Cloud Workshop

This workshop consists of several parts. It will require you to create a basic ASP.NET website, deploy it to a cloud-based version control repository, and from there deploy it as a cloud app. Along the way you will answer a couple of questions about each part.

The objectives for the workshop are:

- To introduce you to ASP.NET web applications
- To introduce you to the concept of version control
- For you to gain experience using a version control repository
- For you to gain experience using a cloud hosting provider
- To enhance your understanding of cloud computing by classifying each of the cloud services used according to the NIST model
- To develop your ability to work with new technologies as a software developer (through independent research and implementation)

NOTE: This is an individual assignment; every student must complete the parts and make a submission. Submit the answers to the questions that follow in a Word document.

Marks: 25

Due date: Fri 22 Sep 2017 at 20:00

Part 1: Create a GitHub account

GitHub offers a range of cloud services but is best known as a version control repository. This means that you can keep a copy of any project's source code on the site and track changes to it.

Step 1.1: Sign up for a GitHub account.

- Register at https://github.com/
- As a student you can get free access to extra features and I would recommend that you also get the Student Developer Pack at https://education.github.com/pack

Learn more when you have time…

You will make extensive use of version control in third year courses and throughout your professional career. The following course provides a good introduction which is relevant to the technologies you are learning: Visual Studio Essential Training: 10 Protecting Your Code Base with Source Control Providers

Question 1: Examine GitHub using the NIST definition of cloud computing. Use information from the website, or other online sources, to answer the following questions.

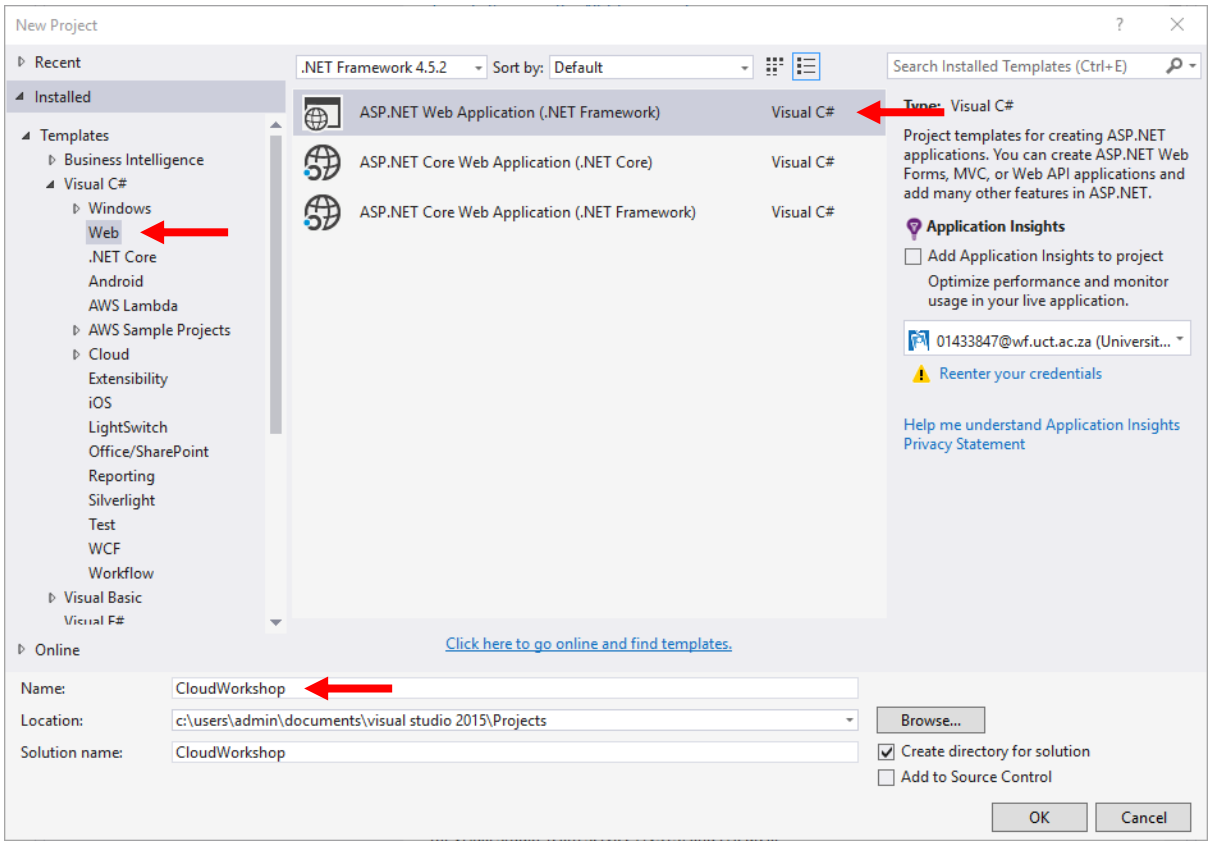
a) How does GitHub support the essential characteristics? (5 marks)
b) What service model(s) is supported? (2 marks)
c) What deployment model(s) is supported? (2 marks)

Part 2: Create an ASP.NET web application

In third year courses, you will learn how to develop web applications. You will use ASP.NET as the platform for this. Right now you don't have to understand the details, but just follow the steps for a basic template project.

Step 2.1: Create a new ASP.NET web application project in Visual Studio.

- Give the project a unique name, for example [student number]CloudWorkshop
- Click OK to move on to the next setup screen

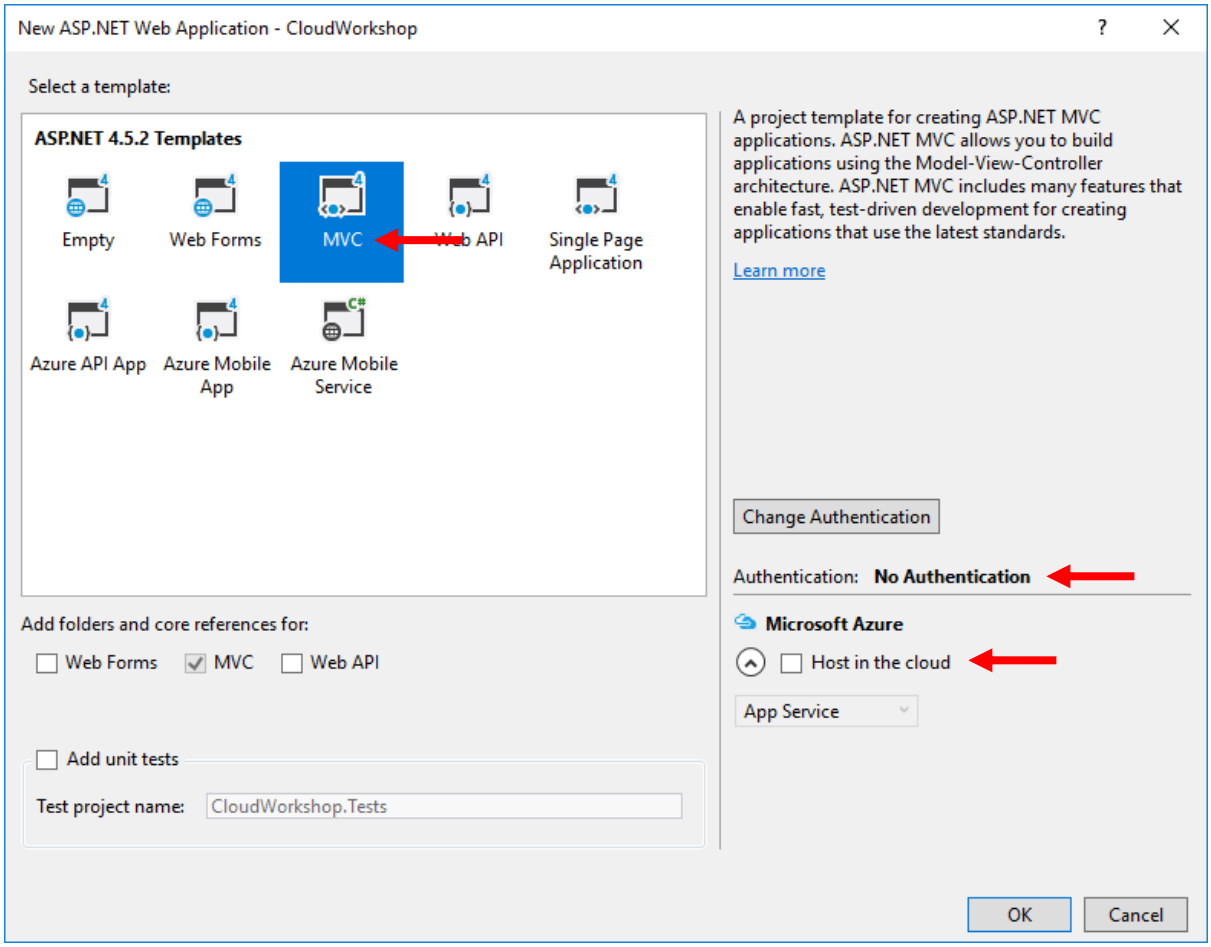


Step 2.2: Select the project template.

- Choose an MVC project
- Change the authentication to No Authentication
- Make sure that Host in the cloud is NOT selected
- Click OK to finish the setup and create the project source files
- After the project is created build and run it once to make sure it works

Learn more when you have time…

You can find tutorials, videos, and sample code to learn about ASP.NET MVC web applications here: https://www.asp.net/mvc/overview/getting-started

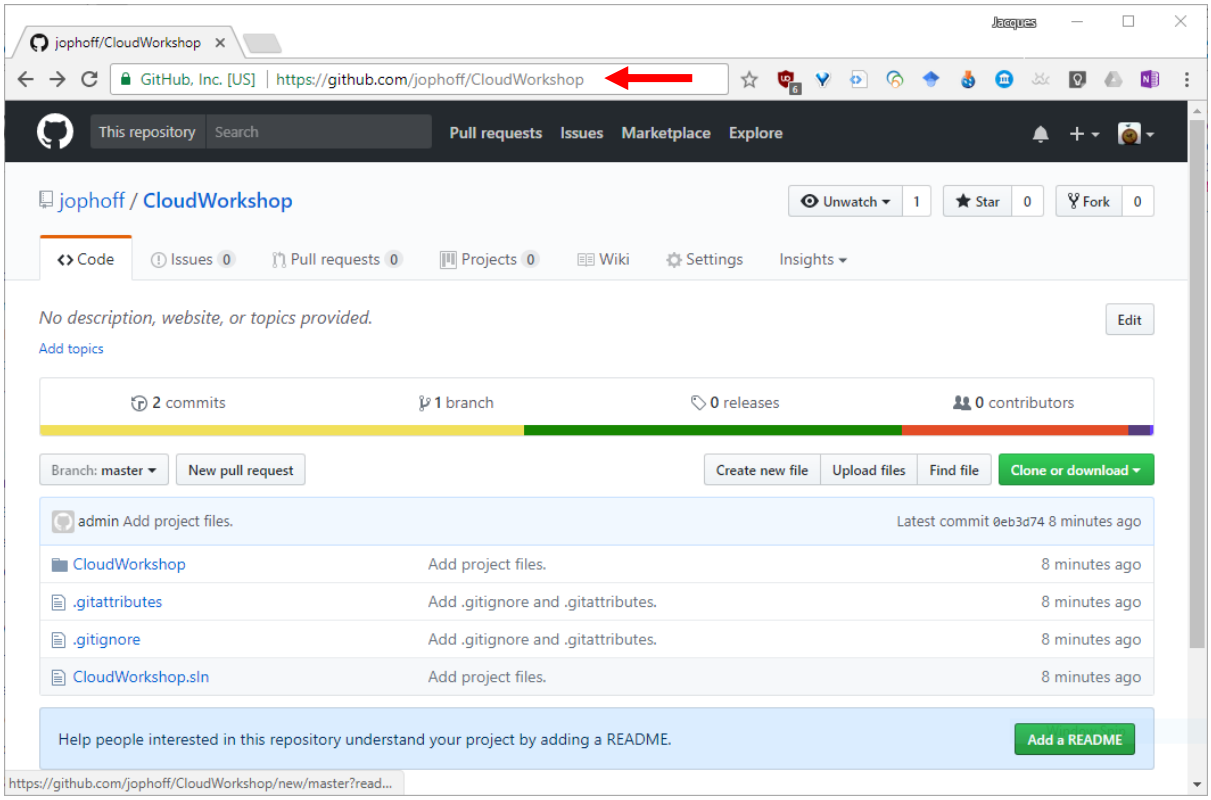


Step 2.3: Publish your project to your GitHub version control repository.

- There are a couple of ways to do this, but I would recommend that you use the GitHub Extension for Visual Studio
- Ensure that you create a PUBLIC repository on GitHub for this

Question 2: After publishing your code to GitHub answer the following questions.

a) Briefly describe the approach you used and the steps that were required (3 marks)
b) Provide a link (just the URL) to your GitHub repository (1 mark; -1 mark if it's not public)
- (An example of what your repository should look like is shown below)


jophoff/CloudWorkshop
Jacques
GitHub, Inc. [US] | https://github.com/jophoff/CloudWorkshop
This repository
Search
Pull requests
Issues
Marketplace
Explore
jophoff / CloudWorkshop
Unwatch 1
Star 0
Fork 0
Code
Issues 0
Pull requests 0
Projects 0
Wiki
Settings
Insights
No description, website, or topics provided.
Edit
Add topics
2 commits
1 branch
0 releases
0 contributors
Branch: master
New pull request
Create new file
Upload files
Find file
Clone or download
admin Add project files.
Latest commit 0eb3d74 8 minutes ago
CloudWorkshop
Add project files.
8 minutes ago
.gitattributes
Add .gitignore and .gitattributes.
8 minutes ago
.gitignore
Add .gitignore and .gitattributes.
8 minutes ago
CloudWorkshop.sln
Add project files.
8 minutes ago
Help people interested in this repository understand your project by adding a README.
Add a README
https://github.com/jophoff/CloudWorkshop/new/master?read...

Part 3: Create an AppHarbor account

AppHarbor provides a free and easy way to host a web application. You will use it to host the project, created in Part 2 of the workshop, in the cloud.

Step 3.1: Sign up for a free AppHarbor account.

- Register at https://appharbor.com/

Question 3: Examine AppHarbor using the NIST definition of cloud computing. Use information from the website, or other online sources, to answer the following questions.

a) How does AppHarbor support the essential characteristics? (5 marks)
b) What service model(s) is supported? (1 mark)
c) What deployment model(s) is supported? (1 mark)

Part 4: Automate application deployment

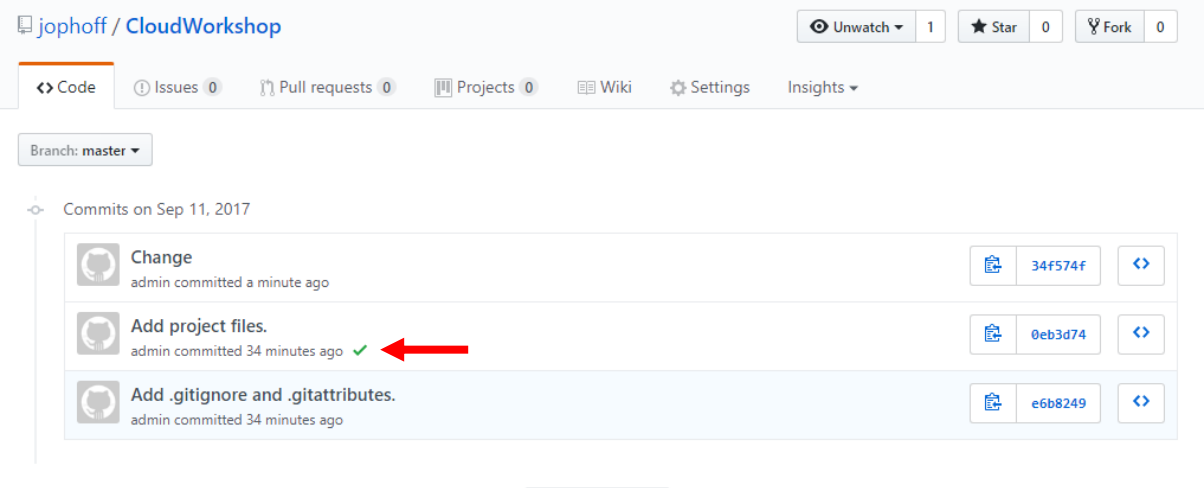
In this final part you will connect your GitHub and AppHarbor accounts. This will allow you to automatically push your project via GitHub to AppHarbor where it will be built and deployed.

Step 4.1: Integrate the AppHarbor service into your GitHub account.

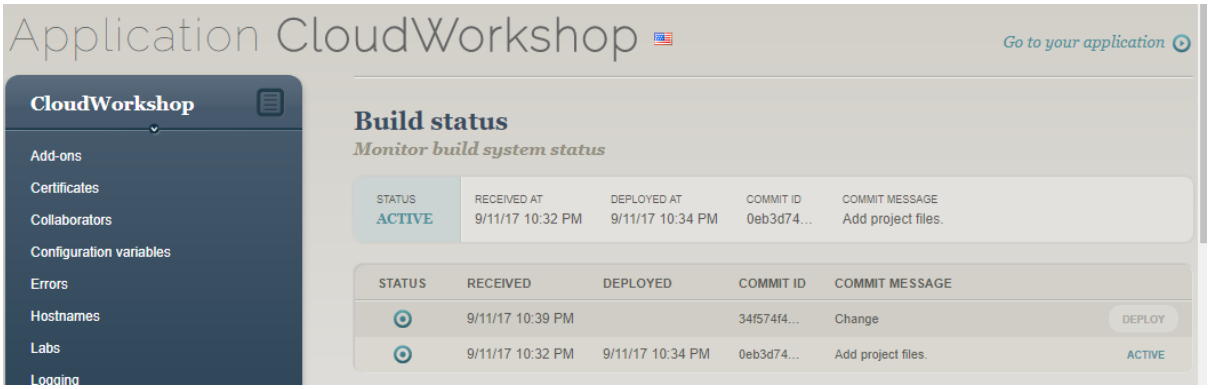
- First open your project and then add the AppHarbor service in its settings
- (This may require some research from your side…)

Step 4.2: Connect your project and deploy it via AppHarbor

- After adding the service connect to your project in GitHub
- AppHarbor should automatically fetch the project, build, and deploy it
- (You can see whether AppHarbor has built your project (green check mark) in the commit log)



- (Within AppHarbor you can view the build status and manually deploy the web application if needed)

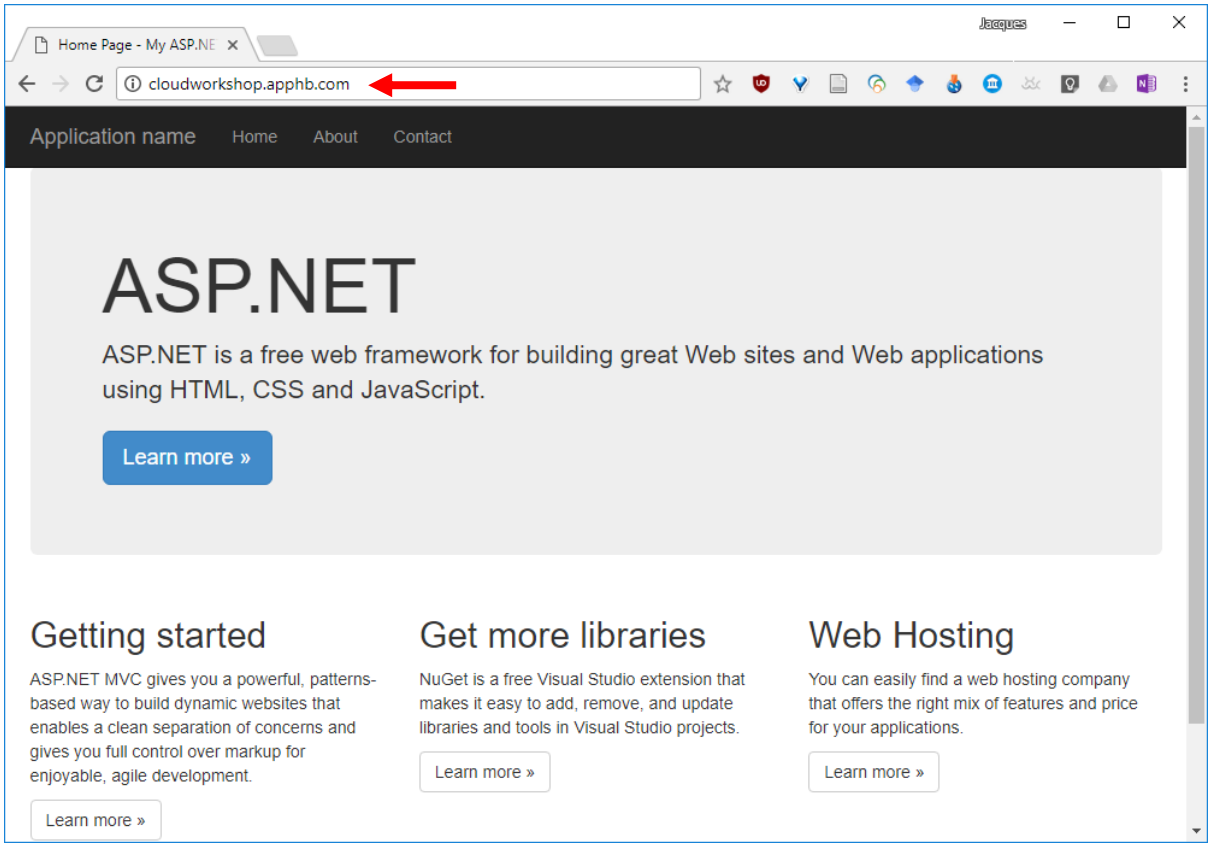


- (Use the ‘Go to your application’ link to view your web application online)

Question 4: After deploying your project using AppHarbor answer the following questions.

a) Briefly describe the steps that were required (4 marks)
b) Provide a link (just the URL) to your project (1 mark)

- (An example of what your web application should look like is shown below)



BONUS MARKS: Add your student number to the homepage (next to the big ASP.NET heading). Do this by making the relevant page update in Visual Studio and then pushing your change to GitHub. The deployment should automatically happen soon thereafter (this is interesting to see in action ☺).

a) Student number visible (1 mark)
b) Briefly describe the order of events that made this change happen (4 marks; only awarded if the student number is visible)

SUBMIT your Word document with the answers to the questions.