AGENCY FOR STATE
TECHNOLOGY

Cloud Topics Part II

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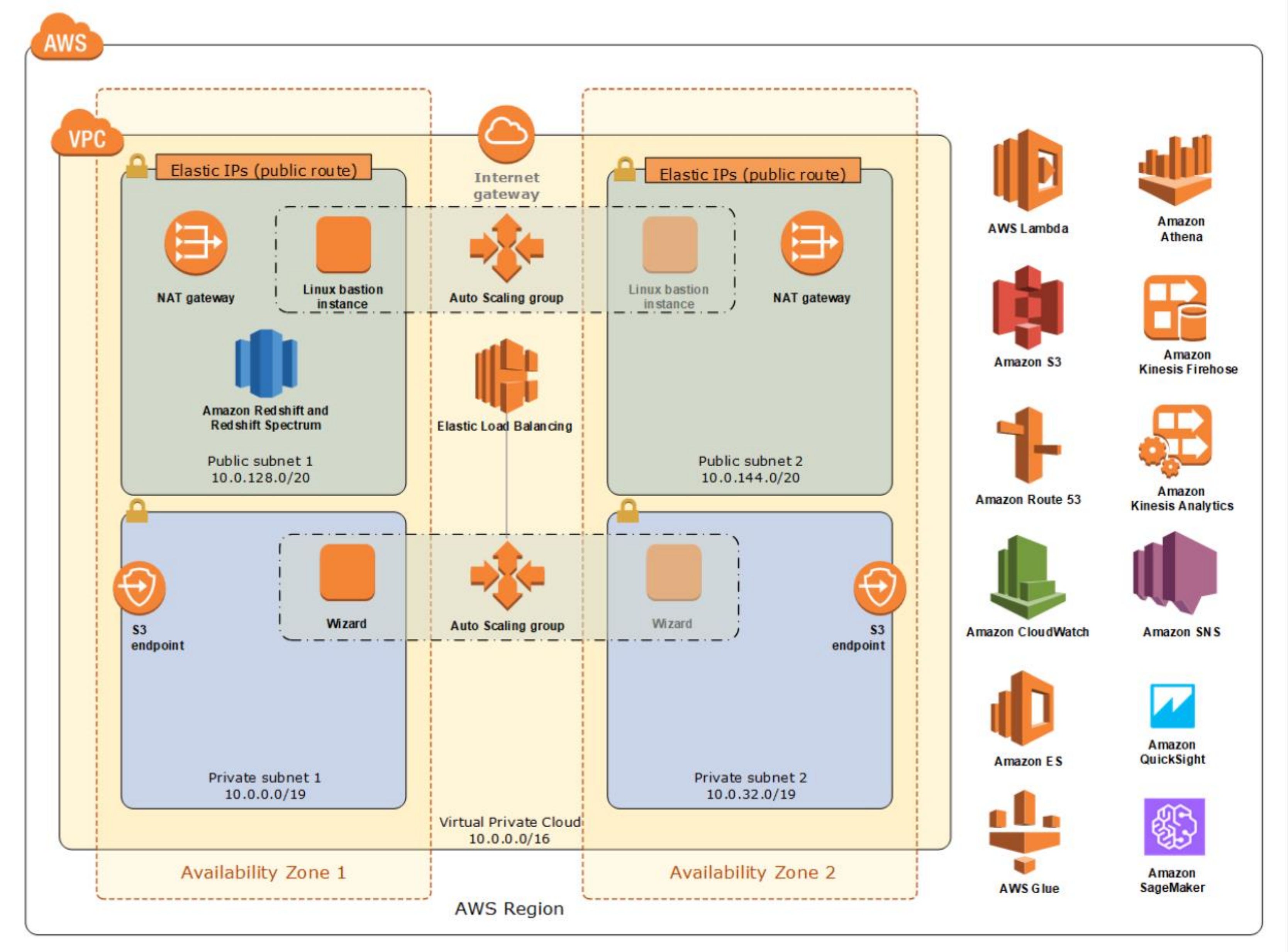
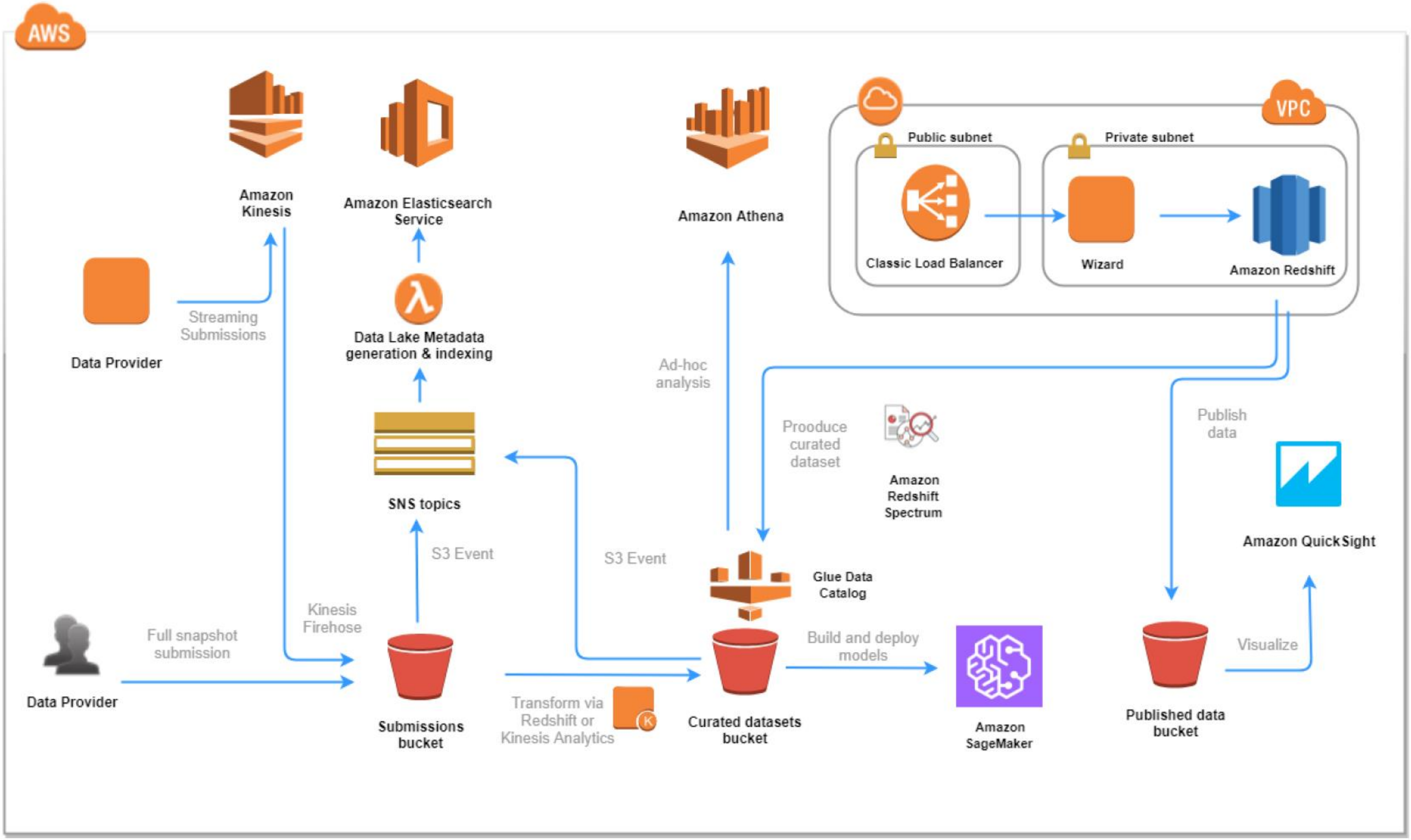
michael.avello@ast.myflorida.com

August 28, 2018

Virtual Private Cloud with 2 Availability Zones


AWS
VPC
Elastic IPs (public route)
Internet gateway
Elastic IPs (public route)
NAT gateway
Linux bastion instance
Auto Scaling group
Linux bastion instance
NAT gateway
Amazon Redshift and Redshift Spectrum
Elastic Load Balancing
Public subnet 1
10.0.128.0/20
Public subnet 2
10.0.144.0/20
S3 endpoint
Wizard
Auto Scaling group
Wizard
S3 endpoint
Private subnet 1
10.0.0.0/19
Private subnet 2
10.0.32.0/19
Virtual Private Cloud
10.0.0.0/16
Availability Zone 1
Availability Zone 2
AWS Region
AWS Lambda
Amazon Athena
Amazon S3
Amazon Kinesis Firehose
Amazon Route 53
Amazon Kinesis Analytics
Amazon CloudWatch
Amazon SNS
Amazon ES
Amazon QuickSight
AWS Glue
Amazon SageMaker

Data Lake Foundation Process Flow

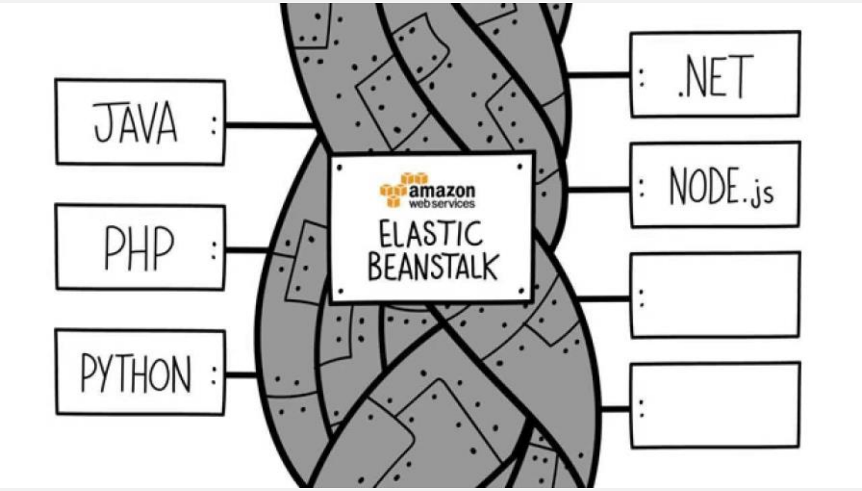

AWS
Amazon Kinesis
Amazon Elasticsearch Service
Amazon Athena
VPC
Public subnet
Private subnet
Classic Load Balancer
Wizard
Amazon Redshift
Data Provider
Streaming Submissions
Data Lake Metadata generation & indexing
Ad-hoc analysis
SNS topics
Prooduce curated dataset
Amazon Redshift Spectrum
Publish data
Amazon QuickSight
S3 Event
S3 Event
Glue Data Catalog
Kinesis Firehose
Full snapshot submission
Build and deploy models
Visualize
Data Provider
Submissions bucket
Transform via Redshift or Kinesis Analytics
Curated datasets bucket
Amazon SageMaker
Published data bucket

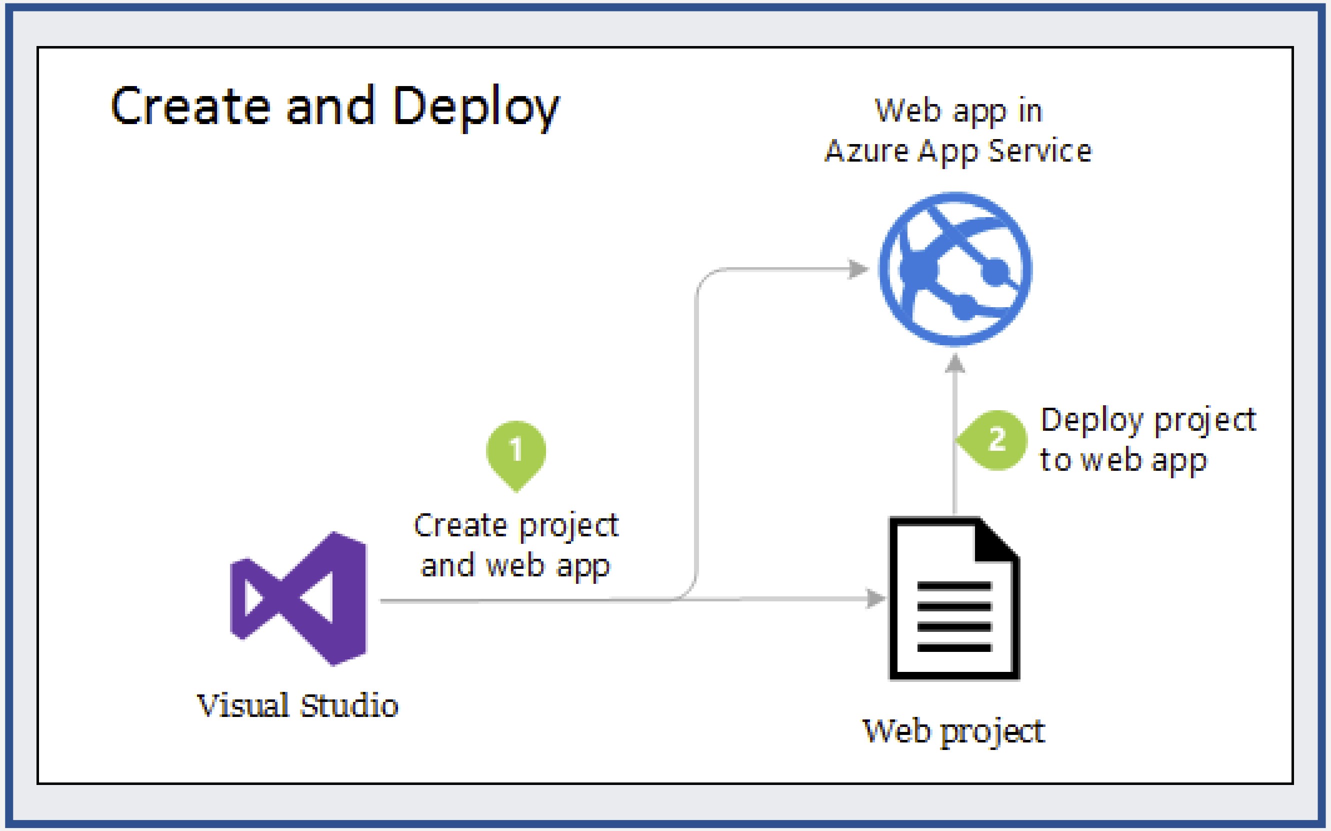
Cloud Topics

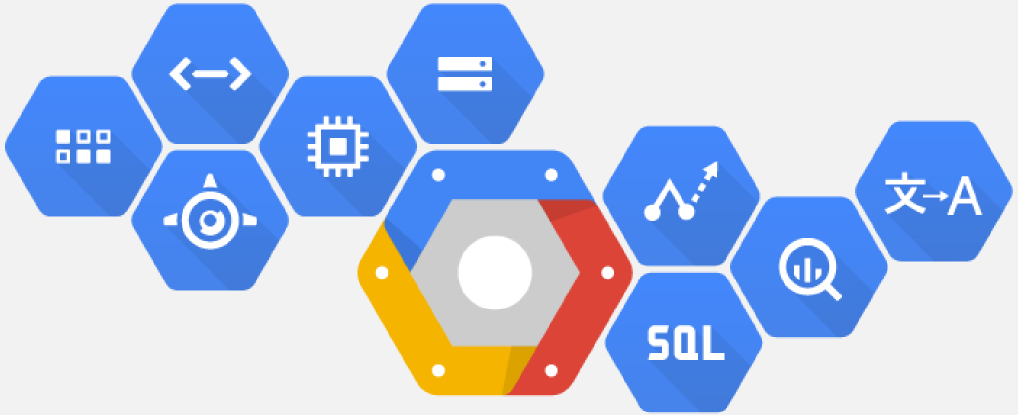
Presentation Overview

- Sample .NET Application
- Moving the .NET Application to the Cloud

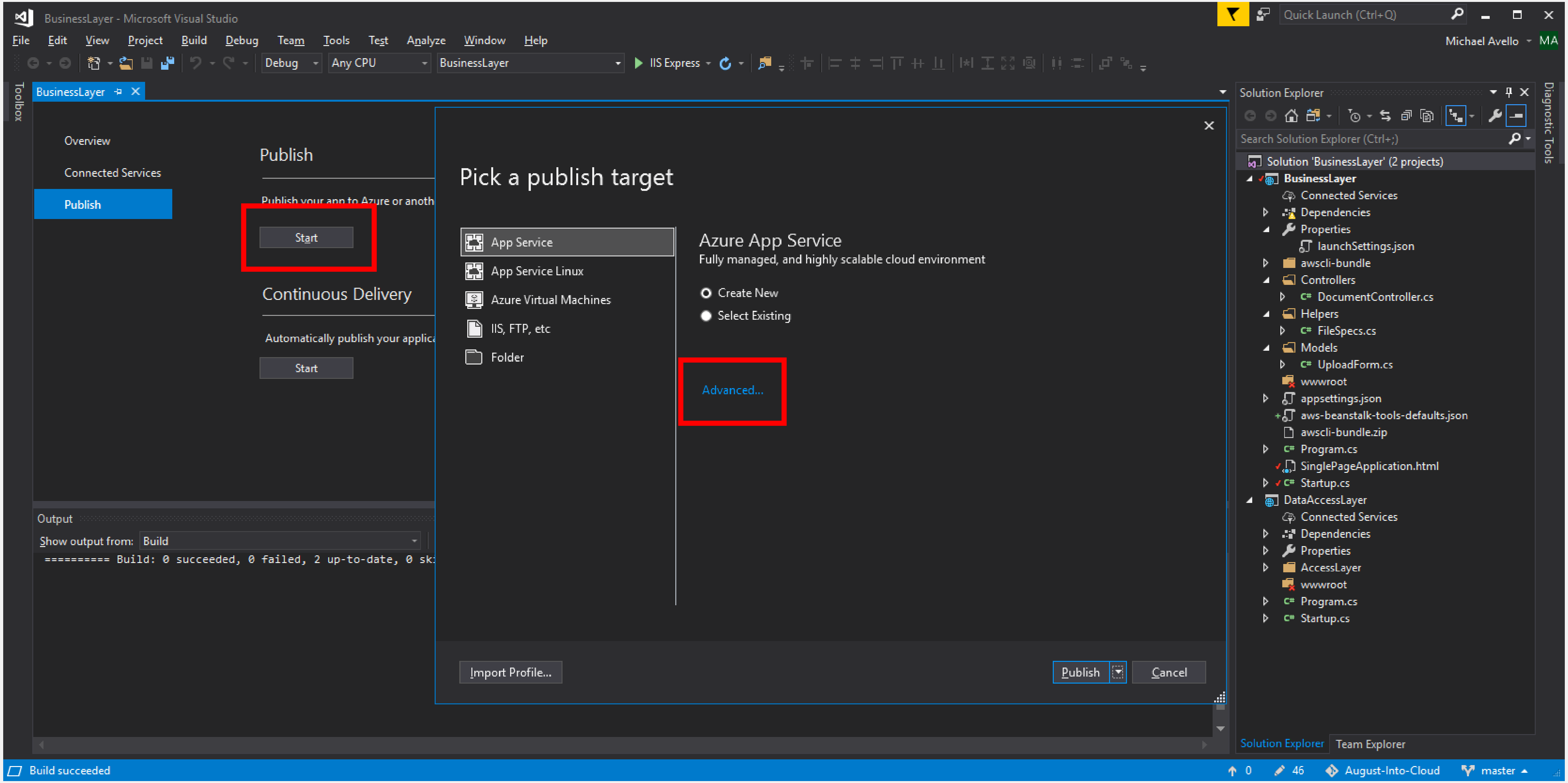
Pushing the App to the Cloud


JAVA
PHP
PYTHON
amazon web services
ELASTIC BEANSTALK
.NET
NODE.js


Create and Deploy
Web app in Azure App Service
1
Create project and web app
2
Deploy project to web app
Visual Studio
Web project



Pushing the App to the Cloud



BusinessLayer - Microsoft Visual Studio

Publish

Publish your app to Azure or anoth

Continuous Delivery

Automatically publish your applica

Pick a publish target

Azure App Service

Fully managed, and highly scalable cloud environment

○ Create New

● Select Existing

Advanced...

Show output from: Build

```
========== Build: 0 succeeded, 0 failed, 2 up-to-date, 0 ski
```

Build succeeded

File
Edit
View
Project
Build
Debug
Team
Tools
Test
Analyze
Window
Help
Quick Launch (Ctrl+Q)
Michael Avello
MA
Debug
Any CPU
BusinessLayer
IIS Express
Toolbox
BusinessLayer
Overview
Connected Services
Publish
Start
Start
App Service
App Service Linux
Azure Virtual Machines
IIS, FTP, etc
Folder
Import Profile...
Publish
Cancel
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Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'BusinessLayer' (2 projects)
BusinessLayer
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Properties
launchSettings.json
awscli-bundle
Controllers
DocumentController.cs
Helpers
FileSpecs.cs
Models
UploadForm.cs
wwwroot
appsettings.json
aws-beanstalk-tools-defaults.json
awscli-bundle.zip
Program.cs
SinglePageApplication.html
Startup.cs
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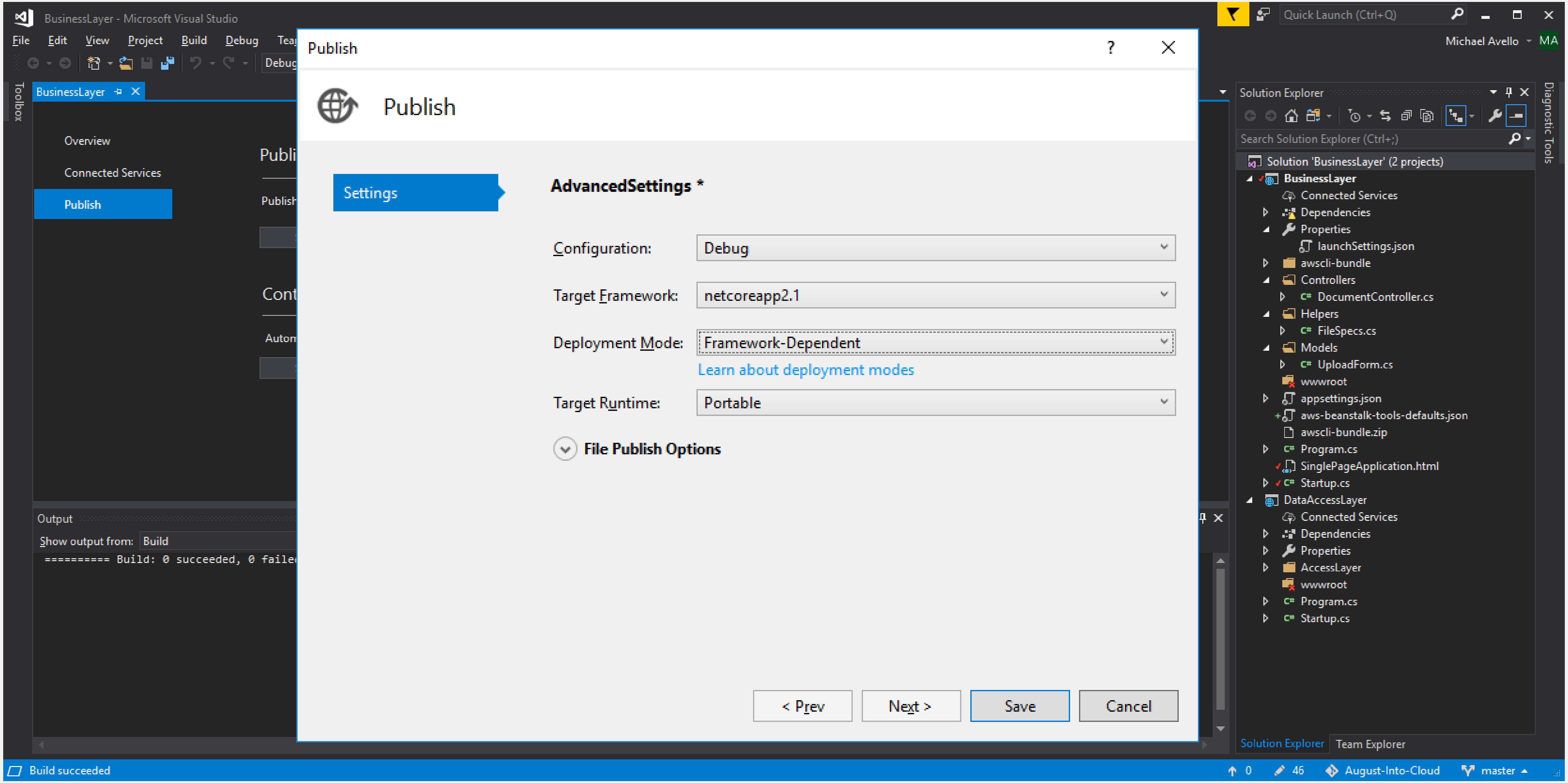
Dependencies
Properties
AccessLayer
wwwroot
Program.cs
Startup.cs
Solution Explorer
Team Explorer
Diagnostic Tools
0
46
August-Into-Cloud
master

Pushing the App to the Cloud



AdvancedSettings *

Configuration: Debug

Target Framework: netcoreapp2.1

Deployment Mode: Framework-Dependent

Learn about deployment modes

Target Runtime: Portable

File Publish Options

```
========== Build: 0 succeeded, 0 faile
```

BusinessLayer - Microsoft Visual Studio
File
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Tea
Debug
Quick Launch (Ctrl+Q)
Michael Avello
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Toolbox
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Publish
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Autom
Output
Show output from: Build
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Publish
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< Prev
Next >
Save
Cancel
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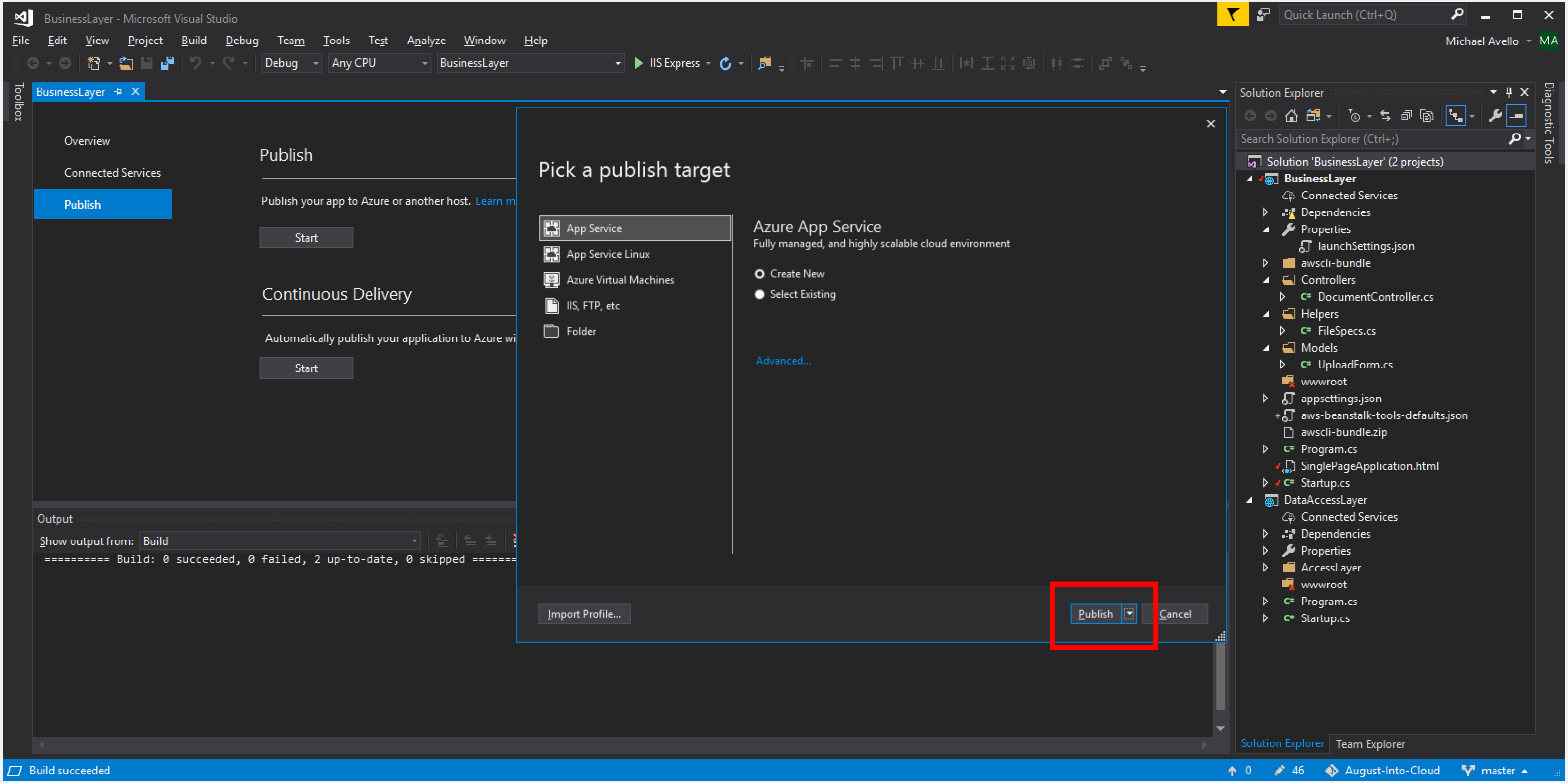
August-Into-Cloud
master

Pushing the App to the Cloud



BusinessLayer - Microsoft Visual Studio

Publish

Publish your app to Azure or another host. Learn m

Continuous Delivery

Automatically publish your application to Azure wi

Output

Show output from: Build

```
========== Build: 0 succeeded, 0 failed, 2 up-to-date, 0 skipped =======
```

Pick a publish target

Azure App Service

Fully managed, and highly scalable cloud environment

○ Create New
○ Select Existing

File
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Solution Explorer
Team Explorer
Diagnostic Tools
Build succeeded
0
46
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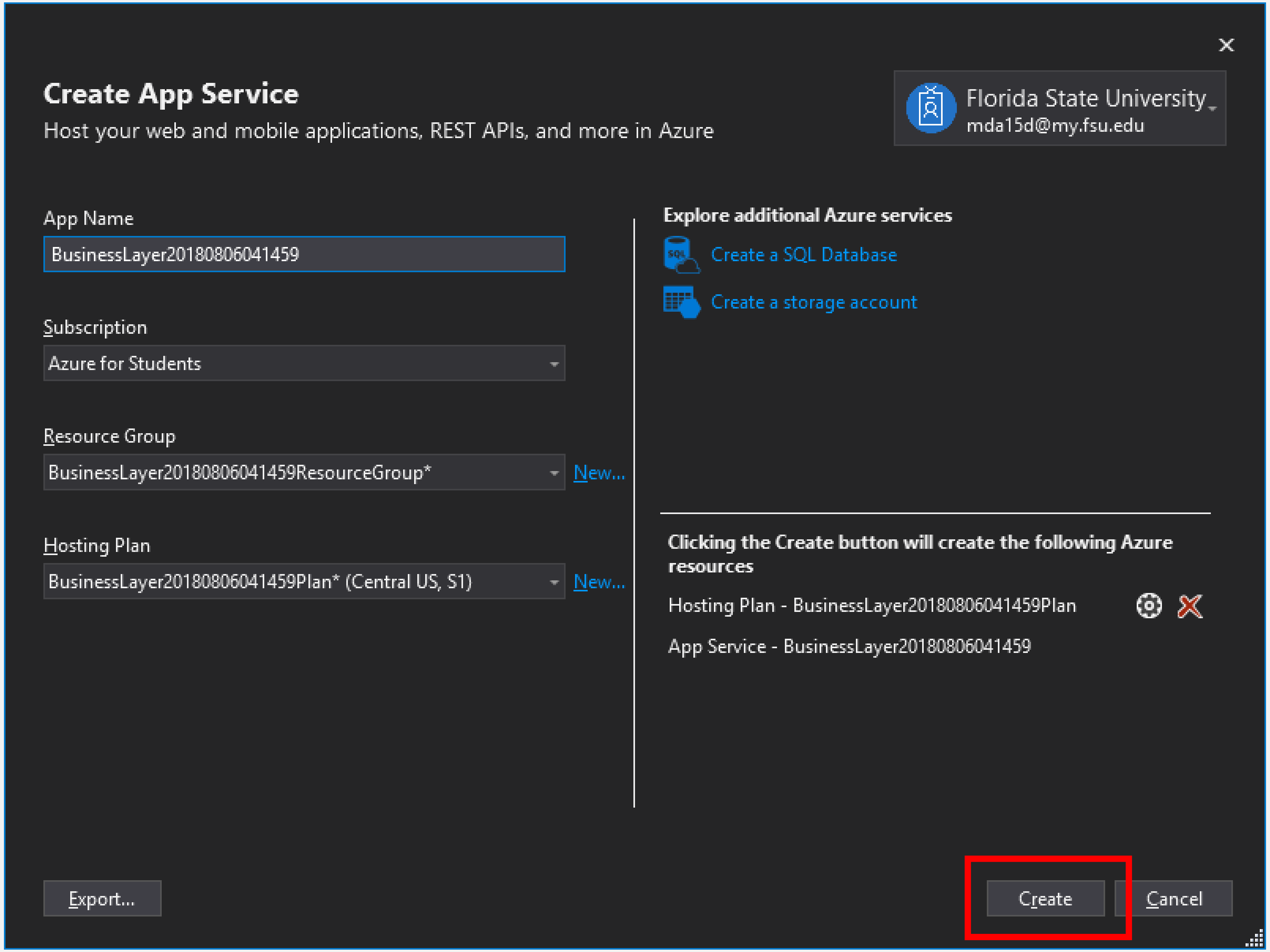
master

Pushing the App to the Cloud



Create App Service

Host your web and mobile applications, REST APIs, and more in Azure

Florida State University
mda15d@my.fsu.edu

App Name: BusinessLayer20180806041459

Subscription: Azure for Students

Resource Group: BusinessLayer20180806041459ResourceGroup*

Hosting Plan: BusinessLayer20180806041459Plan* (Central US, S1)

Explore additional Azure services

Create a SQL Database

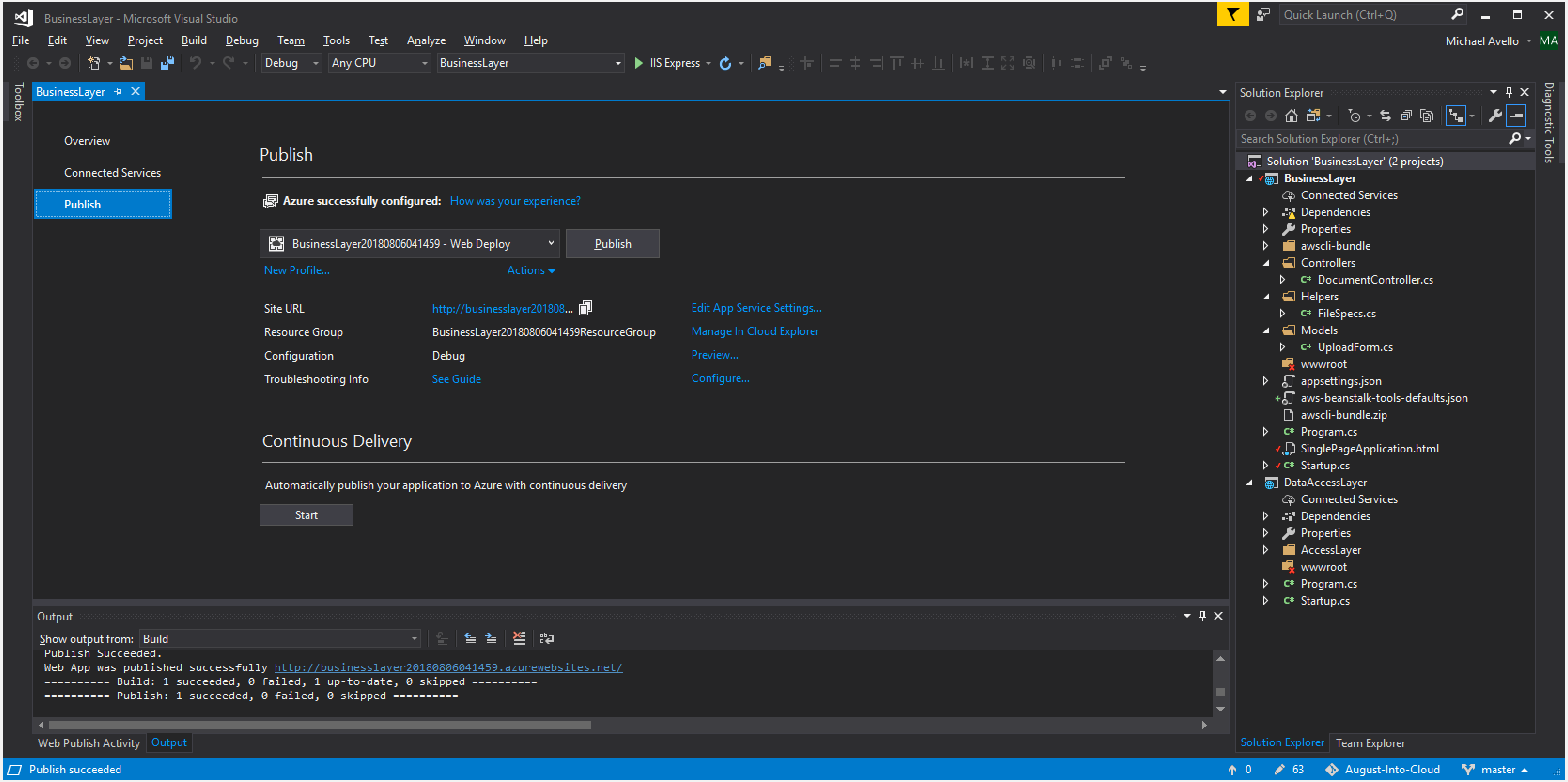
Create a storage account

Clicking the Create button will create the following Azure resources

Hosting Plan - BusinessLayer20180806041459Plan

App Service - BusinessLayer20180806041459

Pushing the App to the Cloud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Michael Avello
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Debug
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BusinessLayer
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BusinessLayer
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Connected Services
Publish
New Profile...
Actions
Edit App Service Settings...
Manage In Cloud Explorer
Preview...
Configure...
Start
Solution Explorer
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AccessLayer
wwwroot
Program.cs
Startup.cs
Diagnostic Tools
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Team Explorer
Web Publish Activity
Output
0
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Publish

Azure successfully configured: How was your experience?

BusinessLayer20180806041459 - Web Deploy | Publish

Site URL: http://businesslayer201808...

Resource Group: BusinessLayer20180806041459ResourceGroup

Configuration: Debug

Troubleshooting Info: See Guide

Continuous Delivery

Automatically publish your application to Azure with continuous delivery

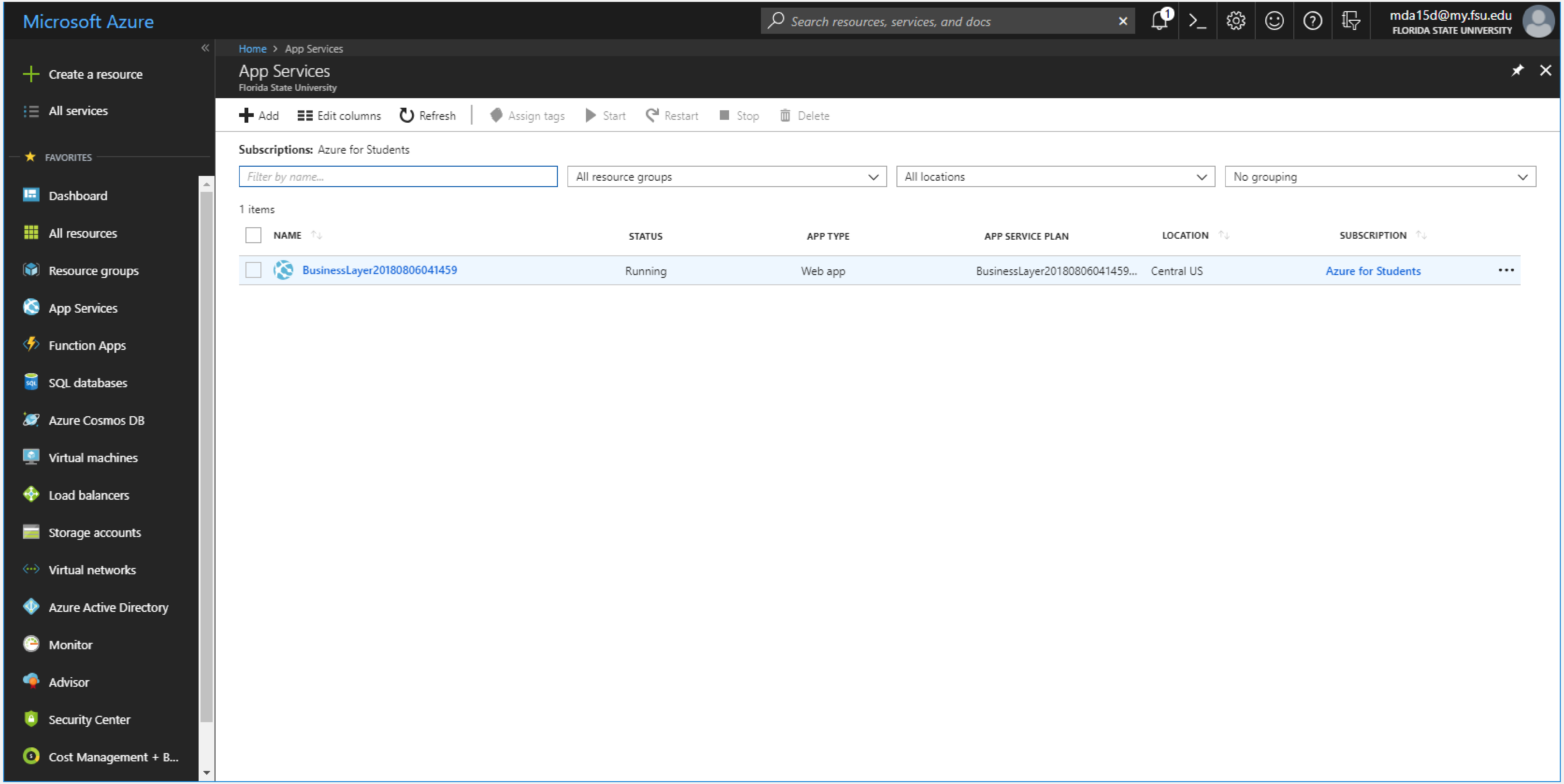
Output

Show output from: Build

```
Publish Succeeded.
Web App was published successfully http://businesslayer20180806041459.azurewebsites.net/
========== Build: 1 succeeded, 0 failed, 1 up-to-date, 0 skipped ==========
========== Publish: 1 succeeded, 0 failed, 0 skipped ==========
```

Publish succeeded

Pushing the App to the Cloud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All services
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Resource groups
App Services
Function Apps
SQL databases
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Storage accounts
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Azure Active Directory
Monitor
Advisor
Security Center
Cost Management + B...
Home > App Services
Add
Edit columns
Refresh
Assign tags
Start
Restart
Stop
Delete

App Services
Florida State University

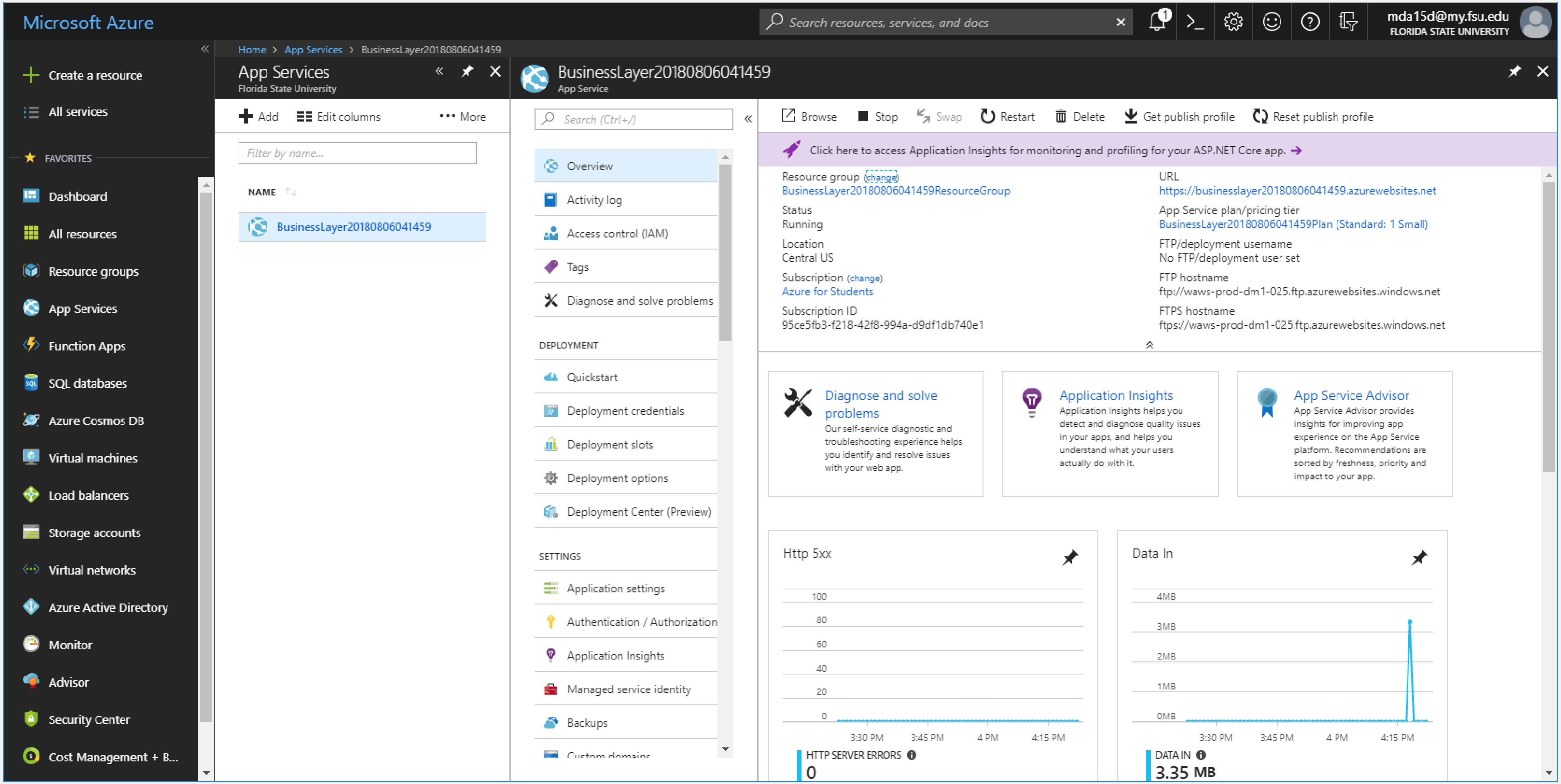
Subscriptions: Azure for Students

Filter by name...
All resource groups
All locations
No grouping

1 items

☐	NAME	STATUS	APP TYPE	APP SERVICE PLAN	LOCATION	SUBSCRIPTION
☐	BusinessLayer20180806041459	Running	Web app	BusinessLayer20180806041459...	Central US	Azure for Students

Pushing the App to the Cloud



Microsoft Azure
Search resources, services, and docs
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Home > App Services > BusinessLayer20180806041459
Create a resource
All services
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Managed service identity
Backups
Custom domains
Browse
Stop
Swap
Restart
Delete
Get publish profile
Reset publish profile

Click here to access Application Insights for monitoring and profiling for your ASP.NET Core app. →

Resource group (change)
BusinessLayer20180806041459ResourceGroup

Status
Running

Location
Central US

Subscription (change)
Azure for Students

Subscription ID
95ce5fb3-f218-42f8-994a-d9df1db740e1

URL
https://businesslayer20180806041459.azurewebsites.net

App Service plan/pricing tier
BusinessLayer20180806041459Plan (Standard: 1 Small)

FTP/deployment username
No FTP/deployment user set

FTP hostname
ftp://waws-prod-dm1-025.ftp.azurewebsites.windows.net

FTPS hostname
ftps://waws-prod-dm1-025.ftp.azurewebsites.windows.net

Diagnose and solve problems
Our self-service diagnostic and troubleshooting experience helps you identify and resolve issues with your web app.

Application Insights
Application Insights helps you detect and diagnose quality issues in your apps, and helps you understand what your users actually do with it.

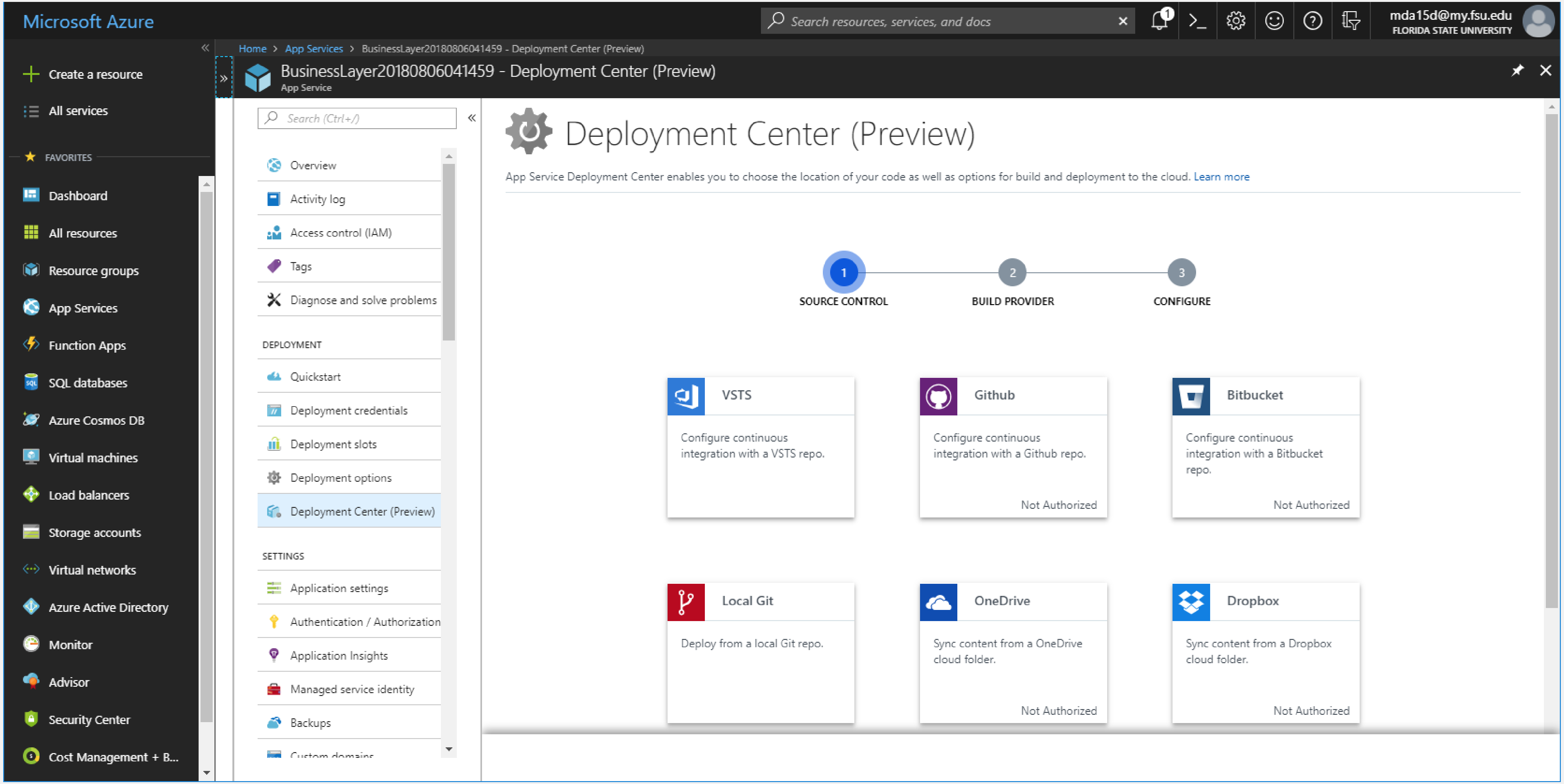
App Service Advisor
App Service Advisor provides insights for improving app experience on the App Service platform. Recommendations are sorted by freshness, priority and impact to your app.

Http 5xx
100
80
60
40
20
0
3:30 PM
3:45 PM
4 PM
4:15 PM
Data In
4MB
3MB
2MB
1MB
0MB
3:30 PM
3:45 PM
4 PM
4:15 PM

HTTP SERVER ERRORS
0

DATA IN
3.35 MB

Pushing the App to the Cloud



Home > App Services > BusinessLayer20180806041459 - Deployment Center (Preview)

BusinessLayer20180806041459 - Deployment Center (Preview)

App Service

Deployment Center (Preview)

App Service Deployment Center enables you to choose the location of your code as well as options for build and deployment to the cloud. Learn more

1 SOURCE CONTROL — 2 BUILD PROVIDER — 3 CONFIGURE

VSTS
Configure continuous integration with a VSTS repo.

Github
Configure continuous integration with a Github repo.
Not Authorized

Bitbucket
Configure continuous integration with a Bitbucket repo.
Not Authorized

Local Git
Deploy from a local Git repo.

OneDrive
Sync content from a OneDrive cloud folder.
Not Authorized

Dropbox
Sync content from a Dropbox cloud folder.
Not Authorized

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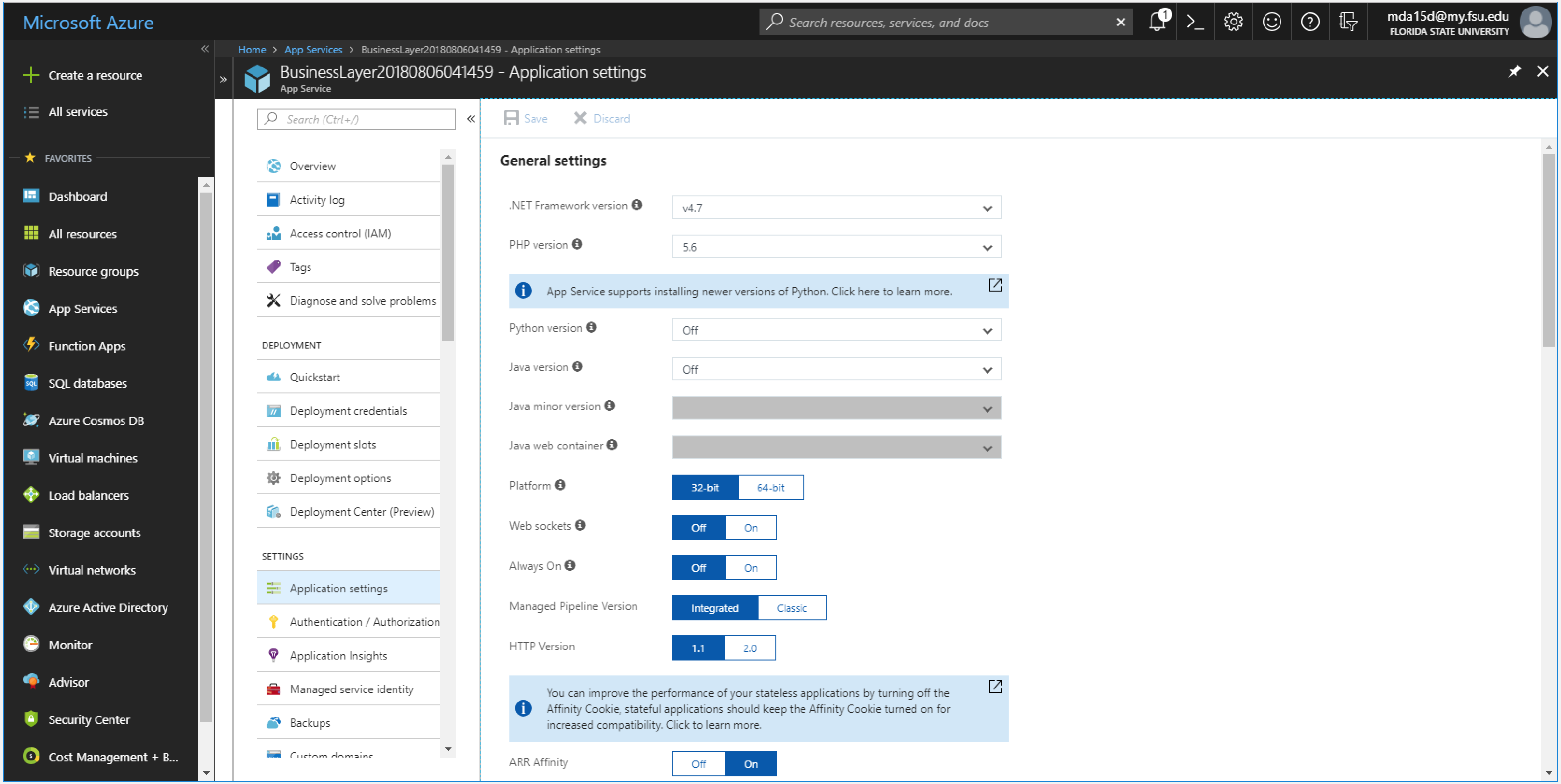

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SETTINGS
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Backups
Custom domains
Save
Discard

General settings

.NET Framework version: v4.7

PHP version: 5.6

App Service supports installing newer versions of Python. Click here to learn more.

Python version: Off

Java version: Off

Java minor version:

Java web container:

Platform: ● 32-bit ○ 64-bit

Web sockets: ● Off ○ On

Always On: ● Off ○ On

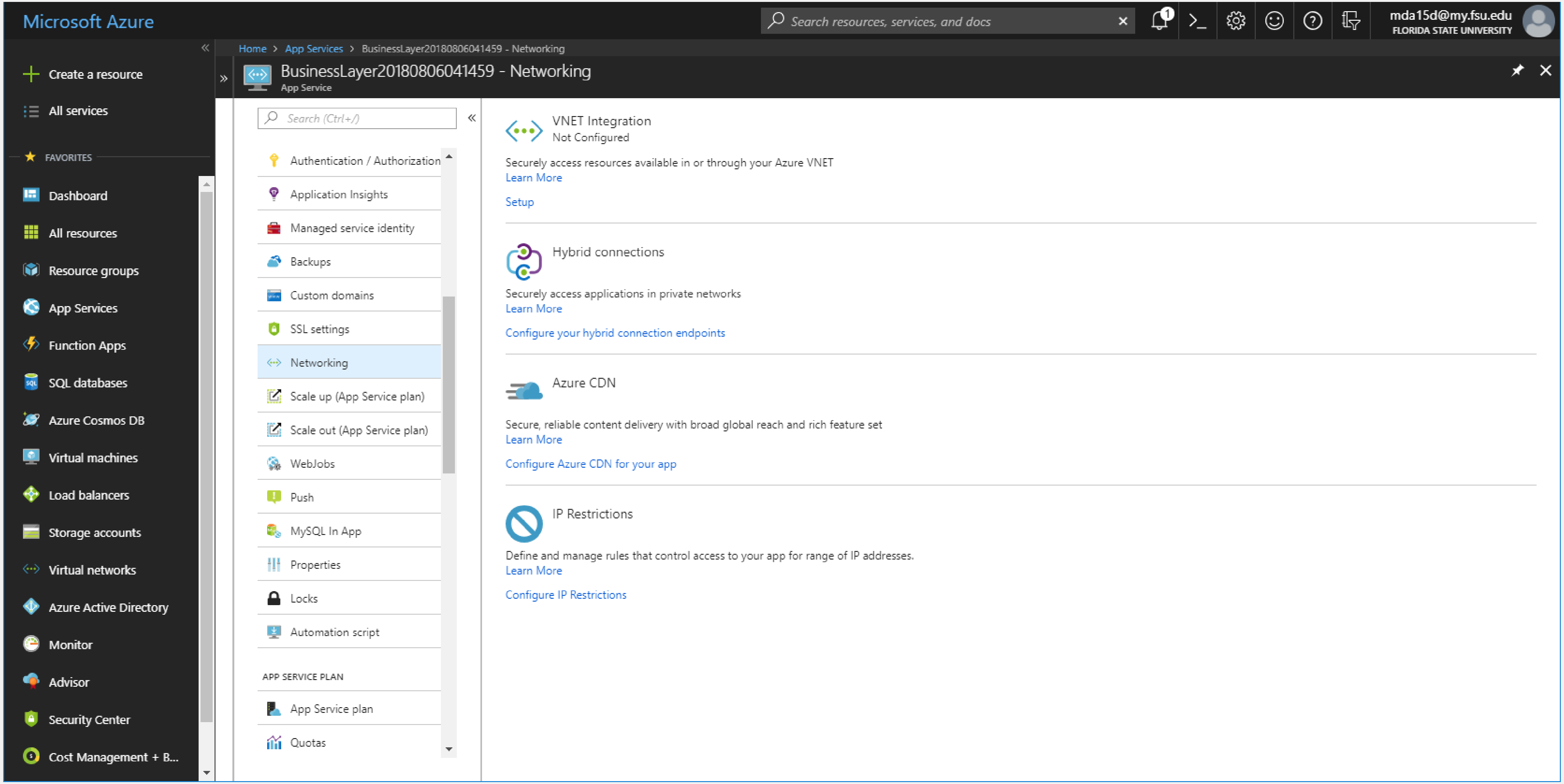
Managed Pipeline Version: ● Integrated ○ Classic

HTTP Version: ● 1.1 ○ 2.0

You can improve the performance of your stateless applications by turning off the Affinity Cookie, stateful applications should keep the Affinity Cookie turned on for increased compatibility. Click to learn more.

ARR Affinity: ○ Off ● On

Pushing the App to the Cloud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Home > App Services > BusinessLayer20180806041459 - Networking
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Cost Management + B...
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Scale up (App Service plan)
Scale out (App Service plan)
WebJobs
Push
MySQL In App
Properties
Locks
Automation script
APP SERVICE PLAN
App Service plan
Quotas

VNET Integration

Not Configured

Securely access resources available in or through your Azure VNET

Learn More

Setup

Hybrid connections

Securely access applications in private networks

Learn More

Configure your hybrid connection endpoints

Azure CDN

Secure, reliable content delivery with broad global reach and rich feature set

Learn More

Configure Azure CDN for your app

IP Restrictions

Define and manage rules that control access to your app for range of IP addresses.

Learn More

Configure IP Restrictions

References

- https://developers.google.com/web/progressive-web-apps/
- https://docs.microsoft.com/en-us/aspnet/web-api/overview/getting-started-with-aspnet-web-api/tutorial-your-first-web-api
- https://docs.microsoft.com/en-us/azure/azure-functions/
- https://docs.aws.amazon.com/lambda/latest/dg/getting-started.html
- https://nodejs.org/en/
- https://msdn.microsoft.com/en-us/magazine/dn463786.aspx

Questions?

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Michael Avello
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Tallahassee, Florida 32399