**Getting Started**

**with Conestoga’s SMART Center, Magenta, and**

**Open-OSP**

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# Introduction

This document will serve as a starting point in order for you to have access to resources that will make you more familiar with the development of Magenta and Oscar’s Open-OSP Electronic Medical Record System. In particular, you will be using Conestoga’s GitHub repository for development, called “Open-o”.

* Each Subsection of this document will include different aspects of the project you should familiarize yourself with
  + As Noted in the MS Teams File Directory Guide, the Learning Resources Directory will be a good starting point to gain an understanding of the coding Language, Frameworks, and Workflow that you will be using during your time developing for both Conestoga’s SMART Center and Magenta

# Repositories

## GitHub Repository Links

### Magenta Health (GitHub)

Need Access: <https://github.com/MagentaHealth/magenta-oscar-env>

### Conestoga SMART Open-O (GitHub)

Need Access: <https://github.com/ccosp/open-o>

## Bitbucket Repository Links

### Conestoga SMART Open-O (Bitbucket)

Need Access: <https://bitbucket.org/cc-smart-centre/cc-open-o/src/master/>

### Magenta Health (Bitbucket)

Need Access: <https://bitbucket.org/openoscar/oscar/src/master/>

# Setup Processes

## Small Note

If you are getting started and are using a Mac device, I would recommend using the Docker setup. On the other hand, if you are using Windows, I would recommend using the Vagrant VM setup. However, there have been recent changes to the licensing of the VM Workstation Player application. These issues may still persist, and our team is working on a solution to the issue. In this case, if you are still working on a Windows device and are unable to download VM Workstation Player, you can use the Docker setup for your development environment as well.

* While Docker can still be used on Windows as a development environment, the build times will be much slower as compared to what the Vagrant VM is capable of
  + The Docker build times on a Mac device are quite quick on Docker

## Starting with Docker

Follow the link below in order to get started with installing Docker and VS Code with the needed extensions!

**Link to ReadMe Documentation:** [open-o/.devcontainer at master · ccosp/open-o · GitHub](https://github.com/ccosp/open-o/tree/master/.devcontainer)

## Starting with Vagrant and VMWare

**Link to Vagrant Setup Documentation:** <https://github.com/MagentaHealth/magenta-oscar-env>

### Choosing Development Path (Oscar or OpenOSP)

* If you are choosing to develop using the Vagrant VM Workstation Player Environment
  + After the initial setup, you will need to follow the link highlighted as “Oscar/development” to find further instructions on setting up your VS Code development environment (This is after setting up your VM and included in the Magenta ReadMe file)

# Common Issues Arising With Vagrant VM’s

## Ports in Use When Initiating Vagrant VM Boot

When starting up your Vagrant machine, the ports it uses may already be in use. This won’t allow the virtual machine to boot up correctly, and you will be prompted to change the ports that it is using

* This will allow the machine to boot correctly

### Steps to Remediate

#### Step 1: Locate and Open the VagrantFile

* You can start by checking the port number used in the Vagrant File located in your directory that is contained in this path
  + **C:\Users\....\magenta-oscar-env\oscar\development**
  + *The port number that is used for configuration should be at line 10*

#### Step 2: Change the Port

* You can then open the VagrantFile in a text editor (Notepad or Notepad++) in order to change the port number
  + Increment the port number by 1 (Ex. 2224 à 2225) and save and close the document

#### Step 3: Initiate the “Vagrant Up” Command Again

* After changing and saving the port, then you can initiate the command to boot up the virtual machine
  + This should now start the VM without any problems

## SSH Issue on VS Code Startup

When you are in your Vagrant VM and are using SSH to connect to VS Code, you may be faced with this issue

* When this occurs, there is usually a mismatch between the port configuration numbers within the VagrantFile and the SSH Configuration file found within VS Code
  + As such, you will need to verify that both of these port numbers are the same so the SSH can properly connect you to the server

A screenshot of a computer

Description automatically generated

### Steps To Remediate

#### Step 1: Verify Port Numbers

* You can start by checking the port number used in the Vagrant File located in your directory that is contained in this path
  + **C:\Users\....\magenta-oscar-env\oscar\development**
  + *The port number that is used for configuration should be at line 10*
  + *A close-up of a computer screen

    Description automatically generated*
* As the picture error picture shows, there is a “More Actions” option to select in the Visual Studio Code pop up window, selecting this should allow you to choose an option to see the SSH Configuration file
  + You can choose to view the file here and the path should be along these lines
    - **C:\Users\xxx\.ssh**

#### Step 2: If Ports are Different, Change Them to Be the Same

* If there are discrepancies between the port numbers, you can alter them to be the same
  + Often times, the port number being used in the VS Code SSH configuration file is often different
  + You can manually change this port number in the file and then save the change

#### Step 3: Reopen VS Code from your Vagrant Git-Bash Terminal

* You can then close VS Code, and execute the “bin/code” command in your Vagrant terminal to restart your VS Code application with the new port configuration changes
  + After this occurs, you should be able to load the application and use your development environment without any issues

# Adjusting VM Settings For Performance

## Increasing RAM and Processor Cores (Recommended)

If you feel that your Vagrant VM is running slow or performance seems to be dwindling, you can upgrade the resources the machine will use. You can do this in the VagrantFile that is used for configuration settings….

### Steps to Configure Resources

#### Step 1: Locate the VagrantFile in your Project Directory

* To start, we will open the Vagrant File located in your project directory that is contained in this path
  + **C:\Users\....\magenta-oscar-env\oscar\development**

#### Step 2: Open the File in a Text Editor (Notepad or Notepad++)

* Once the file is located, you will need to open it in a proper word editor in order to make changes and properly configure the VM
  + Notepad and Notepad++ are good options to use

#### Step 3: Change the Resource Allocation for RAM and CPU

* After the file is opened in a word editor, you can change the resources used. I used Notepad++ to open the file, and as you look on lines 21 and 22, these are the two areas that are used for resource allocation
  + Change the values to use as many of the resources as you would like, but for our purposes we recommend at least 4GB of memory and as many cores of your CPU as possible without hindering your main devices performance
    - All you need to do is change the numbers within the ‘ ‘
    - After these values are changed, restart your VM and the changes should automatically be applied. As such, performance should increase

#### VagrantFile Contents: See Lines 21 and 22 for Resource Allocation

A screenshot of a computer

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# SMART Center Microsoft Teams File Directory Guide

## Overview

Over the course of the SMART Center working with Magenta, there have been quite a few documents created to keep track of our development progress. There are many documents that have been created in order to further your learning or act as a refresher for topics that will be extremely useful throughout our workflow. As such, the remainder of this document will act to point you in the right direction to navigate the directories that have been created and what each of them contains!

### Magenta Phase 1 Directory (Documents/General/Magenta Phase 1)

* This directory contains older documents from the first semester the SMART Center was working with Magenta, contained in this directory are the resources that were created from previous students regarding the work they have completed and the final report that acted as a type of onboarding for anyone new coming into the project

### Magenta Phase 2 Directory (Documents/General/Magenta Phase 2)

* This is the current directory that is being used for this semester (Summer 2024) and within it are quite a few resources that will be used to get you acquainted with previous work completed in the current semester and learning resources you can use to further your understanding of the project and previous learning regarding development practices
  + This is where the bulk of the documentation is found and each of its main directories will be highlighted below

#### Database Files (Documents/General/Magenta Phase 2/Database Files)

* This directory houses documents that were used to update and change the database in the application
  + While these files are not technically needed as they are integrated directly in the application, they are here as a type of archive
    - These drugref database file was used to add the drugref database into the application to fix searching for certain drugs in our development environment, which is separate to Magenta’s

#### GitHub Resources (Documents/General/Magenta Phase 2/GitHub Resources)

* This directory is used to contain our documentation on setting up GitHub to in your development environment
  + Each sub directory will relate to either the workflow or setup processes. Each is important in order to have your development environment setup with the correct remote origin and the workflow documents will help you understand push and pull requests for our overall delivery and workflow as well

#### Learning Resources (Documents/General/Magenta Phase 2/Learning Resources)

* Within this directory are two major subdirectories:
  + One that will lead to documents regarding development environment setup (Vagrant VM or Docker)
  + One that includes a great deal of review notes to refresh yourself on various concepts in OOP programming, getting started with the Java language, the frameworks the Oscar-OSP application uses, and unit testing notes with Selenium
* **I recommend this directory as a starting point for those looking to get an understanding of the underlying frameworks used for the project and the language its written in**

#### Mass Changes (Documents/General/Magenta Phase 2/Mass Changes)

* This directory holds two subdirectories:
  + One for OWASP Encoding, this was used at the beginning of the semester as a first objective for the new hires to make a pull request to Magenta and get used to using Git
    - All files that had OWASP encoding added were tracked in the included text file
  + One for Positional Parameter changes
    - The file in this directory contains the grep command that was used to find the files needing changed and the files that had their parameters changed to align with previous big fixes regarding parameter positions

#### Meeting Recordings (Documents/General/Magenta Phase 2/Meeting Recordings)

* This directory is used to hold any meeting calls that were recorded throughout the semester

#### Kickoff Resources (Documents/General/Magenta Phase 2/Kickoff Resources)

* This directory holds the files that were given to the students at the beginning of the Magenta Project Phase 2

#### Phase 2 Closure (Documents/General/Magenta Phase 2/Phase 2 Closure)

* This document will hold the resources created for the Magenta Projects carry over from Magenta Project Phase 2 to Magenta Project Phase 3
  + This document will be found in the directory alongside the Magenta Phase 2 Report outlining the work conducted and the research objectives met

#### Presentations (Documents/General/Magenta Phase 2/Presentations)

* Each subdirectory includes a separate week and the presentation created for our stakeholder meetings
  + Each presentation includes sprint objectives and the current work that was completed with each sprint