

## Introduction

This assignment will give you hands-on experience while learning about the fundamentals of cloud computing using the Microsoft Azure platform. You will set up an Azure account and create and deploy a web server, database server, and SQL databases using the Azure Portal.

This assignment is worth 2% of your final course grade.

## Create an Account on Azure

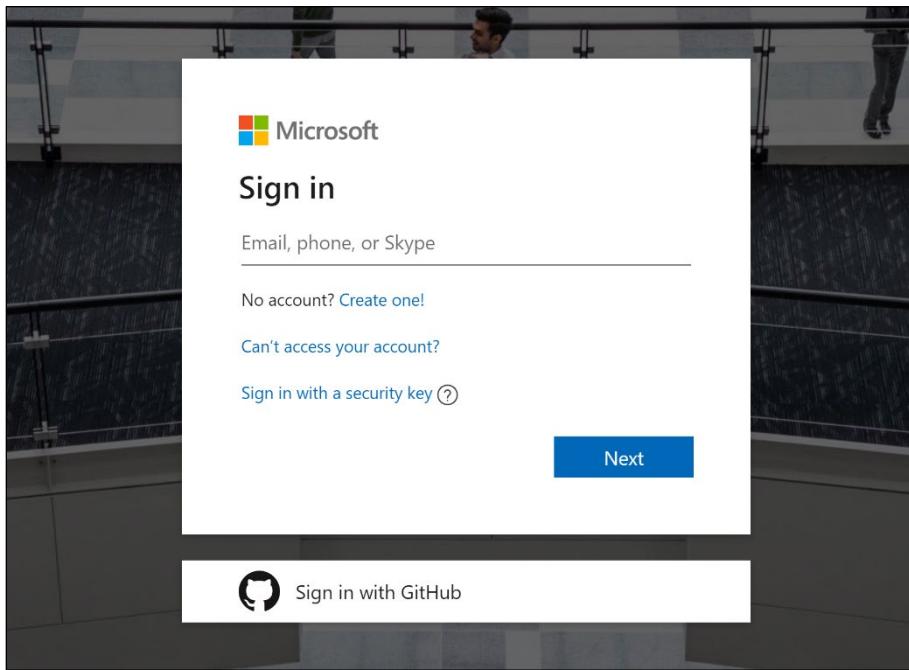
To complete this assignment, you must first create a Microsoft Azure Account. By providing your Seneca College email you will be able to access the required services for free. You will also receive a \$100 credit towards other services you may want to take advantage of.

Please visit <https://azure.microsoft.com/en-us/free/students/> to create a new account.

The screenshot shows the Microsoft Azure homepage with a dark theme. At the top, there's a navigation bar with links for Overview, Solutions, Products, Documentation, Pricing, Training, Marketplace, Partners, Support, Blog, and More. On the far right of the top bar are links for Contact Sales, Search, My account, Portal, and Sign in. Below the navigation bar, a large banner features the text "Start building the future with Azure for Students!" and "Get a \$100 credit when you create your free Azure for Students account". It includes a green "Activate now >" button and a link to "Read the FAQ for eligibility >". The main content area below the banner is divided into three sections: "No credit card needed", "Free developer tools", and "Drive your career". The "No credit card needed" section explains that simply verifying student status through a school email address provides \$100 in credit. The "Free developer tools" section highlights the ability to build skills in trending tech like data science, AI, machine learning, and access to professional developer tools. The "Drive your career" section discusses free learning paths and includes a grid of icons representing various Azure services. A vertical scrollbar is visible on the right side of the page.

Click “Activate now >” to get started. Following the prompts to sign up for a new account. You may need to use a Microsoft account to sign up. Once signed up, you can activate the “Azure for Students” account. Ensure you sign up for “Azure for Students” and not “Azure for Students Starter”.

Since your professor is unable to follow these steps, you have been provided with images to outline the process. If you are stuck or have questions, please ask for help.



A screenshot of the Microsoft Azure for Students Starter landing page. The page has a dark blue header with the Microsoft Azure logo on the left and a "Sign out" link on the right. Below the header, the text "Azure for Students Starter" is displayed, followed by a subtext: "Students using Azure for Students Starter get access to great Azure cloud services at no cost. Learn the cloud and start building your projects today!" On the right side of this section, there is a small icon of a building with a blue roof and orange windows. The main content area is titled "1 Identity Verification by phone". It contains instructions: "A text or phone call helps us make sure this is you." Below this, there is a "Country code" dropdown menu set to "United States (+1)". There is also a "Phone number" input field with the placeholder "Example: (425) 555-0100". At the bottom of this section are two blue buttons: "Text me" and "Call me". Below this section, another title "2 Student Verification" is partially visible, accompanied by a downward-pointing arrow. At the very bottom of the page, there is a dark footer bar with links for "Privacy &amp; Cookies", "Trademarks", "Legal", "Support", "Give us feedback", and the copyright notice "© 2020 Microsoft".

## 2 Student Verification

Academic verification required

The account you are signed in is not yet verified to access offer benefits. Please use the form below to verify.

Verification method

School email address

Enter your school email address. If your school is in our database, we will email you a verification link.

Your school email address will be used only for verification purposes, for everything else please use your Microsoft account email.

School email address

Re-enter school email address

Verify academic status

Use your Seneca email address  
@myseneca.ca

nglish

Privacy & Cookies

Trademarks

Legal

Support

Give us feedback

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[Microsoft Academic Verification] Confirming Your Academic Status

Some content in this message has been blocked because the sender isn't in your Safe Senders list.  
[I trust content from maccount@microsoft.com](#) | [Show blocked content](#)

 Microsoft Vetting Services <maccount@microsoft.com>  
Thu 2020-02-20 8:37 AM

[\[EXTERNAL EMAIL\]](#)

Hello,

You have received this email because you recently requested verification via **Microsoft's Academic Verification** service.

To complete your academic status verification, please click the link below. The link will automatically open in your browser. If not, click [Click Link](#).

After clicking the link, your verification status will be confirmed and you will return to the sign-in screen.

-Navigate to: <https://ov-ev.microsoft.com/api/v1.0/tokenverification/verify?signature=fZLCfZf9%2F13LJLOYeXk1vGVKxPtWpnD9gV8oSTcR4siQRg6K%2FFunjMo%2B1Vjfh4P7WoWSgJe%2FOC>

Thank You,  
The Microsoft Academic Verification Team

Microsoft Azure

strawberries73@outlook.com Sign out

## Azure for Students Starter

Students using Azure for Students Starter get access to great Azure cloud services at no cost. Learn the cloud and start building your projects today!

**1 About you**

Country/Region 

Canada

Choose the location that matches your billing address. **You cannot change this selection later.** If your country is not listed, the offer is not available in your region. [Learn More](#)

First name

Last name

Email address for important notifications 

Phone

Microsoft Azure

strawberries73@outlook.com Sign out

## Azure for Students Starter

Students using Azure for Students Starter get access to great Azure cloud services at no cost. Learn the cloud and start building your projects today!

**1 About you**

**2 Agreement**

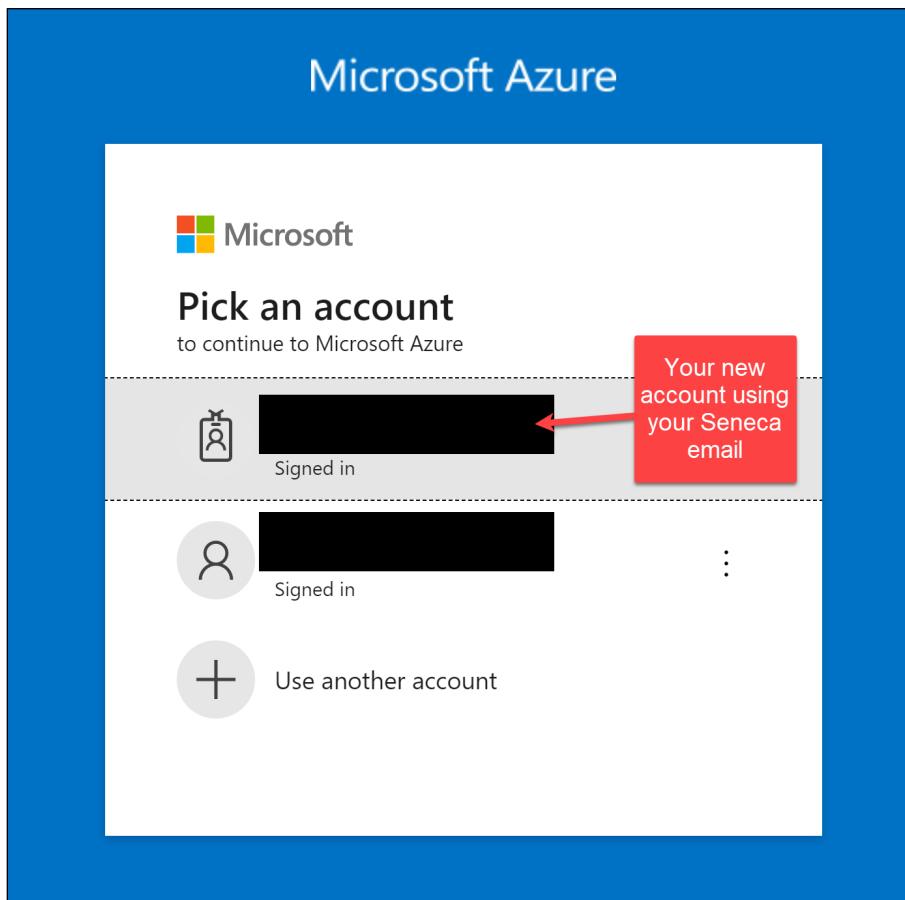
**Agree to terms**

I agree to the [subscription agreement](#), [offer details](#), and [privacy statement](#).

I would like information, tips, and offers from Microsoft or selected partners about Azure, including Azure Newsletter, Pricing updates, and other Microsoft products and services.

**Sign up**

English ▾ Privacy & Cookies Trademarks Legal Support Give us feedback © 2020 Microsoft

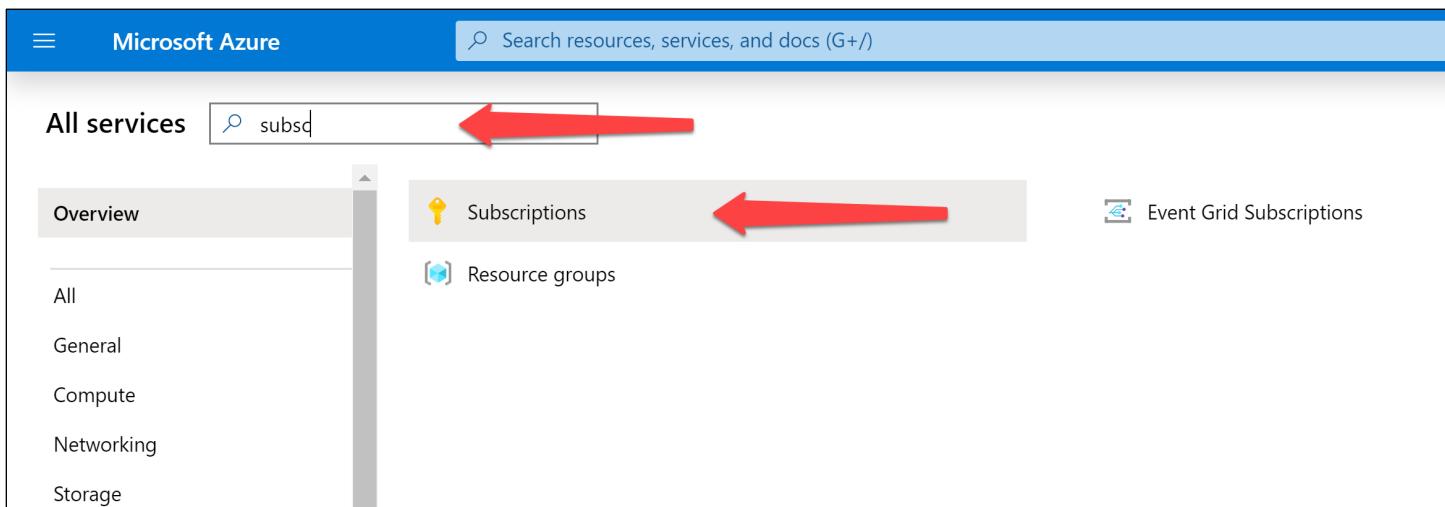
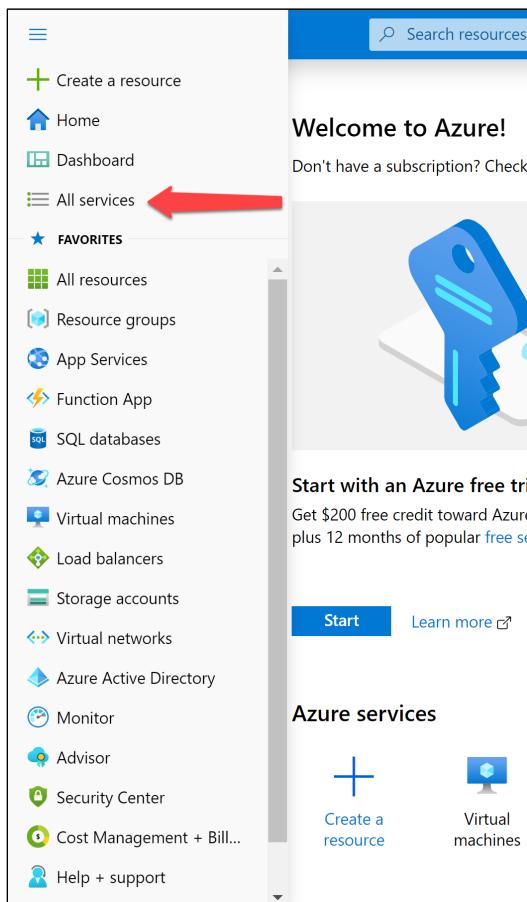


A screenshot of the Microsoft Azure Education Hub. A red box highlights the 'Education - Get started' link in the navigation bar. Another red box highlights the '@myseneca.ca SENECA' user profile in the top right corner. A red arrow points from the 'Click Here' button on the left to the 'Education - Get started' link. A red box also highlights the 'Make sure you're logged in with your Seneca email' message at the top right.

## Verify Your Account

Verify that you can access Microsoft Azure, in other words, make sure you have successfully set up the “Azure for Students” subscription. Login to the Microsoft Azure management portal, using your Seneca email:  
<https://portal.azure.com>.

Click the “All services >” item from the menu (near the top-left area of the browser), then choose “Subscriptions”.



If you see the subscription “Azure for Students” with the status “Active” then you have successfully obtained a subscription for accessing Microsoft Azure.

The screenshot shows the Microsoft Azure Subscriptions page. At the top, there is a search bar and a navigation menu. Below the header, it says "Subscriptions" and "Seneca". On the left, there is a sidebar with "Add" and "Switch directories" options. The main area shows a table of subscriptions. The first row in the table is highlighted with a red box and has a red arrow pointing to it from the left. The table columns are: Subscription name, Subscription ID, My role, Current cost, Status, and more. The highlighted row contains the following information:

Subscription name	Subscription ID	My role	Current cost	Status	...
Azure for Students		Account admin	Not available	Active	

## Planning to use Microsoft Azure services

For this course, we will use “Microsoft Azure Web Apps” and “SQL Databases”. You will name each service you setup so that the name combines your MySeneca Learn ID with the course information. Carefully read the following guidelines and name your services exactly as instructed. **In the examples below, “nromanidis” is my Seneca Learn ID, you must use your Learn ID, not mine.**

### Database Server

A database server is a SQL Server deployed on the Microsoft Azure infrastructure. You will only need one database server to host all the databases required to complete your assignments. Name your server: **nromanidis-ds-web524**.

During the creation of the database server, you must create or define credentials. **Make sure you record your username and password in a safe place. You will need this information later.**

### SQL Databases

A database server can hold one or more SQL databases. Each SQL database name will be customized for the assignment you are working on. For Assignment 4 (this assignment), the SQL database name will be: **nromanidis-db-web524-a4**.

### Web Apps

You will create new web apps to complete your Assignments. Each assignment will use its own web app. If you want to create a web app for Assignment 4, then use this web app name: **nromanidis-wa-web524-a4**.

Each web app requires an App Service Plan. Name your plan: **nromanidis-asp-web524**.

## Create a SQL database server and a database

On the Azure portal, click the hamburger icon at the top-left then click **+ Create a resource**.

The screenshot shows the Microsoft Azure portal homepage. A red arrow points to the hamburger menu icon in the top-left corner. Another red arrow points to the '+ Create a resource' button in the top-left area of the main content pane. The page features a banner for 'Azure for Students' with a 'Claim your Azure credit now' button. Below the banner, there's a section for 'Download free software' with three options: 'SQL Server 2019 Developer', 'Visual Studio Enterprise 2019', and 'Machine Learning Server 9.4.7 for ...'. The left sidebar contains a navigation menu with items like Home, Dashboard, All services, Favorites, All resources, Resource groups, App Services, SQL databases, Azure Cosmos DB, Virtual machines, Load balancers, Storage accounts, Virtual networks, Azure Active Directory, and Monitor.

In the search box, type in “SQL” then press the **Enter** key.

The screenshot shows the Microsoft Azure 'New' screen. A red box highlights the search bar at the top, which contains the text 'SQL'. Below the search bar, a list of search results is displayed: 'SQLstream 6.0.0.1', 'Azure SQL', 'SQLite', and 'Azure Synapse Analytics (formerly SQL DW)'. To the right of the search results, there's a grid of service cards. The 'Compute' section includes 'Blockchain', 'Containers', 'Databases', 'Developer Tools', 'DevOps', 'Identity', 'Integration', 'Internet of Things', 'Media', and 'Mixed Reality'. The 'Web App' section includes 'Web App' with 'Quickstarts + tutorials'. The 'Databases' section includes 'SQL Database' with 'Quickstarts + tutorials'. The 'Function App' section includes 'Function App' with 'Quickstarts + tutorials'. The 'Azure Cosmos DB' section includes 'Azure Cosmos DB' with 'Quickstarts + tutorials'. The 'Kubernetes Service' section includes 'Kubernetes Service' with 'Quickstarts + tutorials'.

## Select Azure SQL

The screenshot shows the Microsoft Azure Marketplace interface. A search bar at the top contains the text 'SQL'. Below the search bar, there are filters for 'Pricing : All', 'Operating System : All', and 'Publisher : All'. The results section is titled 'Showing All Results' and displays several items:

- Azure SQL** (Microsoft): Create and manage SQL Server resources from a single view.
- SQL Database Reserved vCores** (Microsoft): Azure SQL Database Reserved vCores (SQL reservations) significantly reduce your SQL costs.
- MS SQL Server Integration Services to Alation** (Information Asset): A solution to synchronize package lineage from Microsoft SQL Server.
- SQL Server Module** (Microsoft): Use Azure IoT Edge and SQL Server to store and query data at the edge.
- SQL Database** (Microsoft): Scalable and managed relational database service for modern business-class apps.
- SQL server (logical server)** (Microsoft): SQL server (logical server).
- SQL Beacon** (WARDY IT Solutions): SQL Beacon watches over your databases 24 hours a day, 7 days a week.
- ScaleArc for SQL Server Cluster** (ScaleArc): Database load balancing software that increases app availability and performance.
- SQL Server AlwaysOn Cluster** (Microsoft): AlwaysOn Cluster deployed and managed directly in Azure.
- Azure SQL Managed Instance** (Microsoft): Managed SQL Instance service for hybrid workloads.

Click the **Create** button.

The screenshot shows the Azure SQL service page. At the top left is a thumbnail of the Azure logo. Below it is a 'Create' button with a red arrow pointing to it. The 'Overview' tab is selected.

**Azure SQL** (Microsoft)

**Create**

**Overview** **Plans**

Azure SQL allows you to create and manage your SQL Server resources from a single view, ranging from fully managed PaaS databases to IaaS virtual machines with direct OS and database engine access. All deployment options enable you to bring your on-premises licenses to Azure using Azure Hybrid Benefit.

Choose **SQL databases** and select the resource type **Database server**. Click **Create**.

The screenshot shows the 'Select SQL deployment option' page. It lists three options:

- SQL databases**: Best for modern cloud applications. Hyperscale and serverless options are available. Resource type: Database server. Buttons: Create, Show details.
- SQL managed instances**: Best for most migrations to the cloud. Lift-and-shift ready. Resource type: Single instance. Buttons: Create, Show details.
- SQL virtual machines**: Best for migrations and applications requiring OS-level access. Lift-and-shift ready. Resource type: Image. Buttons: Create, Show details.

Fill in information about the new database server as per the screenshots below.

For the “Resource group” setting, create a new resource group and call it “WEB524”.

The screenshot shows the 'Create SQL Database Server' page in the Microsoft Azure portal. The 'Basics' tab is selected. In the 'Project details' section, under 'Subscription', 'Azure for Students' is selected. Under 'Resource group', there is a dropdown menu with 'Select a resource group' and a 'Create new' option. A red arrow points to the 'Create new' link. A modal dialog box is open over the page, titled 'Create new'. It contains a description: 'A resource group is a container that holds related resources for an Azure solution.' Below this is a 'Name' input field with 'WEB524' typed into it. At the bottom of the dialog are 'OK' and 'Cancel' buttons, with a red arrow pointing to the 'OK' button.

As mentioned earlier, you will use a “Server name” like **nromanidis-ds-web524**.

Change the location to “(US) West Central US”. In a later step, you will create a new web app and you should use the same location for your web app and database server. **Due to a limitation of free Azure accounts, you may have to choose a different location. Try to use the same location whenever prompted, if you cannot, don't worry, it will still work correctly.**

The screenshot shows the 'Create SQL Database Server' page in the Microsoft Azure portal. The 'Basics' tab is selected. In the 'Server details' section, the 'Server name' field contains 'nromanidis-ds-web524' and the 'Location' dropdown is set to '(US) East US'. Two red arrows point to these fields: one to the server name field and another to the location dropdown.

You can use your own “Server admin login”, e.g. **nromanidis** and a password. Please write down the login and password as you will need these later on for setting up the connection to the database.

When done, you will click **Review + create**.

Server details

Enter required settings for this server, including providing a name and location.

Server name \* nromanidis-ds-web524 .database.windows.net

Location \* (US) East US

Administrator account

Server admin login \* nromanidis

Password \* ..... Confirm password \*

**Review + create** Next : Networking >

Review the settings you have specified and if correct, click **Create**.

It may take a few minutes to create a new database server. If you want to see the progress, click the bell icon at the top right of the screen.



Do not continue until the database server has been successfully created.

Microsoft Azure

Search resources, services, and docs (G+/-)

Home > Microsoft.SQLServer.createServer\_ebb105b87130411dade960a521f1735 - Overview

Microsoft.SQLServer.createServer\_ebb105b87130411dade960a521f1735 - Overview

Deployment

Search (Ctrl+/)

Delete Cancel Redeploy Refresh

Overview Inputs Outputs Template

✓ Your deployment is complete

Deployment name: Microsoft.SQLServer.createServer\_ebb105b871... Start time: 3/2/2020, 9:29:01 PM  
Subscription: Azure for Students Correlation ID: 37bcfe1-a10b-429c-812e-d06d0f9013e4  
Resource group: WEB524

Deployment details (Download)

Next steps

Go to resource

Security Center  
Secure your apps and infrastructure  
[Go to Azure security center >](#)

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[Start learning today >](#)

Work with an expert  
Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support.  
[Find an Azure expert >](#)

Click on **Go to resource**.

## Create a database

Click on **+ Create database**.

The screenshot shows the Microsoft Azure portal interface. At the top, there's a search bar and a navigation bar with icons for mail, notifications, and settings. Below the search bar, the URL 'nromanidis-ds-web524' is displayed. The main content area shows the 'nromanidis-ds-web524' SQL server details. On the left, there's a sidebar with links like 'Overview', 'Activity log', 'Access control (IAM)', 'Tags', 'Diagnose and solve problems', 'Settings', 'Quick start', and 'Failover groups'. The 'Create database' button is highlighted with a red box. The 'Essentials' section contains various configuration details such as Resource group, Status, Location, Subscription, and Tags.

Name the new database according to the guidelines mentioned above. Click on **Configure database** to change the compute + storage size. **Do not forget to change the compute/storage size or you will deplete your entire credit in only a week or two!**

The screenshot shows the 'Create SQL Database' wizard. The 'Basics' tab is selected. The 'Project details' section shows the subscription as 'Azure for Students' and the resource group as 'WEB524'. The 'Database details' section includes fields for 'Database name' (set to 'nromanidis-db-web524-a4'), 'Server' (set to 'nromanidis-ds-web524 (East US)'), and 'Want to use SQL elastic pool?' (set to 'No'). Under 'Compute + storage', it shows 'General Purpose' settings: 'Gen5, 2 vCores, 32 GB storage, zone redundant disabled'. A red arrow points to the 'Configure database' link. At the bottom, there are 'Review + create' and 'Next : Networking >' buttons.

**Configure**

General Purpose  
Scalable compute and storage options  
500 - 20,000 IOPS  
2-10 ms latency

Hyperscale  
On-demand scalable storage  
500 - 204,800 IOPS  
1-10 ms latency  
Not available

Business Critical  
High transaction rate and high resiliency  
5,000 - 204,800 IOPS  
1-2 ms latency

Compute tier

**Provisioned**  
Compute resources are pre-allocated  
Billed per hour based on vCores configured

**Serverless**  
Compute resources are auto-scaled  
Billed per second based on vCores used

Compute Hardware  
Click "Change configuration" to see details for all hardware generations available including memory optimized and compute optimized options

Hardware Configuration  
**Gen4**  
up to 24 vCores, up to 168 GB memory  
[Change configuration](#)

Save money  
Save up to 50% with a license you already own. Already have a SQL Server license? [\(i\)](#)

**Apply**

Choose the **Basic** package then click **Apply**.

**Configure**

**Basic**  
For less demanding workloads  
**Choose Basic**

**Standard**  
For workloads with typical performance requirements

**Premium**  
For IO-intensive workloads.

**vCore-based purchasing options**  
Click here to customize your performance using vCores >

DTUs [What is a DTU?](#)

**5 (Basic)**

Data max size  
100 MB to 2 GB

Cost summary  
Cost per DTU (in CAD) 1.28  
DTUs selected x 5  
ESTIMATED COST / MONTH 6.39 CAD

**Apply**

Click on **Review + Create**. If everything looks correct you can click **Create** to deploy the new database.

**Notice:** You will see a charge of about \$6/mn to deploy the database. You have already received a \$100 credit with Azure so you don't have to pay for this. Plus, you will not have a credit card on file any way.

The screenshot shows the Microsoft Azure Deployment Overview page for a successful deployment. The main message is "Your deployment is complete". Deployment details include name: Microsoft.SQLDatabase.newDatabaseExistingServer\_2b8f958287ca46a7, start time: 3/2/2020, 9:58:39 PM, subscription: Azure for Students, correlation ID: 8174dfb6-8189-4c5d-8035-7d081be82542, and resource group: WEB524.

Deployment Details	Value
Deployment name	Microsoft.SQLDatabase.newDatabaseExistingServer_2b8f958287ca46a7
Subscription	Azure for Students
Resource group	WEB524

**Next steps:**

- Deployment details ([Download](#))
- Next steps

[Go to resource](#)

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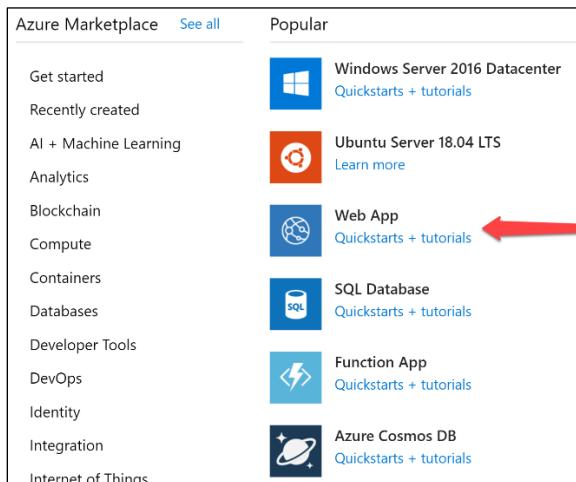
You can review the resources you have deployed by clicking on “All resources” under the hamburger menu in the top-left corner.

The screenshot shows the Microsoft Azure All resources page. It lists two resources: a SQL server named "nromanidis-ds-web524" and a SQL database named "nromanidis-db-web524-a4". Both are located in the East US region and belong to the "WEB524" resource group, using the "Azure for Students" subscription.

Name	Type	Resource group	Location	Subscription
nromanidis-ds-web524	SQL server	WEB524	East US	Azure for Students
nromanidis-db-web524-a4	SQL database	WEB524	East US	Azure for Students

## Create a web app

The following procedure will enable you to create the web app for your assignment. In the Azure portal, choose **+ Create a resource** (this option is contained in the hamburger menu). Choose **Web App**.



Fill in the information as shown below. Do not forget to replace “nromanidis” with your Seneca ID.

Screenshot of the 'Create Web App' wizard in the Microsoft Azure portal. The 'Basics' tab is selected. Red arrows point to the following fields:

- Resource Group \***: WEB524 (highlighted by a red arrow)
- Name \***: nromanidis-wa-web524-a4 (highlighted by a red arrow)
- Runtime stack \***: ASP.NET V4.8 (highlighted by a red arrow)
- Region \***: East US (highlighted by a red arrow)
- Windows Plan (East US) \***: (New) ASP-WEB524-9b0d (highlighted by a red arrow)
- New App Service Plan** dialog: Name: nromanidis-asp-web524 (highlighted by a red arrow)

Verify that you are using the Free SKU. When you're ready, click on **Review + create**. Confirm the details are correct then click **Create** to deploy the web app.

App Service Plan

App Service plan pricing tier determines the location, features, cost and compute resources associated with your app.  
[Learn more](#)

Windows Plan (East US) \* ⓘ (New) nromanidis-asp-web524 Create new

Sku and size \* ⓘ

**Free F1**  
Shared infrastructure, 1 GB memory  
[Change size](#)

**Review + create** < Previous Next : Monitoring >

When deployment has finished. Click on **All resources** on the sidebar and review your different deployments.

Microsoft Azure Search resources, services, and docs (G/)

Home > All resources ⌂ ⌂ ⌂

Seneca

+ Add Manage view ⓘ Refresh Export to CSV Open query Assign tags Delete Feedback

Filter for any field... Subscription == all Resource group == all Type == all Location == all Add filter

No grouping List view

Showing 1 to 5 of 5 records. Show hidden types ⓘ

Name ↑↓	Type ↑↓	Resource group ↑↓	Location ↑↓	Subscription ↑↓
DefaultWorkspace-12820938-192d-4bc1-8b7c-be58f32ab655-EUS	Log Analytics workspace	DefaultResourceGroup-EUS	East US	Azure for Students
nromanidis-asp-web524	App Service plan	WEB524	East US	Azure for Students
nromanidis-db-web524-a4 (nromanidis-ds-web524/nromanidis-db-web524-a4)	SQL database	WEB524	East US	Azure for Students
nromanidis-ds-web524	SQL server	WEB524	East US	Azure for Students
nromanidis-wa-web524-a4	Application Insights	WEB524	East US	Azure for Students

## Publish (deploy) your web app and SQL Database to Azure

Before you leave the Azure portal, you will need a database “connection string”. On the Azure dashboard, select your SQL Database item (e.g. nromanidis-db-web524-a4). A settings panel opens, click **Show database connection strings**.

Microsoft Azure Search resources, services, and docs (G/)

Home > All resources > All resources

Seneca

+ Add Manage view ⓘ

Filter for any field...

Name ↑↓

DefaultWorkspace-12820938-192d-4bc1-8b7c-be58f32ab655-EUS

nromanidis-asp-web524

nromanidis-db-web524-a4 (nromanidis-ds-web524/nromanidis-db-web524-a4)

nromanidis-ds-web524

nromanidis-wa-web524-a4

**nromanidis-db-web524-a4 (nromanidis-ds-web524/nromanidis-db-web524-a4)** ⌂ ⌂ ⌂

SQL database

Search (Ctrl+ /) Overview Activity log Tags Diagnose and solve problems Quick start Query editor (preview) Power Platform

Copy Restore Export Set server firewall Delete Connect with... Feedback

JSON View

Essentials

Resource group (change) WEB524 Status Online Location East US Subscription (change) Azure for Students Subscription ID 12820938-192d-4bc1-8b7c-be58f32ab655 Tags (change)

Server name nromanidis-ds-web524.database.windows.net Elastic pool No elastic pool Connection strings Show database connection strings Pricing tier Basic Earliest restore point 2021-03-07 20:50 UTC

You will see the ADO.NET connection string.

ADO.NET (SQL authentication)

```
Server=tcp:nromanidis-ds2020.database.windows.net,1433;Initial Catalog=web524-db2020a3;Persist Security Info=False;User ID=nromanidis;Password={your_password};MultipleActiveResultSets=False;Encrypt=True;TrustServerCertificate=False;Connection Timeout=30;
```

Later on, you will paste it into the Visual Studio “Publish” dialog. If you click the icon in the bottom-left corner, you can copy the string to your clipboard. Paste the connection string into a program like Notepad, then change the {your\_password} part including the curly brackets {} to your own database “Server admin login” and its password.

For example:

`...=False;User ID=nromanidis;Password={your_password};MultipleActiveR...`

Becomes:

`...=False;User ID=nromanidis;Password=Password123!;MultipleActiveResultSets...`

## Allow Azure Services Access

Back in the Azure Portal, click on the server name to access your SQL Server settings.

Microsoft Azure

nromanidis-db-web524-a4 (nromanidis-ds-web524/nromanidis-db-web524-a4) Overview

Resource group (change) WEB524

Status Online

Location East US

Subscription (change) Azure for Students

Subscription ID 12820938-192d-4bc1-8b7c-be58f32ab655

Tags (change)

Server name nromanidis-ds-web524.database.windows.net

Click on **Show firewall settings**.

Overview

Resource group (change) : WEB524

Status : Available

Location : East US

Subscription (change) : Azure for Students

Subscription ID : 12820938-192d-4bc1-8b7c-be58f32ab655

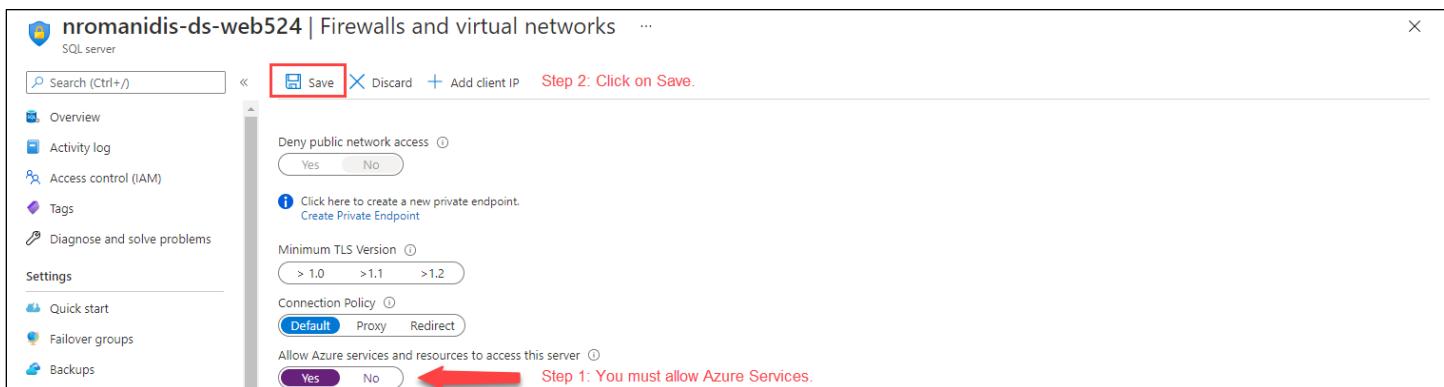
Server admin : nromanidis

Firewalls and virtual netw... : Show firewall settings

Active Directory admin : Not configured

Server name : nromanidis-ds-web524.database.windows.net

Turn on **Allow Azure services and resources to access this server.**



## Creating an ASP.NET MVC web app with security

Open an instance of Visual Studio and create a new “ASP.NET Web Application (.Net Framework)” project named **“S2022A4” + your initials**. For example, your professor would call the web app **“S2022A4NKR”**. **Make sure you choose MVC and the “Individual User Accounts” authentication scheme.**

After creating the web app, customize the home page. **Change the “Learn more >>” button to “Assignment 4 on Azure” and set the button link to the URL of your web app on Azure.** If you do not specify a URL, your assignment cannot be marked and you will receive a grade of zero.

For example, <https://nromanidis-wa-web524-a4.azurewebsites.net/>

Perform the necessary customizations as described in Assignment 1. You do not need to customize the About and Contact pages. **Do not forget to include the proper footer!**

Run the web app locally so that it will create the database files. This database will be deployed to Azure with the web app later on.

Enable (Code first) migrations in your project.

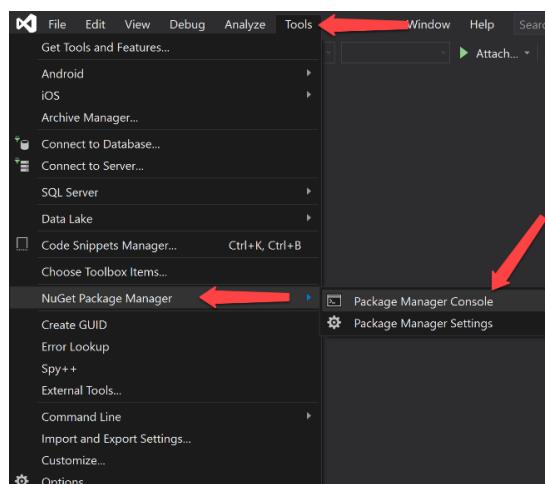
Open the **Package Manager Console** in

Visual Studio, and type the following commands:

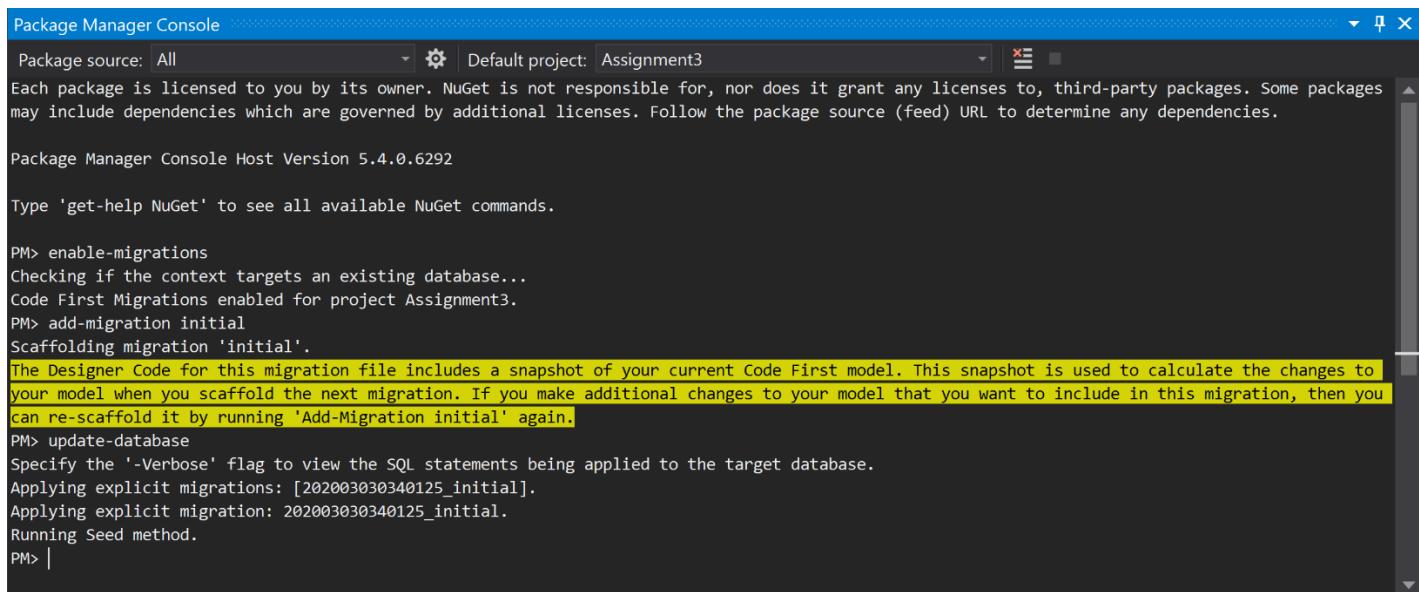
`PM> enable-migrations`

`PM> add-migration initial`

`PM> update-database`



The output should be similar to the following screenshot:



```
Package Manager Console
Package source: All | Default project: Assignment3 | X
Each package is licensed to you by its owner. NuGet is not responsible for, nor does it grant any licenses to, third-party packages. Some packages may include dependencies which are governed by additional licenses. Follow the package source (feed) URL to determine any dependencies.

Package Manager Console Host Version 5.4.0.6292

Type 'get-help NuGet' to see all available NuGet commands.

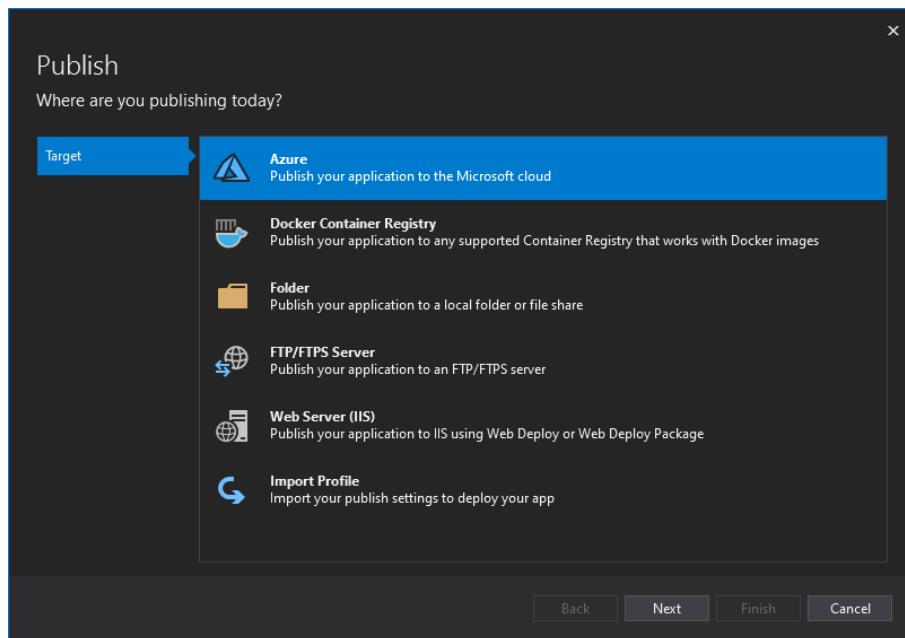
PM> enable-migrations
Checking if the context targets an existing database...
Code First Migrations enabled for project Assignment3.
PM> add-migration initial
Scaffolding migration 'initial'.
The Designer Code for this migration file includes a snapshot of your current Code First model. This snapshot is used to calculate the changes to your model when you scaffold the next migration. If you make additional changes to your model that you want to include in this migration, then you can re-scaffold it by running 'Add-Migration initial' again.
PM> update-database
Specify the '-Verbose' flag to view the SQL statements being applied to the target database.
Applying explicit migrations: [202003030340125_initial].
Applying explicit migration: 202003030340125_initial.
Running Seed method.
PM> |
```

If you receive a **CommandNotFoundException** when trying to run the migration commands, you've most likely forgot to turn on **Individual User Accounts**. Close Visual Studio, delete your project, then recreate it again.

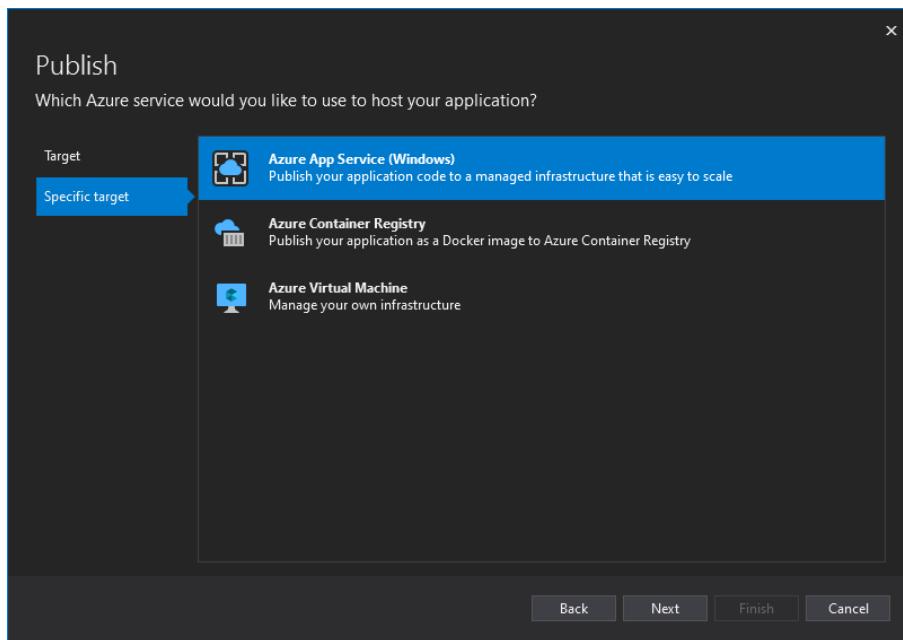
## Deploy the web app to Azure Platform

Make sure that the web app builds without errors and that it runs locally. Also ensure the web app has been configured with the Migrations feature. In the **Solution Explorer**, right-click your project item and choose **Publish**.

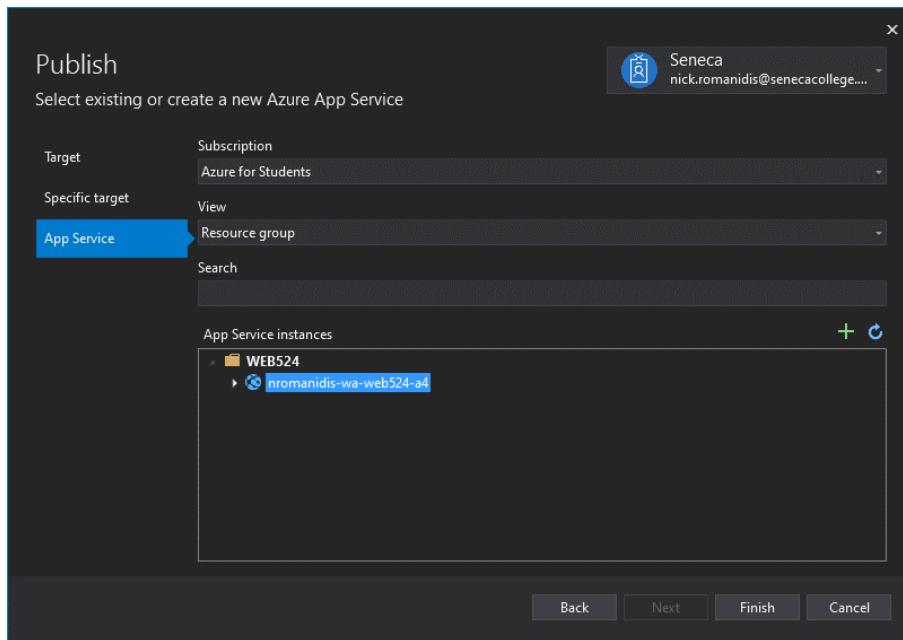
In the Publish screen, choose “Azure” then click “Next”.



On the next screen, choose “Azure App Service (Windows)”. Click “Next”



On the next screen, ensure your Seneca account appears in the top-right corner. If not, you must log in to your Seneca account. Choose the subscription you made and then find the web app created earlier. Click “Finish”.



You are now returned to Visual Studio. Click on **Edit**.

The screenshot shows the 'Publish' dialog in Visual Studio. At the top, it says 'Deploy your app to a folder, IIS, Azure, or another destination. [More info](#)'. Below that is a list of deployment profiles: 'nromanidis-wa-web524-a4 - Web Deploy' (selected), 'New', 'Edit' (highlighted with a red box), 'Rename', 'Delete', and 'Restore'. To the right of the list are 'Publish' and a warning icon. A dropdown arrow is located to the right of the profile list.

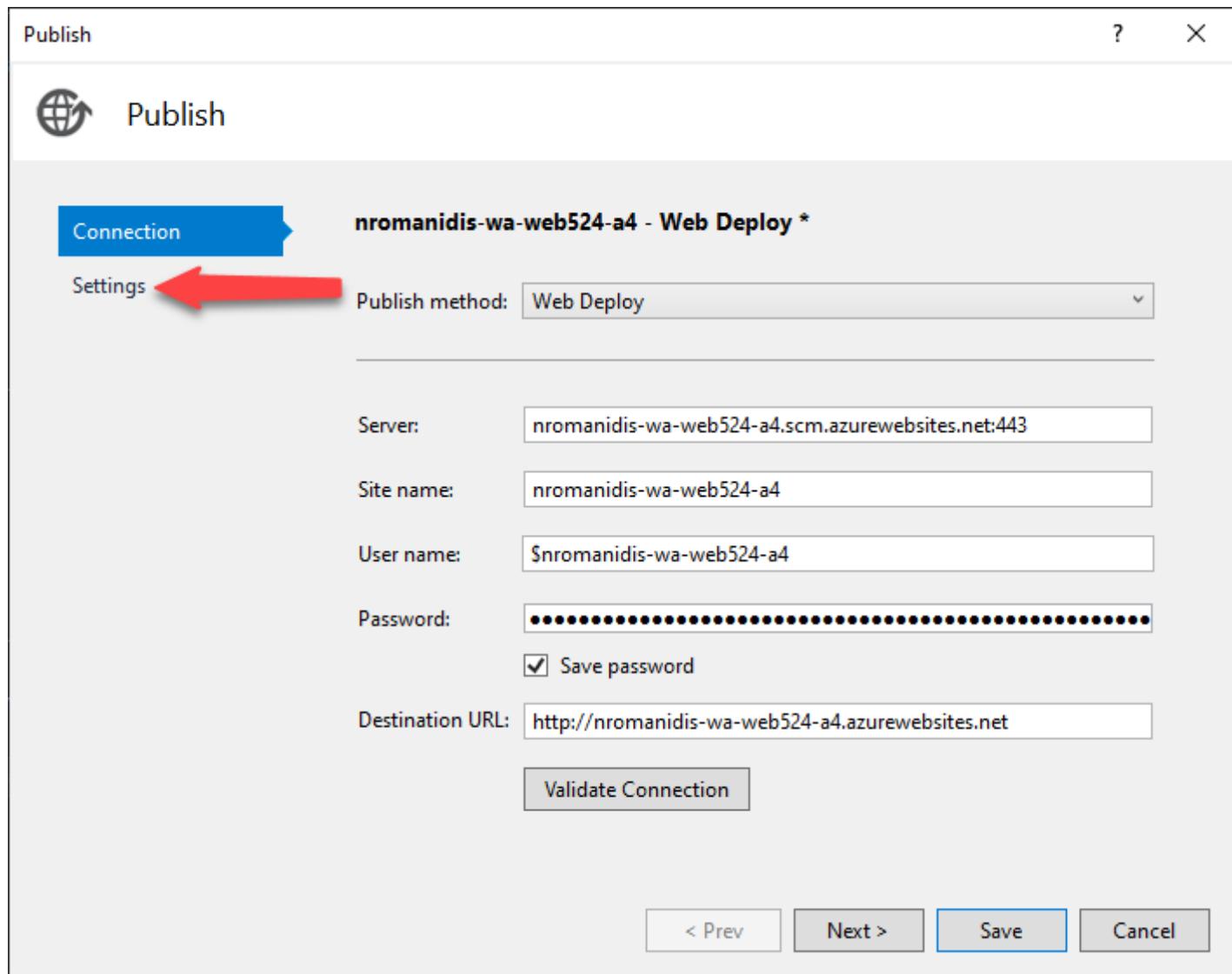
**Summary**

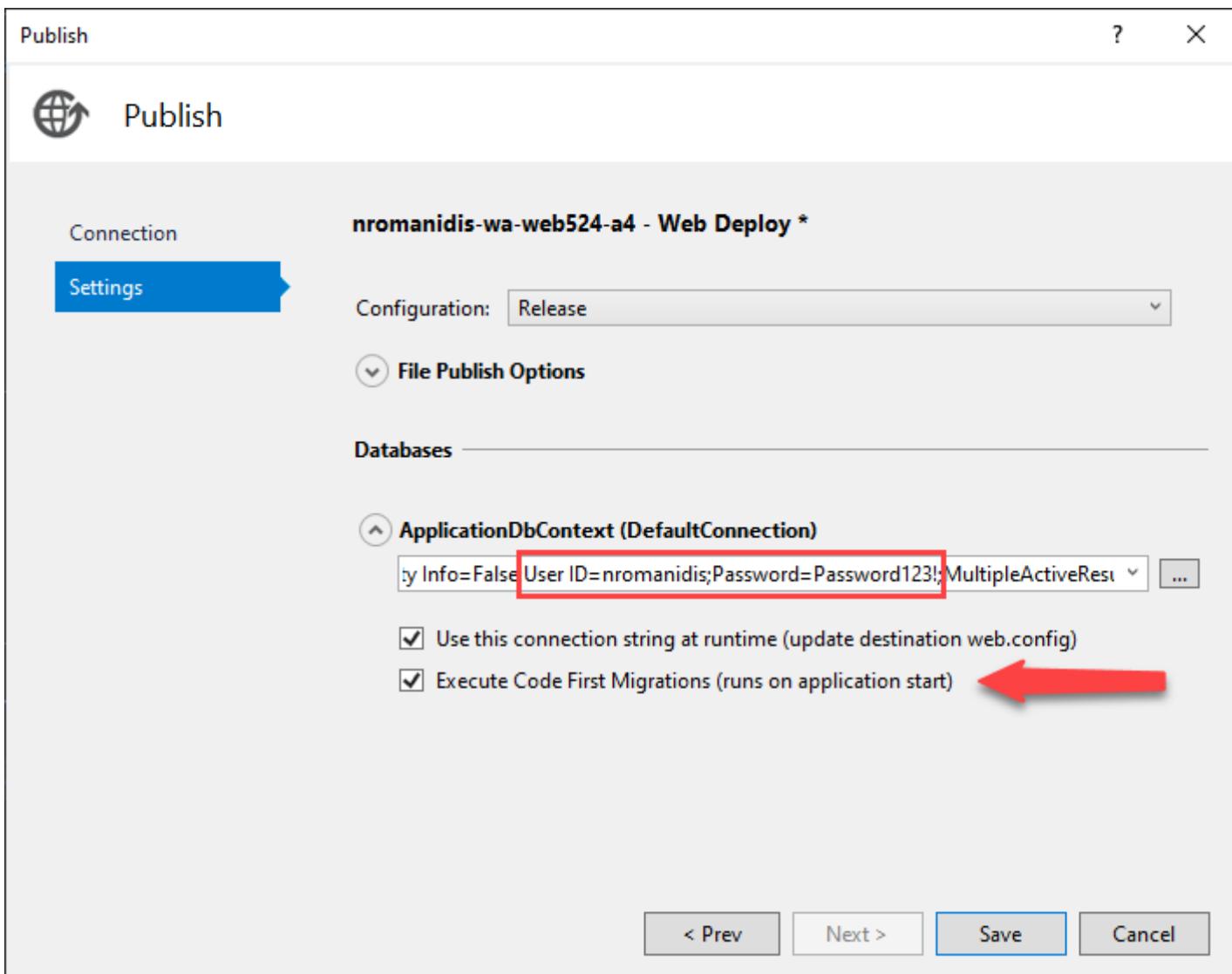
Site URL	<a href="http://nromanidis-wa-web524-a4.azurewebsites.net">http://nromanidis-wa-web524-a4.azurewebsites.net</a>	
Resource group	WEB524	
Configuration	Release	

**Actions**

- [Preview changes](#)
- [Manage in Cloud Explorer](#)
- [Manage Azure App Service settings](#)
- [Manage in Azure portal](#)
- [View streaming logs](#)
- [Open troubleshooting guide](#)

A dialog will appear, click the **Settings** button.

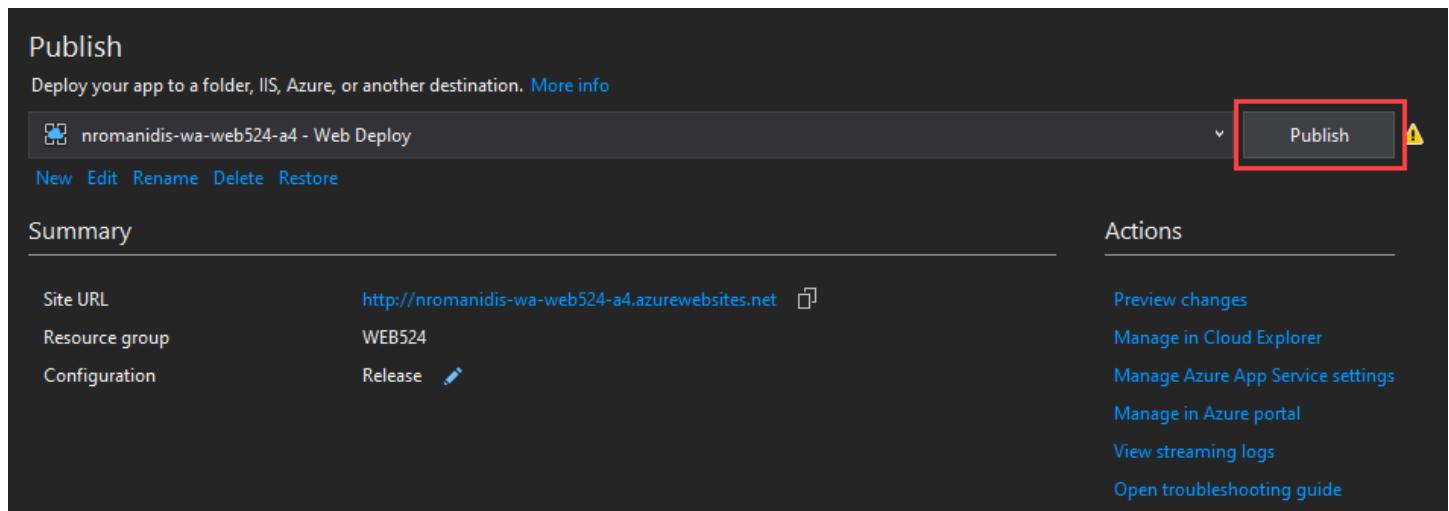




Place a check in the checkbox labelled **Execute Code First Migrations...**

Now, paste the connection string that you copied from the Azure portal into the “DefaultConnection” box. Make sure you have updated your password (and user id if necessary). Click **Save**.

Again, you are returned to Visual Studio. Click the **Publish** button to deploy your website.



Visual Studio will copy the web app and SQL Database definition to Azure. When it is done, it will open the hosted web app in your default browser.

This publish task will NOT copy data from your local computer's database, to the Azure database. Therefore, in your future assignments, you will need to initialize and/or load data to servers after the projects are deployed.

## Testing your work

Test the pages of your assignment 4 on Azure to see if the web app is successfully deployed. In addition, you should try to register a user and log in that user using the web app. This will ensure the database server works and has been configured correctly.

**Reminder:** The “Learn more >>” button on the project home page must be customized to link to your “Assignment 4 on Azure” in the cloud. Your professor will use this link to test and mark your assignment.

## Reminder about academic integrity

You must comply with [Seneca College's Academic Integrity Policy](#). Although you may interact and collaborate with others, this assignment must be worked on individually and you must submit your own work.

You are responsible to ensure that your solution, or any part of it, is not duplicated by another student. If you choose to push your source code to a source control repository, such as GIT, ensure that you have made that repository private.

A suspected violation will be filed with the Academic Integrity Committee and may result in a grade of zero on this assignment or a failing grade in this course.

## Submitting your work

Make sure you submit your assignment before the due date and time. It will take a few minutes to package up your project so make sure you give yourself a bit of time to submit the assignment.

The solution folder contains extra items that will make submission larger. The following steps will help you “clean up” unnecessary files.

1. Locate the folder that holds your solution files. You can jump to the folder using the Solution Explorer. Right-click the “Solution” item and choose “Open Folder in File Explorer”.
2. Go up one level and you will see your solution folder (similar to **S2022A4NKR** but using your initials). Make a copy of your solution and change into the folder where you copied the files. For the remainder of the steps, you should be working in your copied solution!
3. Delete the “packages” folder and all its contents.
4. In the project folder (should be called **S2022A4NKR** but using your initials) contained within the solution folder, delete the “bin” and “obj” folders.
5. Compress the copied folder into a **zip** file. **Do not use 7z, RAR, or other compression algorithms (otherwise your assignment will not be marked)**. The zip file should not exceed a couple of megabytes in size. If the zip file is larger than a couple of megabytes, do not submit the assignment! Please ensure you have completed all the steps correctly.
6. Login to <https://my.senecacollege.ca/>.
7. Open the “Web Programming Using ASP.NET” course area and click the “Assignments” link on the left-side navigator. Follow the link for this lab.
8. Submit/upload your zip file. The page will accept three submissions so you may re-upload the project if you need to make changes. Just make sure you make all your changes before the due date! Only the last submission will be marked.