**CSC-227 FINAL PROJECT**

Be sure to read this document before starting your project.

**Learning Objectives:**

The ability to establish a Platform for Cloud Development

Able to Create and Deploy a Cloud Application.

**Getting Starting:**

To get started on the project you will fist need to deploy a cloud development environment (PaaS) on your computer laptop or desktop. The development environment you will establish and deploy is either Openshift or Minishift.

To download and use Openshift you can use the following link:

[Red Hat OpenShift Download | Red Hat Developer](https://developers.redhat.com/products/openshift/download)

It is important to note that online document for Openshift call for a minimum of 8 GB of memory. However, installation of current versions of Openshift will produce an installation error letting you know that you need at least 9 GB of memory. If your machine does not meet the memory requirement then you will need to use Minishift. Minishift is also an Openshift development tool but has a smaller footprint. You can download Minishift at:

[Overview - Getting Started | Minishift | OKD 3.11](https://docs.okd.io/3.11/minishift/getting-started/index.html)

You want to check your operating system (OS). When you download your development platform be sure you have a compatible OS. An issue you may run into is if you have Windows 10 Home Edition. Running these tools which related to the tool environment and the containers requires that you have a Hypervisor. Windows 10 Home edition does not directly support HyperV and Microsoft will tell you it is not supported. Here is an article I have used that has worked well in getting around the HyperV problem.

[How to Install Hyper-V on Windows 10 Home [Working Method] | Beebom](https://beebom.com/install-hyper-v-on-windows-10-home/)

[How To Enable Hyper-V On Windows 10 Home (itechtics.com)](https://www.itechtics.com/enable-hyper-v-windows-10-home/)

Some additional links that may be useful:

[Installing a OpenShift test environment using Minishift - CodeNotary](https://www.codenotary.com/blog/installing-a-openshift-test-environment-using-minishift/)

[Minishift and the Enterprise: Installation (openshift.com)](https://www.openshift.com/blog/minishift-enterprise-installation)

[How To run Local Openshift Cluster with Minishift | ComputingForGeeks](https://computingforgeeks.com/how-to-run-local-openshift-cluster-with-minishift/)

[How to Install and Run Minishift On MacOSX | by George Tsopouridis | Medium](https://gtsopour.medium.com/how-to-install-and-run-minishift-on-macosx-8cabb3374bb8)

[Introducing Minishift - Run OpenShift locally — Project Atomic](https://www.projectatomic.io/blog/2017/05/minishift-intro/)

[OpenShift Cheatsheet – CheatSheet (dennyzhang.com)](https://cheatsheet.dennyzhang.com/cheatsheet-openshift-a4)

[cheat-sheet/openshift.md at master · cherkavi/cheat-sheet · GitHub](https://github.com/cherkavi/cheat-sheet/blob/master/openshift.md)

[GitHub - mhausenblas/openshift-cheat-sheet: Cheat sheet for OpenShift](https://github.com/mhausenblas/openshift-cheat-sheet)

…… and of course you can do additional searches.

**YOUR PROJECT:**

**Due Date: May 6, 2021**

For your project you will be implementing, developing, and deploying a web based application of your own design and submit a comprehensive document of your work.

The document must be in MS-Word format and submitted to the assignment in Blackboard. The following is required for your submission:

1) Starting the Document:

A title page with the title of your project, your name, course name, instructor name, and date.

2) Development Platform:

A step approach of the major tasks you did in setting up your development environment (Openshift or Minishift) Starting with installation and ending with showing the successful completion of your development platform. When reporting tasks do the following:

    a) Task Name

     b) A description of the tasks performed.

     c) A screenshot of key tasks completed in the task to work and task completion with a brief description of what is being depicted.

3) Project Application:

You will develop a software application that you will deploy through your Cloud platform. You will design and create an application of your own choosing.

Do not develop an application that it too complex so that is hinders your development due to a time constraint. Also, do not make your application too simplistic. For example, deploying a “Hello World” application is not acceptable.

For your application you will present in the paper the following:

1. The design of your application. You will need to select the appropriate design technique(s) to use to clearly represent your work.
2. The source code used for your application.
3. Output screens that show and demonstrate the use of the appplication
4. A URL or suitable demonstration that the application was successfully deployed.

 4) Deployment and Conclusion:

1. You will develop a step process that you used in deploying your application. Be sure to discuss the tools you used.
2. You will write a conclusion the describes your experience in the project and what you learned about cloud deployment. Express and explain at least 3 things you have learned.

.5) Appendix:

1. Provide an appendix of the tools you used for the project from start to completion. You should provide the tool name, the course of the tool, and a brief explanation of the purpose of the tool.

**Grading for the Final Project is as follows:**

1) 25% Successfully demonstrating the installation of your PaaS development environment.

2) 25% Design and Development of your application. Your design should match what you have deployed.

3) 15% Demonstrating successful deployment of the application

4) 15% Completion of the appendix and conclusion

5) 10% Good writing and formatting of your document. Be sure your presentation of the material is clear, substantive, and you are meeting the objectives of the assignment. Thoroughly document your work.

6) 10% -- completing 90% of the training courses D101 and D180.