

INFS3204/7204 Practical 7 – Cloud Computing 1

Practical guidelines:

1. Practical sessions are designed to help you gain industry level experience in different concepts relevant to the course structure.
2. You must submit your prac code & any supporting documents in a zip file before your allocated prac session expires.
3. Read the instructions carefully given in each prac task.
4. Microsoft MSDN References are provided to help student better understand the core concepts covered in this practical.
5. This prac demands time. It is assumed that students will be working on this prac before they attend their prac sessions.
6. For help, don't hesitate to contact prac tutor/on discussion board.

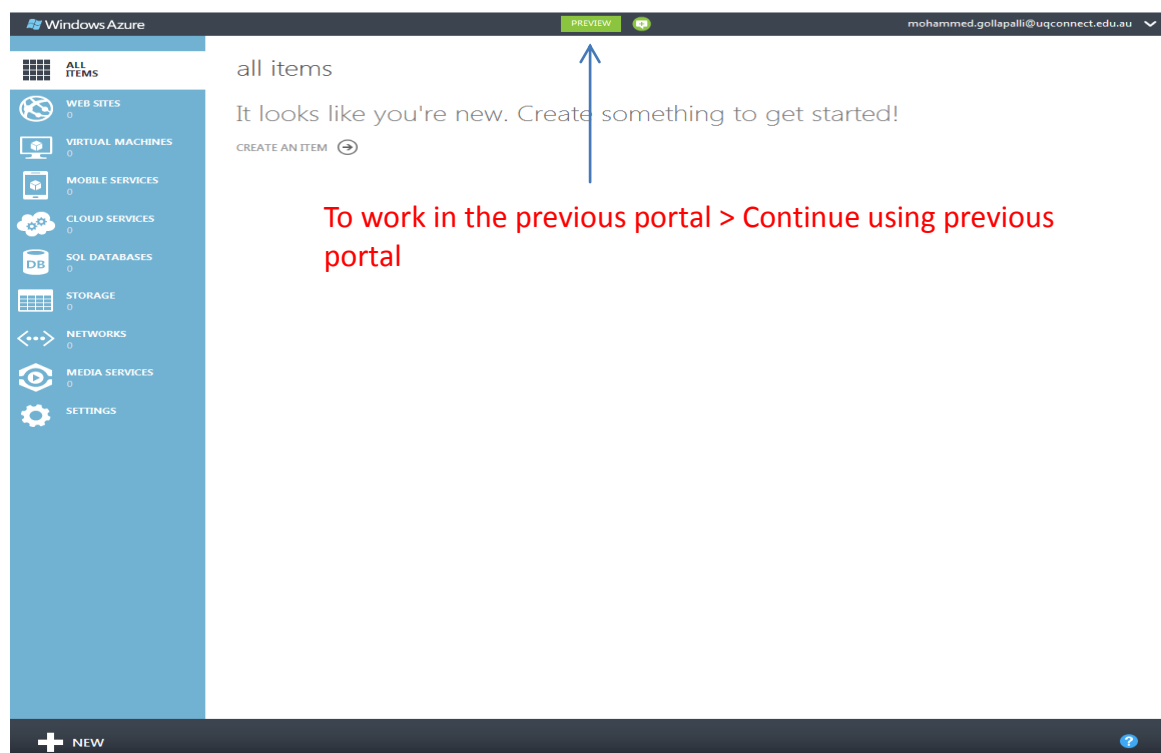
Practical session:

The purpose of this prac is to gain hands on experience in creating, deploying and managing different cloud components (see below screenshots) involved in the Cloud Management Portal. For Practical 7, we will cover web services on the Cloud, SQL Database on the Cloud, Website on the Cloud and performing CRUD (Create, Read, Update & Delete) operations through client communications.

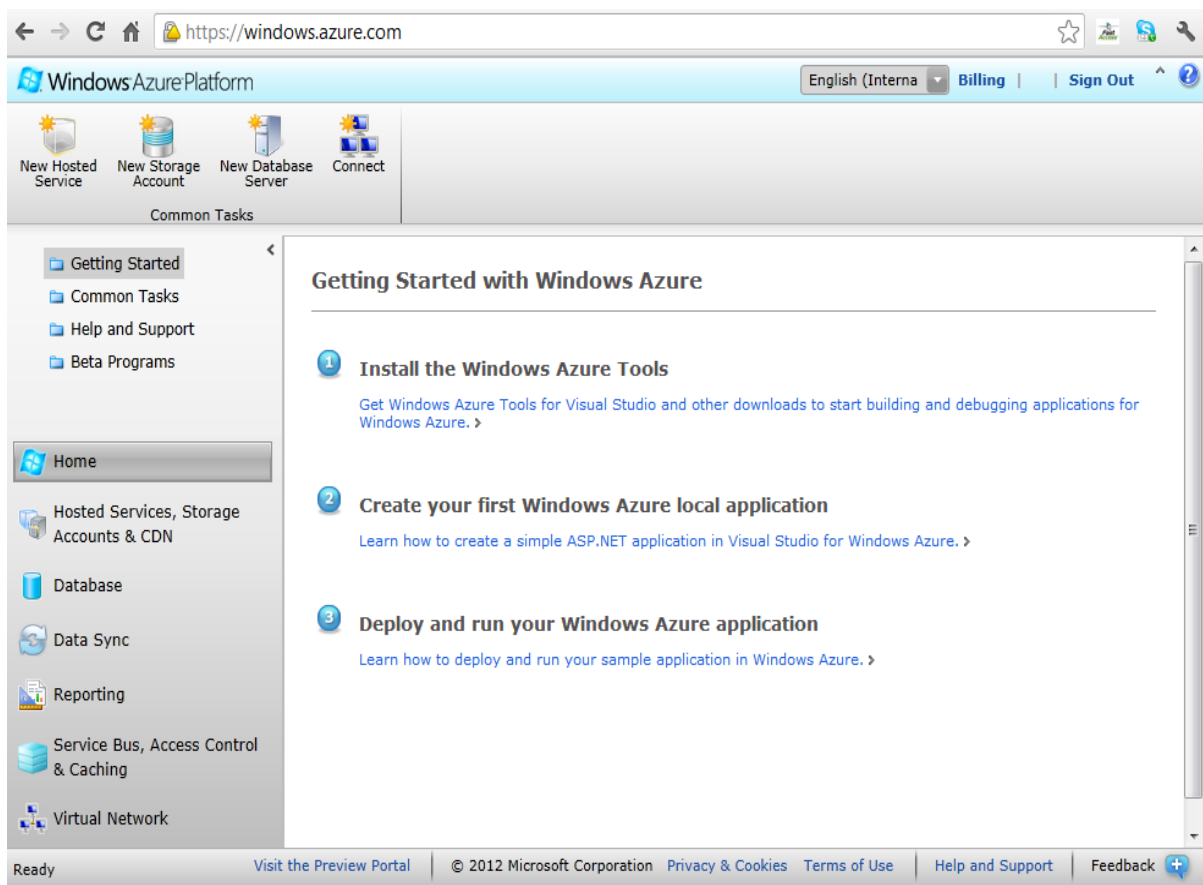
Note:

1. You can use the new preview portal (default) or the old version of portal for this practical.
2. For Practical 8, we will be looking into the remaining components such as Multiple Instances, Virtual Machines, Mobile Services, Networking, and Media Services depending on the software installed in the Lab computers.

New Portal Screenshot:



Old Portal Screenshot:



There are 10 marks for this prac, allocated as follows:

Task 1: Windows Azure Cloud Service Communication (4 marks)

The purpose of this task is to learn how to create a new cloud service, host it on Microsoft Cloud hosting service and communicate it through client application.

Description:

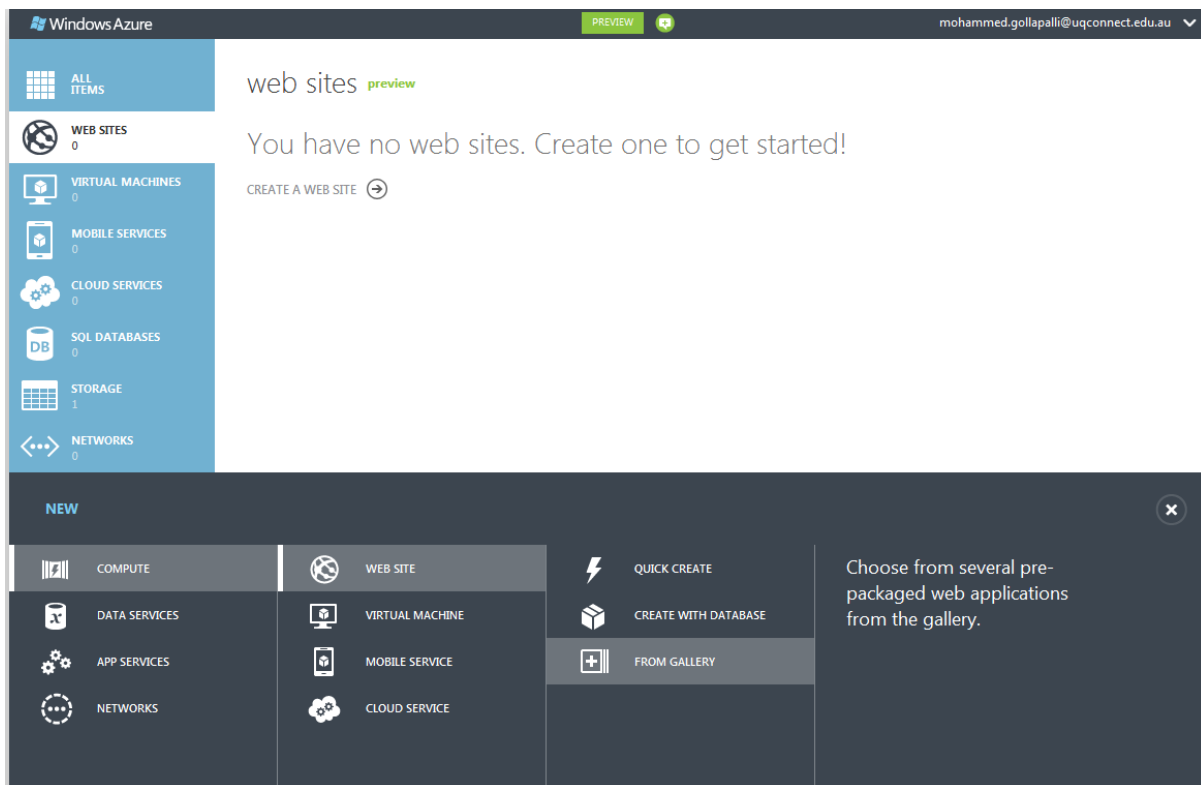
Task 1.1: Creating a new Windows Azure Account

Follow instructions in “Windows Azure Platform Academic 150 day Pass – Getting Started.pptx”, “Dreamspark_Getting-Started-Guide.pdf”, “AzurePassCodes.xlsx” documents and create your Windows Azure account.

Task 1.2: Creating a basic Gallery based web site

The purpose of this task is to learn how to quickly and easily build enterprise vendor supported websites using inbuilt packages (see below screenshot).

Create a simple website with database backend using inbuilt Gallery based templates as shown below. You can choose any template for this task (WordPress recommended). No additional functionalities required.



Task 1.3: Creating a Cloud Service based application

Follow instructions in “Azure Practical 7 – Task 1.pptx” document and create a Client – Web Service application. You can create any client application (ASP.Net, Console, etc.) as long as it makes the appropriate cloud service secure calls and displaying the results.

Marking:

1. Creating your new Windows Azure Account (0.5 mark)
2. Creating a new Gallery based website (0.5 mark)
3. Building Cloud Web Service application (1 mark)
4. Hosting Service on Windows Azure Management (1 mark)
5. Creating a Simple Client (ASP.Net, Console or any front-end) calling the Service (1 mark)

After completing this task, students should have gained a thorough understanding of common tasks involved in Cloud Management Portal such as packaging, publishing, service referencing etc.

Task 2: Windows Azure Access Control using Single Sign-On (2 marks)

The purpose of this task is to learn how to create and manage access using different sign-on options such as Gmail, Yahoo, and Windows Live login accounts using Windows Azure Access Control.

Description:

Create a simple ASP.Net Web application with two screens namely “login” and “admin” pages. The login page should provide user the option to login using different sign-on option. For this, you will need to add relying party Access Control Service (ACS) in the Windows Azure Management Portal access control option. You are encouraged to manage your ACS through creating at least one

certificate. After the successful login using any of the ACS portals, the user should be redirected to admin page showing his/her profile information including name, age, country etc.

Marking:

1. Login page with service provider options (1 mark)
2. After successful login, display identity information (1 mark)

MSDN References:

<http://msdn.microsoft.com/en-us/library/windowsazure/gg429779.aspx>

<https://www.windowsazure.com/en-us/manage/services/other/manage-acs/>

Task 3: CRUD Database operations on Windows Azure Cloud (4 mark)

The purpose of this task is to learn how to build ASP.Net based Cloud application performing CRUD operation through class Data Model, deploy your schema onto SQL Cloud and perform transactions in the hosted application.

Description:

In the admin page you created in Task 2, create CRUD operation to create, read, update and delete a survey. You are free to create any survey of your choice as long as you perform CRUD operations. The aim is to ensure you are communicating across different components in a cloud environment. The application needs to be re-published on to the cloud and get it hosted.

Rules:

1. Instead of creating a database schema separately, you are required to create classes for the data model based on Entity framework for collecting and managing survey information. You can create the model based on the survey information you are intending to collect.
2. It is encouraged to perform CRUD operations using Scaffolding feature (see MSDN Ref).
3. The survey results, along with logged in user name, age, country etc. information you have collected from Task 3 should be stored in Cloud database based on the data model class you created as per rule 1.

Marking:

1. Performing CRUD operations (0.5 mark each, 2 marks total)
2. Setup and deploy SQL Data on the Cloud (1 mark)
3. Deploy & Run ASP.Net application in the Cloud (1 mark)

MSDN References:

<https://www.windowsazure.com/en-us/develop/net/tutorials/cloud-service-with-sql-database/>

<https://www.windowsazure.com/en-us/develop/net/tutorials/web-site-with-sql-database/> (user can use MVC 3 instead of MVC4)

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