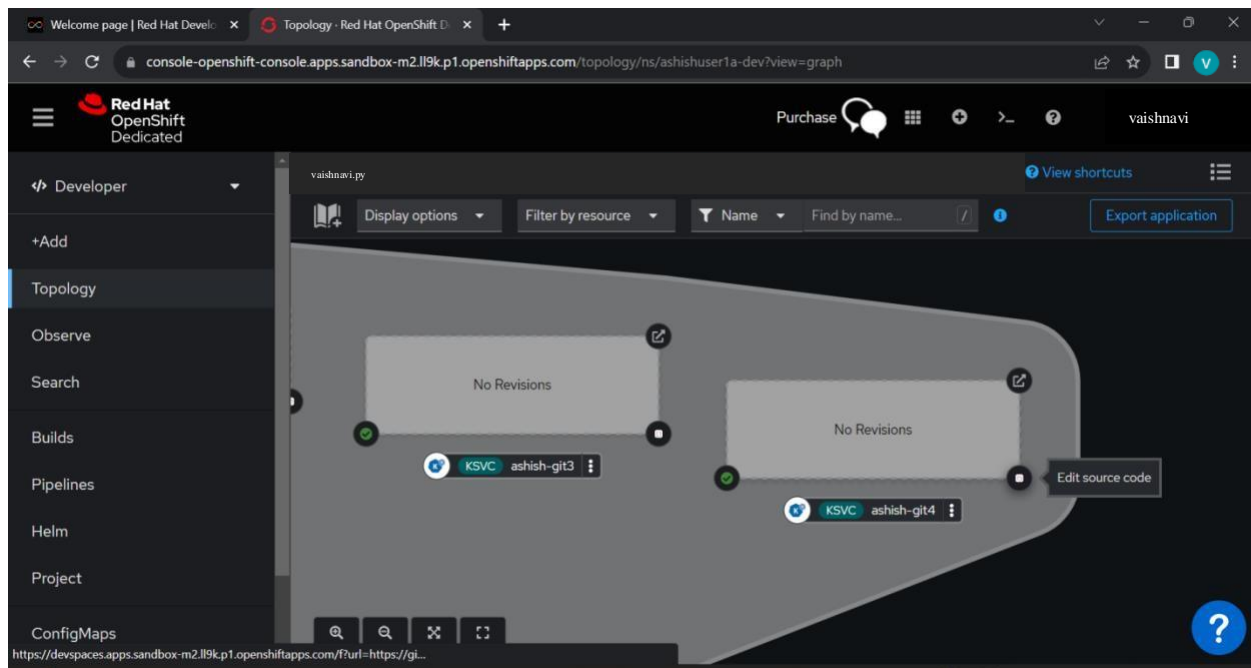


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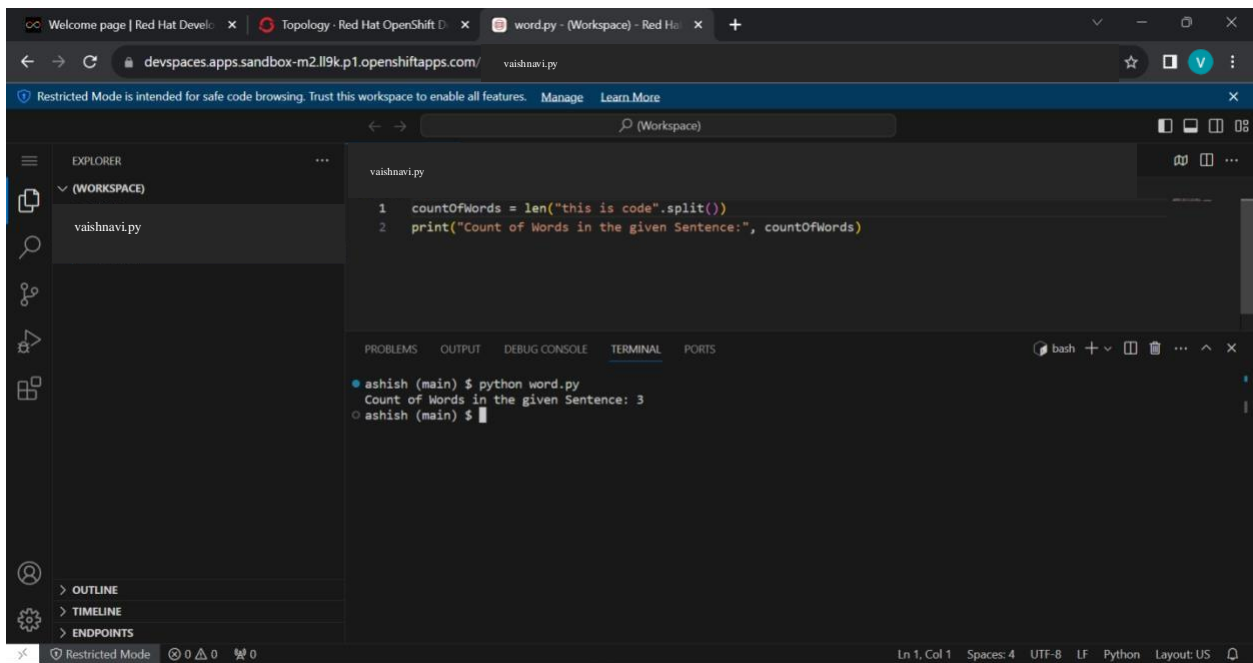
Step 16: select topology and click on build running.



Step 17: select topology and click on edit code.



Step 18: click on login with OpenShift and then DevSandbox, select your file and run in integrated terminal.



Conclusion:

Upon completion of this experiment, we have gained a practical understanding of how to work with Codenvy (now part of Red Hat OpenShift) to provision and scale a website. We have seen



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how cloud-based IDEs like Codenvy can simplify the development process, and how platforms like OpenShift can provide powerful tools for managing and scaling applications.