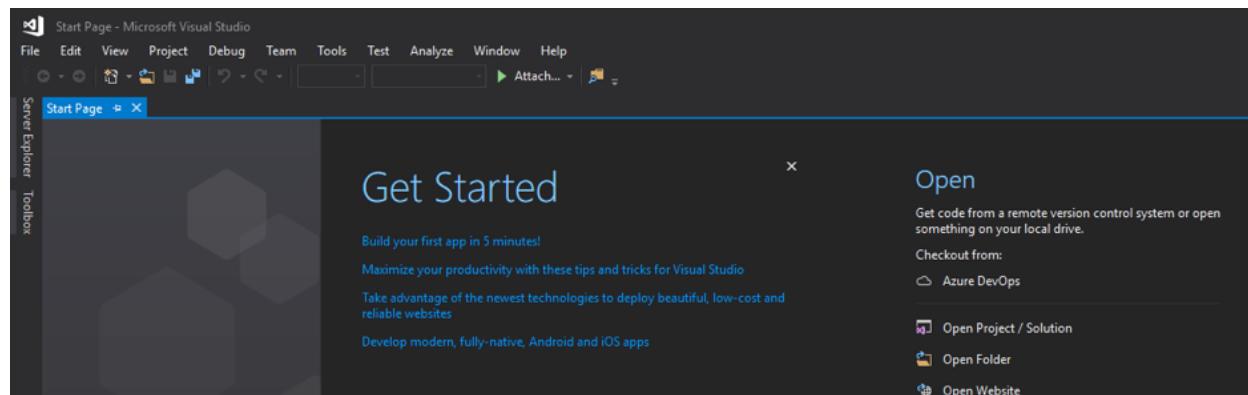


Lab 4: Failover between regions

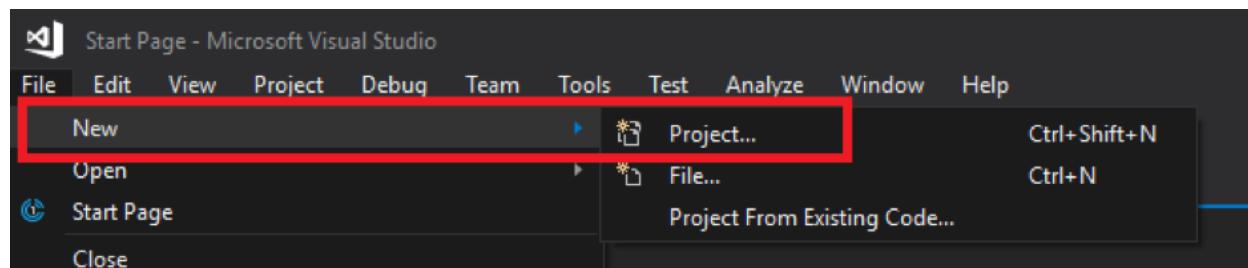
[-> Lab 3: Creating ARM templates from scratch | Home | Lab 5: IaaS Automation ->](#)

Part 1: Use Azure Traffic Manager to provide geo-redundancy for a Web App

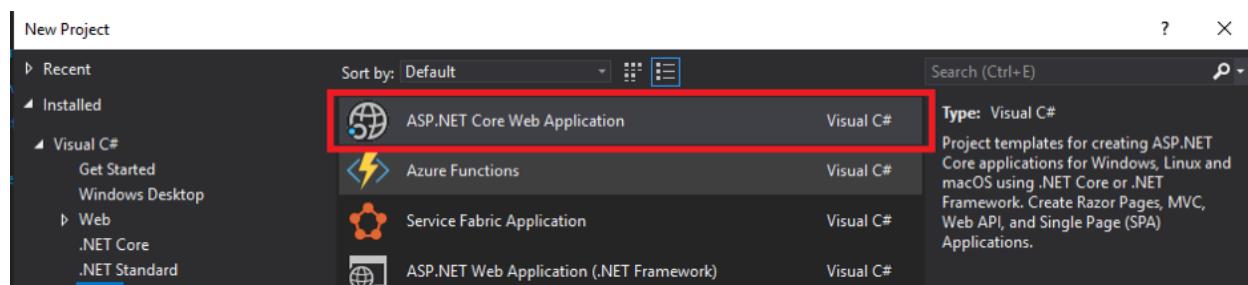
1. Load Visual Studio (Community Edition available for free here):



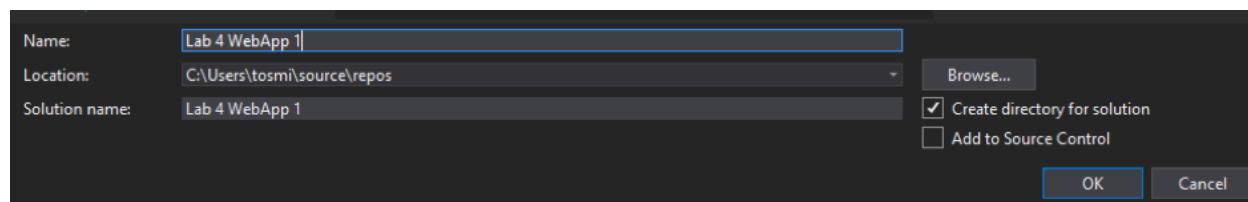
2. Click File > New > Project:



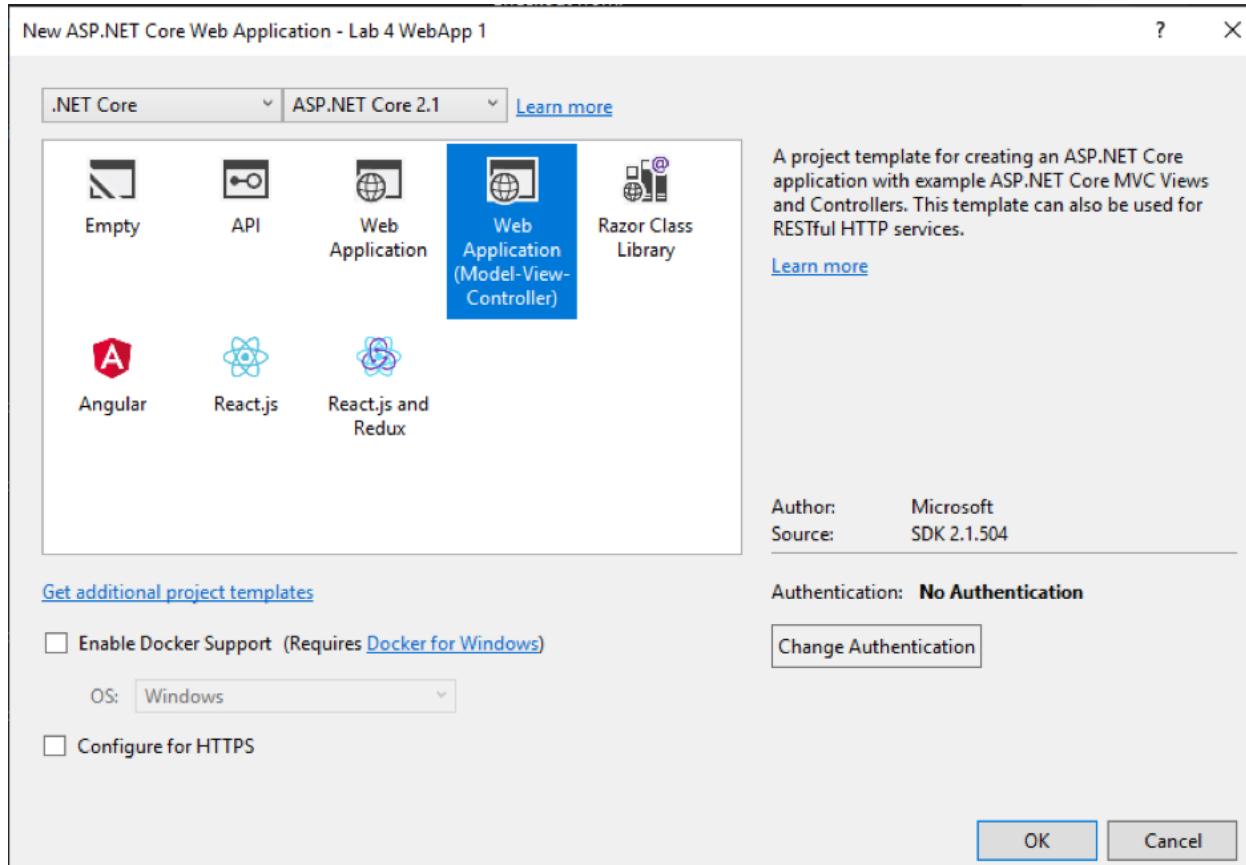
3. Choose 'ASP.net Core Web Application':



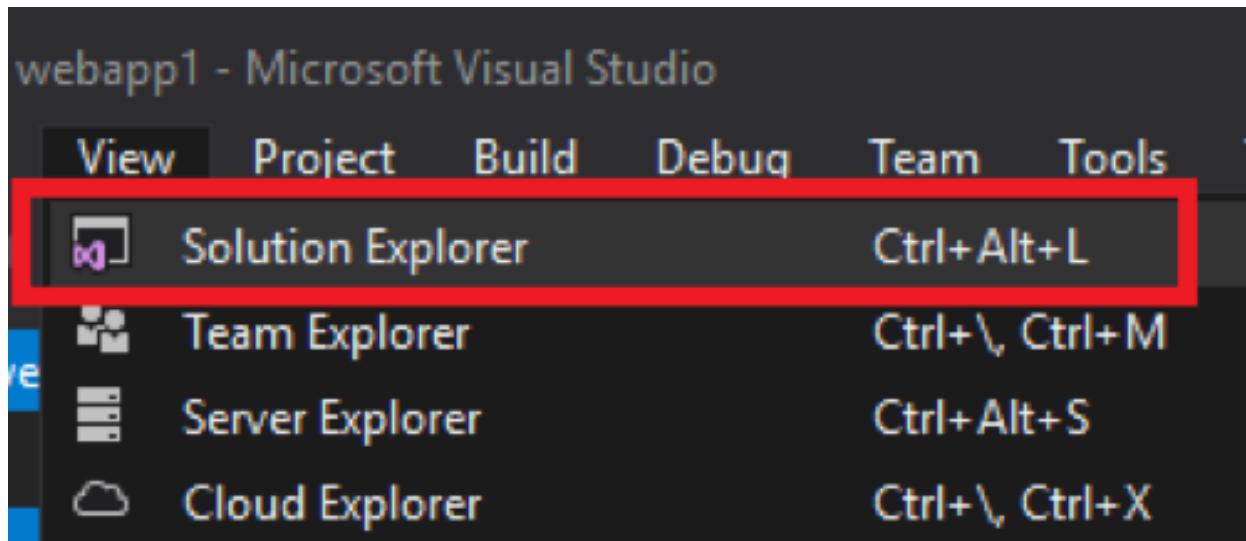
4. Give the project a name that's easy to identify:



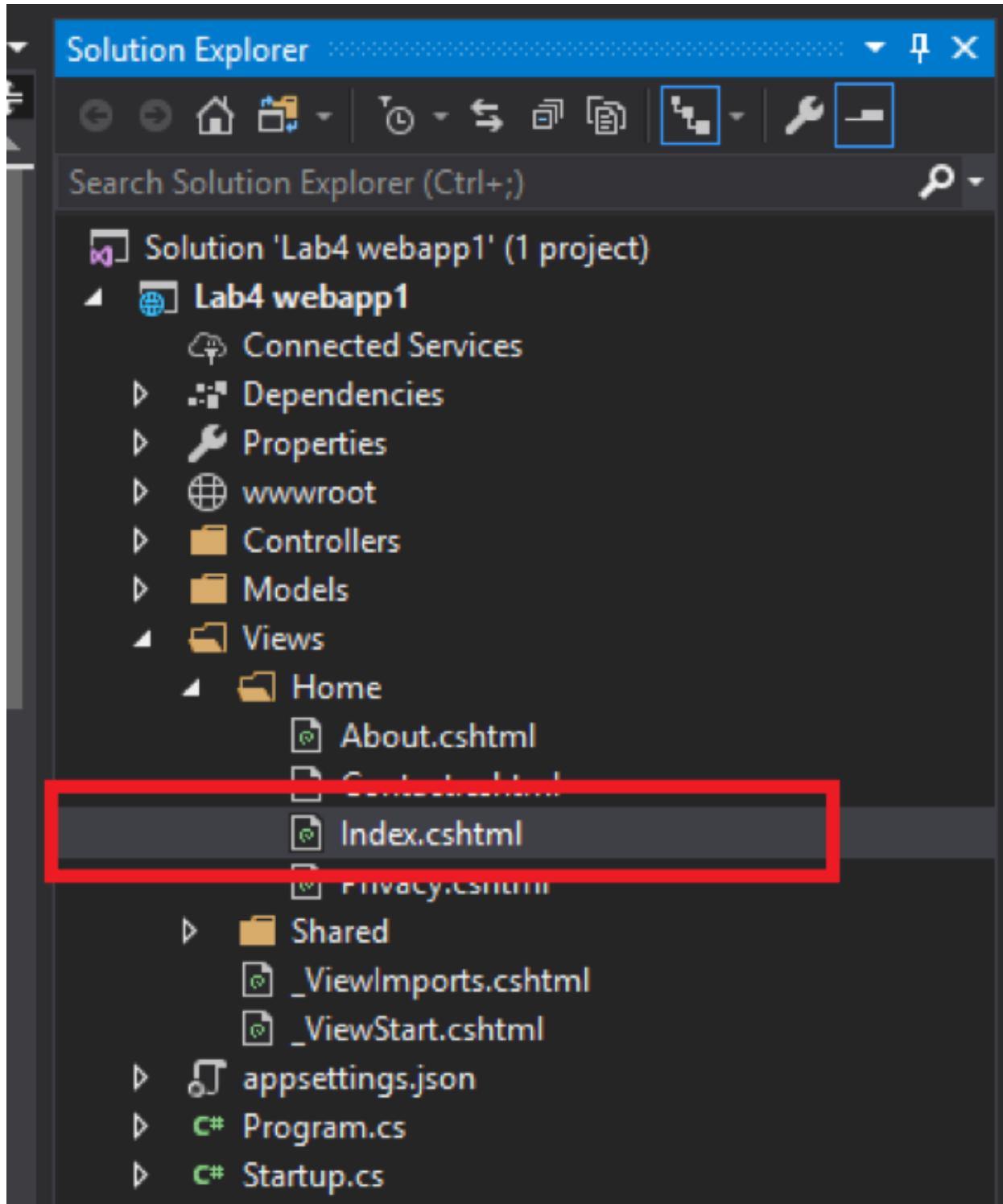
5. Choose 'Web Application (Model-View-Controller)' and untick 'Enable Docker Support' and 'Configure for HTTPS', then click 'OK':



6. If it doesn't display automatically, click 'View > Solution Explorer':



7. In the Solution Explorer on the right hand side of the screen, expand Views > Home and click on 'Index.cshtml':



8. Select all of the default text in the left-hand pane of Visual Studio and delete it:

Lab4 webapp1

```

1 ViewData["Title"] = "Home Page";
2
3
4
5 <div id="myCarousel" class="carousel slide" data-ride="carousel" data-interval="6000">
6   <ol class="carousel-indicators">
7     <li data-target="#myCarousel" data-slide-to="0" class="active"></li>
8     <li data-target="#myCarousel" data-slide-to="1"></li>
9     <li data-target="#myCarousel" data-slide-to="2"></li>
10    </ol>
11    <div class="carousel-inner" role="listbox">
12      <div class="item active">
13        
14        <div class="carousel-caption" role="option">
15          <p>
16            Learn how to build ASP.NET apps that can run anywhere.
17            <a class="btn btn-default" href="https://go.microsoft.com/fwlink/?LinkID=525028&clcid=0x409">
18              Learn More
19            </a>
20          </p>
21        </div>
22      </div>
23      <div class="item">
24        
25        <div class="carousel-caption" role="option">
26          <p>
27            There are powerful new features in Visual Studio for building modern web apps.
28            <a class="btn btn-default" href="https://go.microsoft.com/fwlink/?LinkID=525030&clcid=0x409">
29              Learn More
30            </a>
31          </p>
32        </div>

```

9. Type / paste in some basic HTML that identifies this Web App (sample below):

```

<!DOCTYPE html>
<html>
<body>

<h1>This is <name>'s WebApp</h1>

<p>This is WebApp 1</p>

</body>
</html>

```

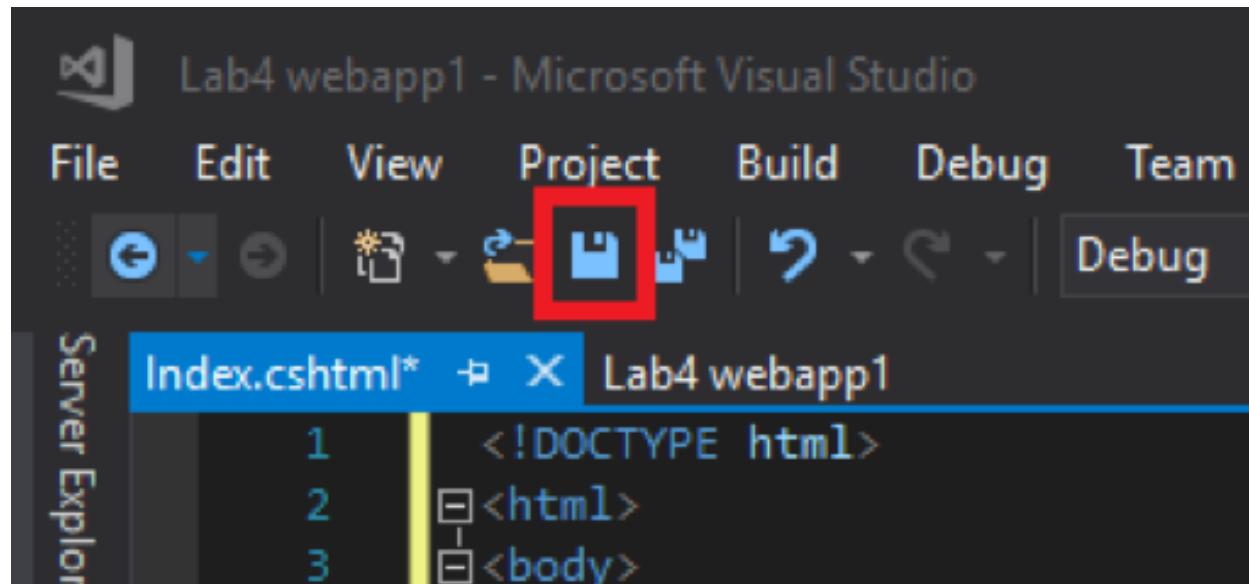
Index.cshtml* Lab4 webapp1

```

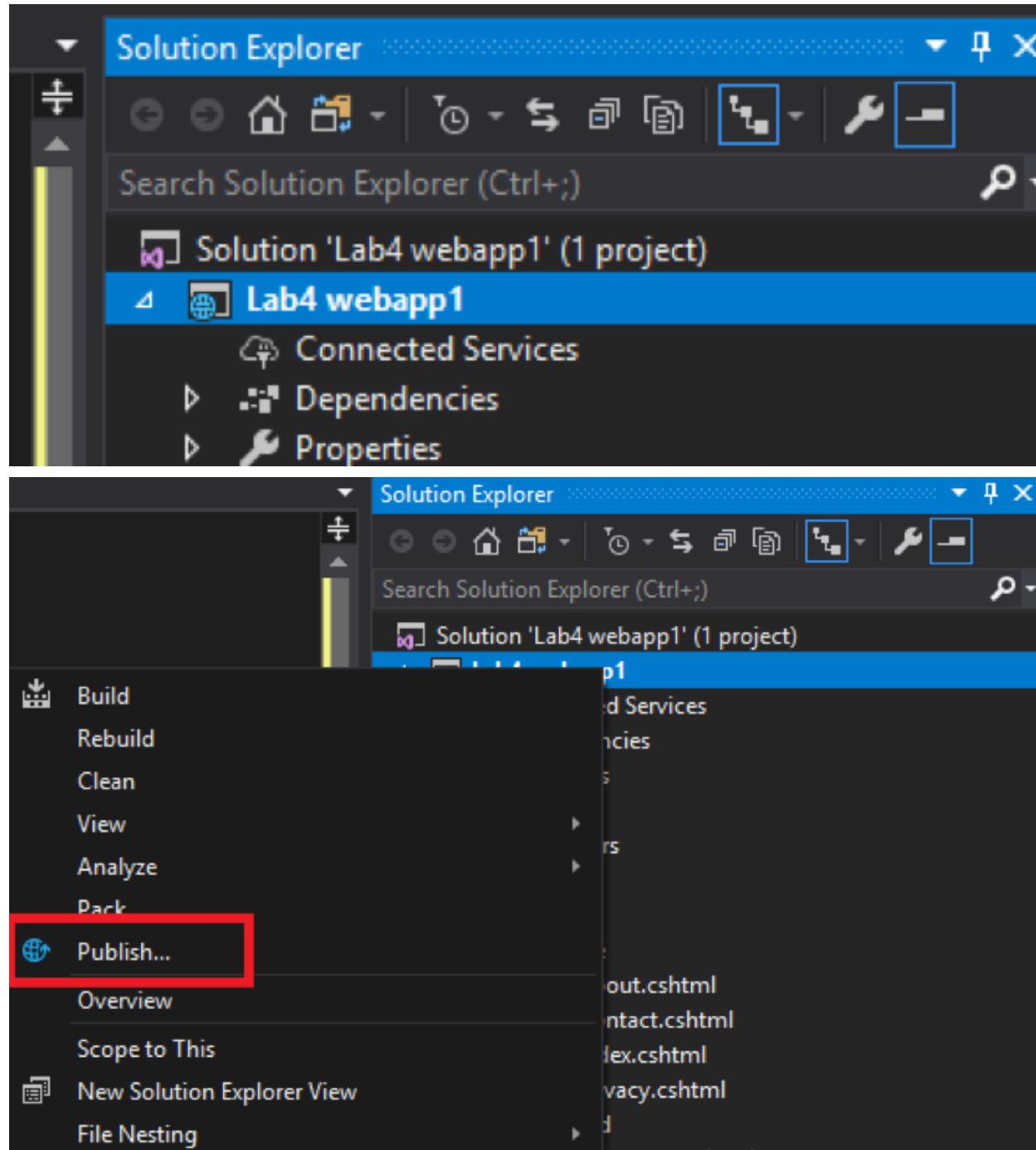
1   <!DOCTYPE html>
2   <html>
3     <body>
4
5       <h1>This is Tom's WebApp </h1>
6
7       <p>This is WebApp 1.</p>
8
9     </body>
10    </html>

```

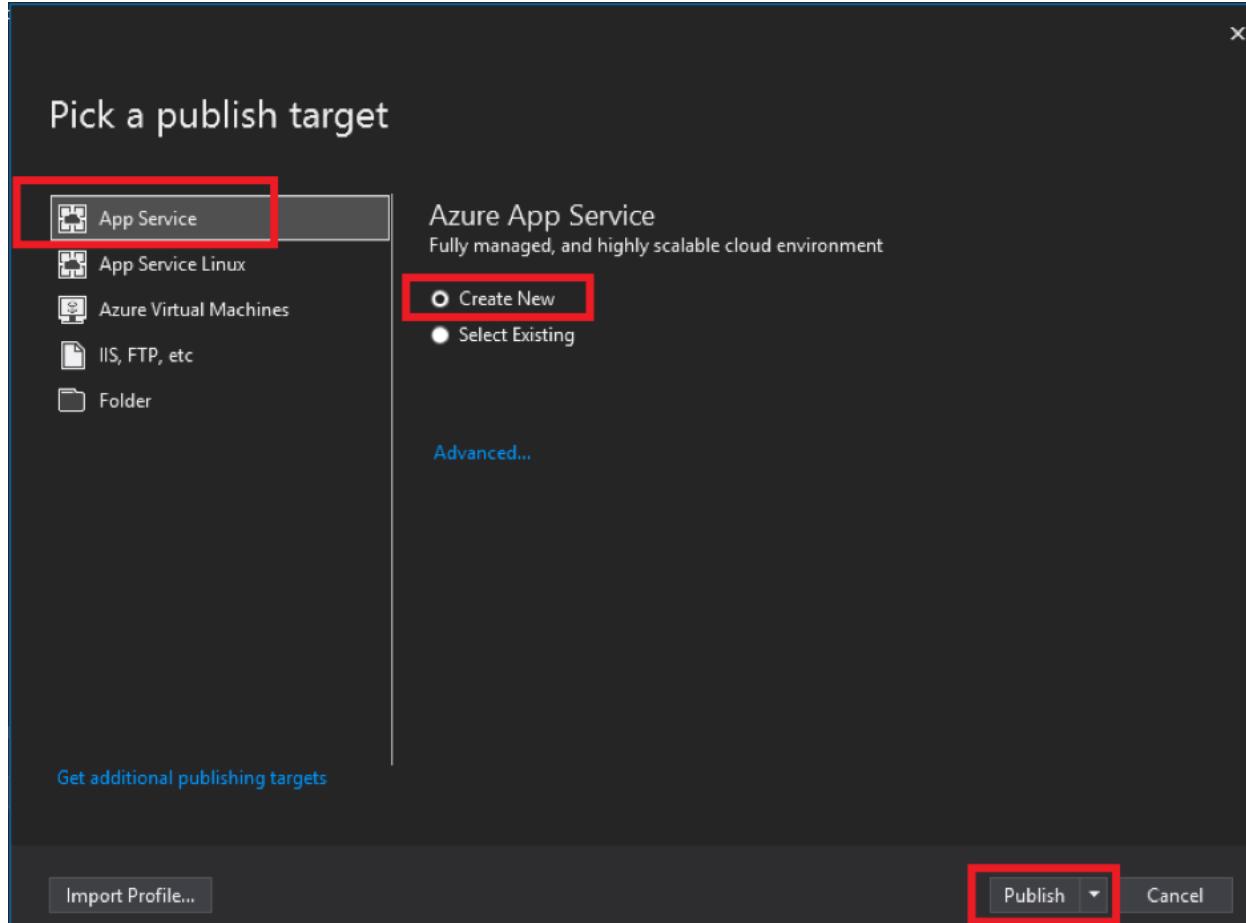
10. Click 'Save':



11. In 'Solution Explorer' right click your Web App and choose 'Publish':



12. Choose 'App Service' and 'Create New' from the options and then click 'Publish' (note if you've not logged into an Azure subscription already you may be prompted to do so):



13. Choose an 'App Name' that is easily identifiable and choose an appropriate Resource Group for your web app, alternatively you can create a new one. For 'Hosting Plan' select 'New' and choose an App Service Plan name that is easily identifiable. Choose a location of 'UK South' and a size of 'S1'. Then click 'Create':

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

App Name: Lab4webapp1

Subscription: Microsoft Azure Internal Consumption

Resource Group: S77TAS (centralus) [New...](#)

Hosting Plan: AppServicePlanForLab4WebApp1* (UK South, S1) [New...](#)

Application Insights: None

Explore additional Azure services:

- [Create a SQL Database](#)
- [Create a storage account](#)

Clicking the Create button will create the following Azure resources:

- Hosting Plan - AppServicePlanForLab4WebApp1 [Edit](#) [Delete](#)
- App Service - Lab4webapp1

[Export...](#) [Create](#) [Cancel](#)

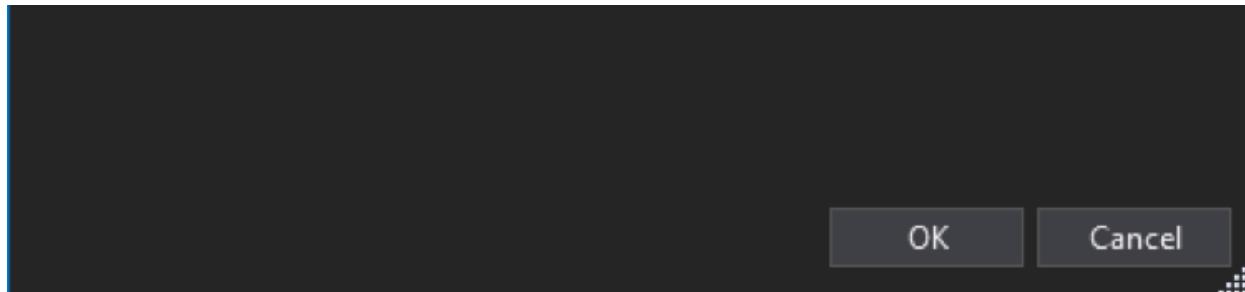
Configure Hosting Plan

A hosting plan is the container for your app. The hosting plan settings will determine the location, features, cost and compute resources associated...

App Service Plan: Lab4WebApp1Plan

Location: UK South

Size: S1 (1 core, 1.75 GB RAM)



14. In the Azure portal, type in 'App Services' in the search bar at the top until the 'App Services' resource is displayed and then click it:

15. Verify your Web App appears:

NAME	STATUS	APP TYPE	APP SERVICE PLAN	LOCATION
Lab4WebApp1	Running	Web App	Lab4WebApp1Plan	UK South

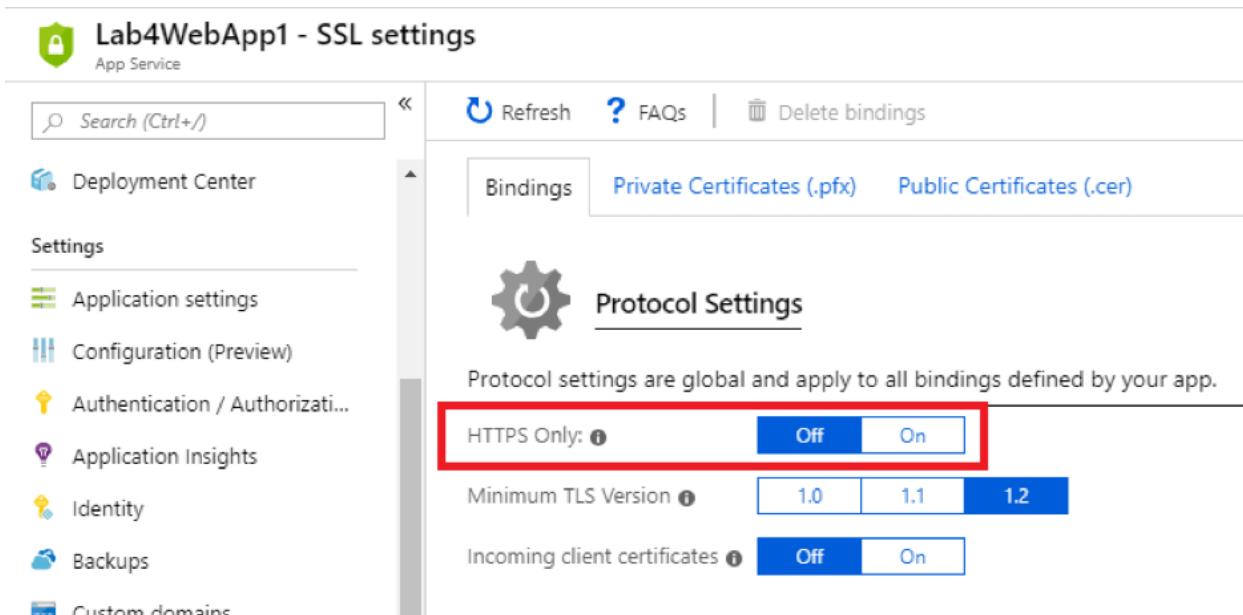
16. Click on your Web App to display the overview dashboard:

17. Click on 'SSL Settings':

Settings

-  Application settings
-  Configuration (Preview)
-  Authentication / Authorization...
-  Application Insights
-  Identity
-  Backups
-  Custom domains
-  SSL settings
-  Networking
-  Scale up (App Service plan)
-  Scale out (App Service plan)

18. Set 'HTTPS Only' to 'Off':



Lab4WebApp1 - SSL settings

App Service

Search (Ctrl+ /)

Refresh | FAQs | Delete bindings

Bindings | Private Certificates (.pfx) | Public Certificates (.cer)

Protocol Settings

Protocol settings are global and apply to all bindings defined by your app.

HTTPS Only:

Minimum TLS Version:

Incoming client certificates:

Settings

- Application settings
- Configuration (Preview)
- Authentication / Authorization...
- Application Insights
- Identity
- Backups
- Custom domains

19. Click on 'Overview' on the left-hand menu for the Web App:

The screenshot shows the Azure portal interface for an App Service named 'Lab4WebApp1 - SSL settings'. At the top left is a green shield icon with a lock symbol. To its right is the service name. Below the service name is a search bar with the placeholder 'Search (Ctrl+ /)'. To the right of the search bar is a blue circular refresh button with a white arrow and the text 'Re'. On the far right, there are several collapsed sections with icons: a gear for 'Bind', a wrench for 'Protocols', and a shield for 'HTTP'.

The main content area contains a sidebar with the following items:

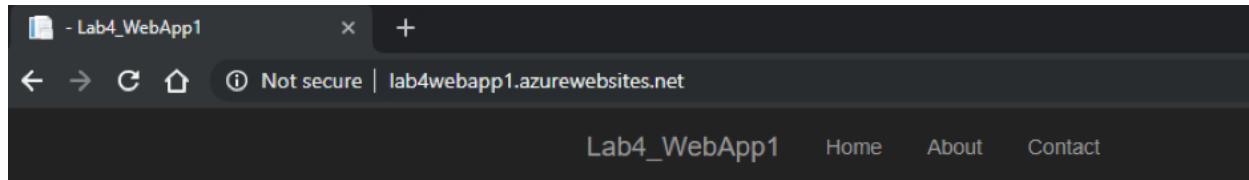
- Overview** (highlighted with a red box)
- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Security

Below the sidebar, there is a large, mostly empty vertical grey area.

20. Click on 'Restart':

This screenshot shows the 'Overview' tab selected in the Azure App Service blade for 'Lab4WebApp1'. The top navigation bar includes a search bar, a blue circular 'Restart' button (which is highlighted with a red box), and other actions like 'Stop', 'Swap', 'Delete', 'Get publish profile', and 'Reset publish profile'. A purple banner at the top says 'Click here to access Application Insights for monitoring and profiling for your ASP.NET Core app.' Below the banner, resource details are listed: Resource group (S77TAS), Status: Running, URL, and App Service Plan.

21. Open a new InPrivate / Incognito / Private Browsing tab in your browser and paste in the HTTP address for your web app. Verify you can see your edited home page:



22. Repeat all previous steps to create another Web App and another App Service plan using names that easily identify them being different to the existing ones. **IMPORTANT** – Ensure to choose UK West as the region for your App Service plan Example below:

```
<!DOCTYPE html>
<html>
<body>

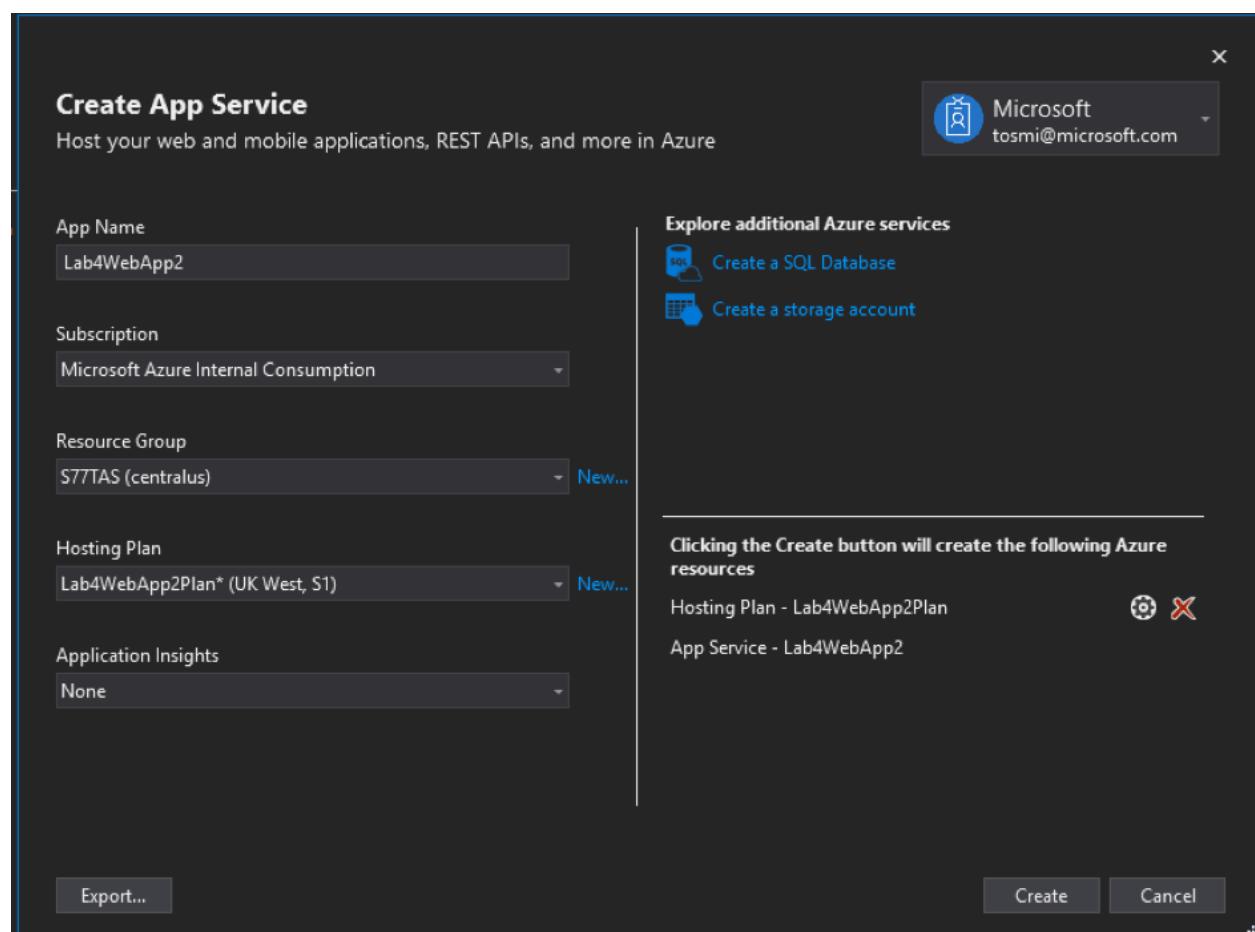
<h1>This is <name>'s WebApp</h1>

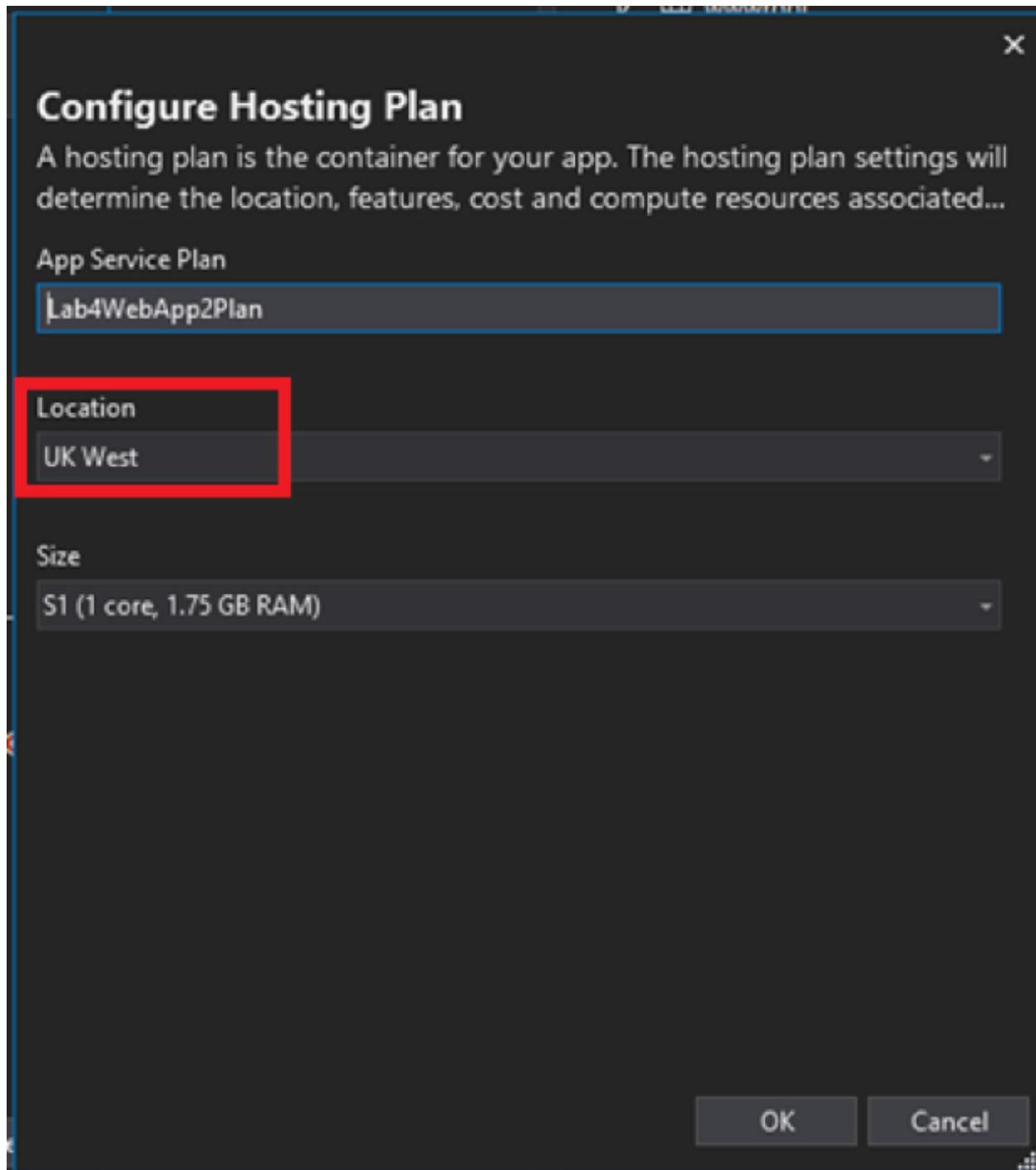
<p>This is WebApp 2</p>

</body>
</html>
```

The screenshot shows the Microsoft Visual Studio interface with the title bar "Lab 4 weapp2 - Microsoft Visual Studio". The menu bar includes File, Edit, View, Project, Build, Debug, Team, Tools, and a Help icon. Below the menu is a toolbar with icons for back, forward, search, and file operations. A dropdown menu shows "Debug" selected. The status bar indicates "Any CPU". On the left, there are "Server Explorer" and "Toolbox" panes. The main code editor window displays the file "Index.cshtml*". The code is:

```
1 <!DOCTYPE html>
2 <html>
3   <body>
4
5     <h1>This is Tom's WebApp</h1>
6
7     <p>This is WebApp 2</p>
8
9   </body>
10 </html>
```





23. You should now have 2 Web Apps, both with SSL disabled, running in different App Service Plans in different geographical regions:

App Services

Microsoft

+ Add Edit columns Refresh | Assign tags Start Restart Stop Delete

Subscriptions: 1 of 3 selected – Don't see a subscription? Open Directory + Subscription settings

Filter by name... Microsoft Azure Internal Consumption \$77TAS All locations All tags

2 items

NAME	STATUS	APP TYPE	APP SERVICE PLAN	LOCATION
Lab4WebApp1	Running	Web App	Lab4WebApp1Plan	UK South
Lab4WebApp2	Running	Web App	Lab4WebApp2Plan	UK West

- Lab4_WebApp1 x - Lab_4_weapp2 x | +

← → C ⌂ ⓘ Not secure | lab4webapp1.azurewebsites.net

Lab4_WebApp1 Home About Contact

This is Tom's WebApp

This is WebApp 1

© 2019 - Lab4_WebApp1

- Lab4_WebApp1 x - Lab_4_weapp2 x | +

← → C ⌂ ⓘ Not secure | lab4webapp2.azurewebsites.net

Lab_4_weapp2 Home About Contact

This is Tom's WebApp

This is WebApp 2

© 2019 - Lab_4_weapp2

24. In the Azure portal, type 'Traffic Manager' in the search box at the top until 'Traffic Manager profiles' is displayed, then click on it:

traffic | X

RESOURCES 0 results

1 RESOURCE GROUPS 0 results

SERVICES

- Azure Maps Accounts
Keywords: Traffic
- Traffic Manager profiles

25. Click 'Add':

Home > Traffic Manager profiles

Traffic Manager profiles

Microsoft

+ Add Edit columns Refresh Assign tags

Subscriptions: 1 of 3 selected – Don't see a subscription? [Open Directory + Subscription settings](#)

Filter by name... Microsoft Azure Internal Consumption All resource grou

1 items

NAME	STATUS
lab4webapp	✓

26. Choose an appropriate name for this Traffic Manager profile, leaving all other settings as per screenshot below and then click 'Create':

★ Name
lab4webapp ✓
.trafficmanager.net

Routing method
Priority

★ Subscription
Microsoft Azure Internal Consumption

★ Resource group
S77TAS

Create new

★ Resource group location ⓘ
Central US

Create Automation options

27. Once the profile has been created click on it:

The screenshot shows the 'Traffic Manager profiles' page in the Azure portal. A single item, 'lab4webapp', is listed. The details pane on the right shows the following configuration:

- Resource group:** S77TAS
- Status:** Enabled
- Subscription:** Microsoft Azure Internal Consumption
- Subscription ID:** b41dd5f1-29a8-404e-a213-2d9eb19d74d9
- Tags:** Click here to add tags
- DNS name:** http://lab4webapp.trafficmanager.net
- Monitor status:** Inactive
- Routing method:** Priority

The 'Endpoints' section below the main details shows a table with one row: 'No results.'

28. Click on 'Configuration':

The screenshot shows the 'lab4webapp' profile overview page. The 'Configuration' option in the left sidebar is highlighted with a red box.

- Overview**
- Activity log**
- Access control (IAM)**
- Tags**
- Diagnose and solve problems**
- Settings**
 - Configuration** (highlighted with a red box)
 - Real user measurements**
 - Traffic view**
 - Endpoints**

29. Edit the settings to reflect the screenshot below and click 'Save':

 Save  Discard

Routing method 

Priority

* DNS time to live (TTL) 

0

Endpoint monitor settings 

Protocol

HTTP

* Port

80

* Path

/

Custom Header settings 

Expected Status Code Ranges (default: 200) 

Fast endpoint failover settings

Probing interval 

10

* Tolerated number of failures 

1

* Probe timeout 

5

30. Click on 'Endpoints':

The screenshot shows the Azure portal interface for a 'Traffic Manager profile'. At the top, there's a search bar labeled 'Search (Ctrl+ /)' and a back arrow icon. Below the header, there are several navigation links: 'Overview' (selected), 'Activity log', 'Access control (IAM)', 'Tags', and 'Diagnose and solve problems'. Under the 'Settings' section, there are links for 'Configuration', 'Real user measurements', 'Traffic view', and 'Endpoints'. The 'Endpoints' link is highlighted with a red box.

31. Click on 'Add':

The screenshot shows the 'Endpoints' blade. At the top, there are two buttons: a blue 'Add' button with a plus sign and a 'Refresh' button with a circular arrow icon. Below these are search and filter fields. A table follows, with columns: NAME, STATUS, and MONITOR STATUS. The table displays the message 'No results.'

32. Add the first Web App you created ensuring you choose 'App Service' on the drop-down menu and click 'OK':

 Add endpoint

lab4webapp

Type i

Azure endpoint

* Name

lab4webapp1 ✓

Target resource type

App Service

* Target resource >

Lab4WebApp1

* Priority

1

Custom Header settings i

Add as disabled

33. Repeat the process for your second Web App (note the priority is auto set to 2):

Type i
Azure endpoint

* Name
lab4webapp2

Target resource type
App Service

* Target resource
Lab4WebApp2

* Priority
2

Custom Header settings i

Add as disabled

34. Verify that both end points show as 'Online' under 'Monitor Status' (note you may need to wait a brief period whilst the initial probe is carried out during which time you will see 'Checking endpoint'):

NAME	STATUS	MONITOR STATUS	TYPE	PRIORITY
lab4webapp1	Enabled	Online	Azure endpoint	1
lab4webapp2	Enabled	Online	Azure endpoint	2

35. In the 'Overview' screen of your TM profile, note the DNS name that has been created:

lab4webapp
Traffic Manager profile

Search (Ctrl+/
)

Enable profile Disable profile Refresh Move Delete profile

Overview

Activity log

Resource group (change) : S77TAS
Status : Enabled
Subscription (change) : Microsoft Azure Internal Consumption

DNS name : http://lab4webapp.trafficmanager.net
Monitor status : Online
Routing method : Priority

36. If you are able, log onto your DNS registrar / provider for your domain, and create a CNAME DNS record that references the DNS name of your traffic manager identified in the previous step:

Hostname
lab4webapp

Type
CNAME

Destination/Target
lab4webapp.trafficmanager.net

✓ ✖

37. Verify that name resolution works correctly and your custom domain resolves to the traffic manager DNS name:

The screenshot shows a DNS query result for the domain `lab4webapp.cloudsprint.net`. The query type is set to `CNAME`. The response includes the following details:

```
id 21774
opcode QUERY
rcode NOERROR
flags QR RD RA
;QUESTION
lab4webapp.cloudsprint.net. IN CNAME
;ANSWER
lab4webapp.cloudsprint.net. 14398 IN CNAME lab4webapp.trafficmanager.net.
;AUTHORITY
;ADDITIONAL
```

A red box highlights the `ANSWER` section, specifically the line `lab4webapp.cloudsprint.net. 14398 IN CNAME lab4webapp.trafficmanager.net.`, indicating that the custom domain has been successfully resolved to the traffic manager's DNS name.

38. In the Azure portal, type 'App Service' in the search bar until you see the 'App Services' resource appear and click on it:

The screenshot shows the Azure portal search interface. The search term `app ser` has been entered into the search bar. The results are listed under the `SERVICES` category. The results are as follows:

- App Service Environments** (highlighted with a red box)
- App Service Certificates**
- App Service Domains**
- App Services** (highlighted with a red box)

39. Click on your first Web App:

App Services				
Microsoft				
+ Add Edit columns Refresh Assign tags Start Restart Stop Delete				
Subscriptions: 1 of 3 selected – Don't see a subscription? Open Directory + Subscription settings				
Filter by name...	Microsoft Azure Internal Consumption	All resource groups	All locations	All tags
4 items				
NAME	STATUS	APP TYPE	APP SERVICE PLAN	LOCATION
Lab4WebApp1	Running	Web App	Lab4WebApp1Plan	UK South
Lab4WebApp2	Running	Web App	Lab4WebApp2Plan	UK West

40. Click on 'Custom Domains' from the left-hand menu:

Settings

- Application settings
- Configuration (Preview)
- Authentication / Authorizati...
- Application Insights
- Identity
- Backups
- Custom domains
- SSL settings

41. Click on 'Add hostname':

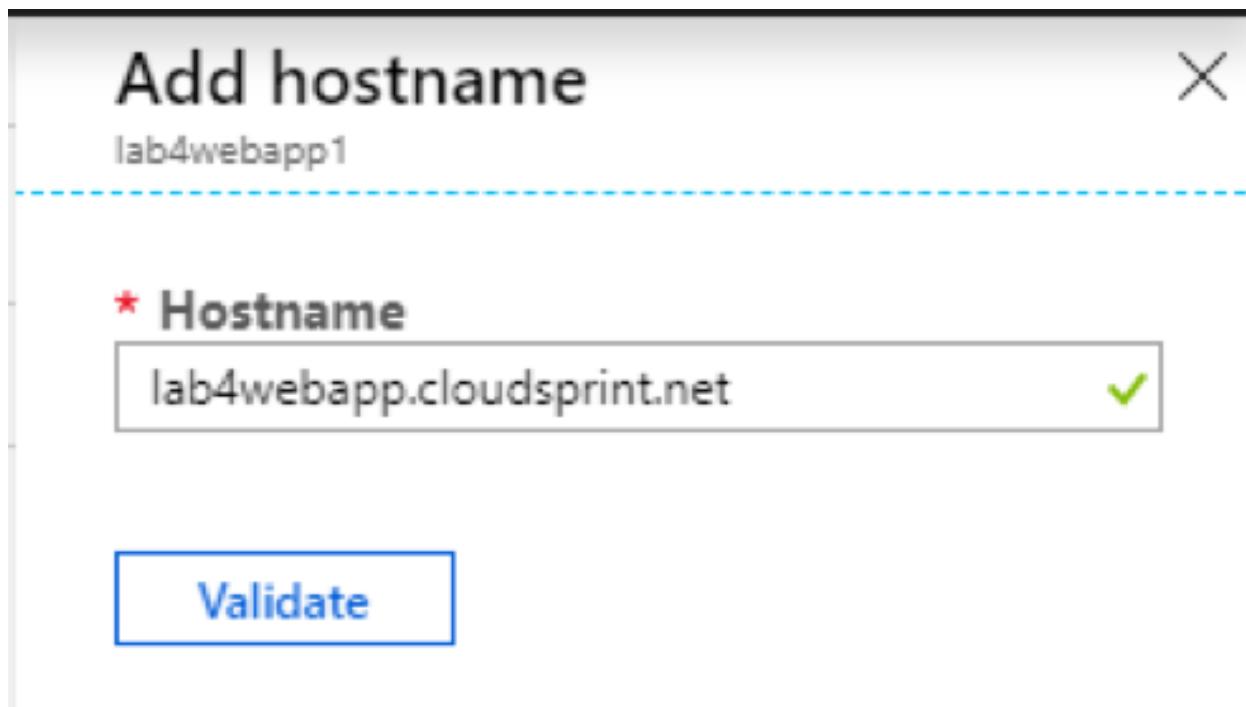
Custom Hostnames

Configure and manage custom hostnames assigned to your app [Learn more](#)

IP address:	51.140.153.150
HTTPS Only:	Off On
+ Add hostname	

HOSTNAMES ASSIGNED TO SITE	SSL BINDING
lab4webapp.trafficmanager.net	Add binding
lab4webapp1.azurewebsites.net	

42. Type the DNS CNAME record from step #36 and click 'Validate':



43. Verify that domain validation passed successfully and then click 'Add hostname':

Hostname record type

CNAME (www.example.com or any subdomain)



CNAME configuration

A CNAME record is used to specify that a domain name is an alias for another domain. In your scenario, that would be mapping lab4webapp.cloudsprint.net to lab4webapp1.azurewebsites.net

[Learn More](#)

CNAME

lab4webapp1.azurewebsites.net
lab4webapp.trafficmanager.net

[Add hostname](#)



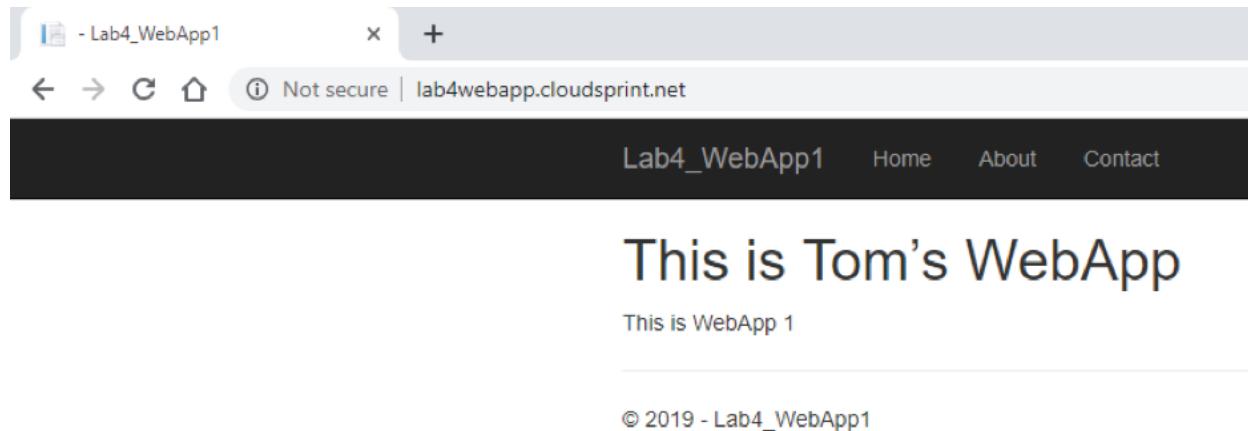
Hostname availability



Domain ownership

44. Repeat steps #40 thru #43 for your second Web App.

45. Open a new InPrivate / Incognito / Private Browsing tab in your browser and paste in the HTTP address for your custom traffic manager record. Verify connectivity to your first Web App:

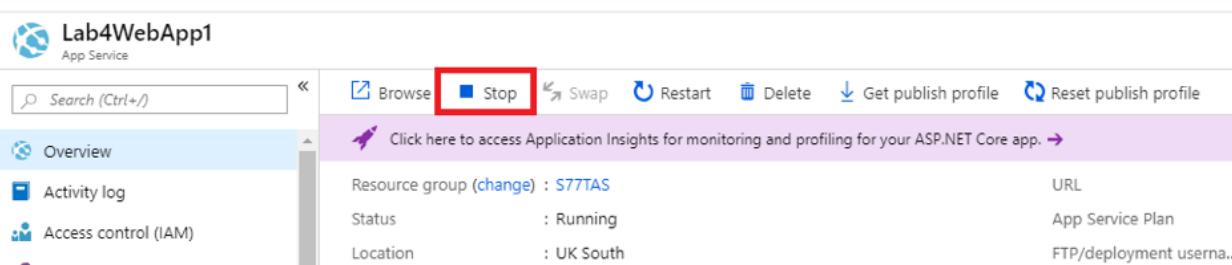


This is Tom's WebApp

This is WebApp 1

© 2019 - Lab4_WebApp1

46. In the Azure portal, on the overview page for your first Web App click 'Stop':



Lab4WebApp1

Search (Ctrl+ /)

Browse Stop Swap Restart Delete Get publish profile Reset publish profile

Overview

Activity log

Access control (IAM)

Resource group (change) : S7TAS

Status : Running

Location : UK South

URL

App Service Plan

FTP/deployment userna...

47. Still in the Azure portal, start typing 'Traffic Manager' in the search box at the top until the 'Traffic Manager profiles' resource is displayed, then click it:



traffic m

RESOURCE GROUPS 0 results

SERVICES

Traffic Manager profiles

MARKETPLACE All 3 results

48. Click on 'Endpoints':

The screenshot shows the Azure portal interface for the 'lab4webapp' Traffic Manager profile. The left sidebar has several navigation items: Overview (selected), Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Configuration, Real user measurements, Traffic view, and Endpoints (which is highlighted with a red box). Below the sidebar, there's a table with columns: NAME, STATUS, MONITOR STATUS, TYPE, and PRIORITY. Two rows are listed: 'lab4webapp1' with STATUS 'Enabled' and MONITOR STATUS 'Stopped' (highlighted with a red box), and 'lab4webapp2' with STATUS 'Enabled' and MONITOR STATUS 'Online'. Both entries have 'Azure endpoint' under TYPE and priorities 1 and 2 respectively.

NAME	STATUS	MONITOR STATUS	TYPE	PRIORITY
lab4webapp1	Enabled	Stopped	Azure endpoint	1
lab4webapp2	Enabled	Online	Azure endpoint	2

49. Verify that your first Web App is marked as 'Stopped':

NAME	STATUS	MONITOR STATUS	TYPE	PRIORITY
lab4webapp1	Enabled	Stopped	Azure endpoint	1
lab4webapp2	Enabled	Online	Azure endpoint	2

50. Open a new InPrivate / Incognito / Private Browsing tab in your browser and paste in the HTTP address for your custom traffic manager record. Verify connectivity to your second Web App:

The screenshot shows a browser window with the following details: Title bar: '- Lab_4_weapp2'; Address bar: 'Not secure | lab4webapp.cloudsprint.net'; Content area: 'Lab_4_weapp2' (navigation links: Home, About, Contact) and 'This is WebApp 2'.

This is Tom's WebApp

This is WebApp 2

© 2019 - Lab_4_weapp2

Part 2: Implementing Geo-Failover for A Virtual Machine Utilising Azure Site Recovery (ASR)

1. Log into the Azure portal:

2. Start typing “Recovery Services Vault” into the search bar at the top of the screen until the Recovery Services Vault resource is available, then click on it:

3. Click ‘Add’:

4. Enter an appropriate name for the Recovery Services Vault and leave all other settings as per screenshot below and then click ‘Create’:

Important – The Recovery Services Vault must be created in a different Azure region (geo) to the VM you wish to protect. If your VM is running in UK South, create the RSV in UK West. If your VM is running in UK West, create the RSV in UK South

Recovery Services vault □ X

Recovery Services vault

* Name ✓

* Subscription

* Resource group ▼
[Create new](#)

* Location ▼

5. Verify the Recovery Services Vault created OK and is now visible in the portal and then click on it:

Recovery Services vaults		
Microsoft		
<input type="button" value="Add"/>	<input type="button" value="Edit columns"/>	<input type="button" value="Refresh"/>
<small>Subscriptions: 1 of 3 selected – Don't see a subscription? Open Directory + Subscription settings</small>		
<input type="text" value="Filter by name..."/>	<input type="text" value="Microsoft Azure Internal Consumption"/>	<input type="text" value="S77TAS"/>
All locations		
1 items		
<input type="checkbox"/> NAME	RESOURCE GROUP	LOCATION
<input type="checkbox"/> Lab4RecoveryServicesVault	S77TAS	UK South

6. Click on 'Site Recovery' under 'Getting started':

Getting started



Backup



Site Recovery

7. Click on 'Replicate Application':

FOR ON-PREMISES MACHINES AND AZURE VMS



Step 1: Replicate Application



Step 2: Manage Recovery Plans

8. Configure the settings as per the screenshot below replacing 'Source Location' and 'Source Resource Group' for your own values then click 'OK':

The screenshot shows a Windows-style configuration dialog box titled "Source". The "Source" tab is selected. The "Source" dropdown is set to "Azure". The "Source location" dropdown is set to "UK South". The "Azure virtual machine deployment model" dropdown is set to "Resource Manager". The "Source subscription" dropdown is set to "Microsoft Azure Internal Consumption". The "Source resource group" dropdown is set to "ASR-A2A". On the right side of the dialog, there is a large blue "OK" button.

9. Select your VM from the list and click 'OK':

Select virtual machines



Unable to view / select your VMs? Click [here](#) to know why.

Filter items...

NAME	VIRTUAL NETWORK	TAGS
labvm	LAB_VNET	test:testvalue,

10. Default resource names and values are automatically selected for you in the target location.
If you wish to edit any of these properties, click 'Customize':

Resource group, Network, Storage and Availability

By default Site Recovery will mirror the source site configuration to target site by creating/using the required resource groups, storage accounts, virtual network and availability sets as below. Click 'Customize' above to change the configuration. The resources created are appended with "asr" suffix.

Target resource group

(new) ASR-A2A-asr

Target virtual network

(new) LAB_VNET-asr

Cache storage accounts

(new) ka0ummlab4recoveasrcache

Replica managed disks

(new) 0 premium disks(s), 1 standard disk(s)

Target availability sets

Not Applicable

11. Click 'Create target resources':

Replication Policy Customize

Name: 24-hour-retention-policy

Recovery point retention: 24 hour(s)

App consistent snapshot frequency: 4 hour(s)

Replication group: None

Extension settings

[\[-\] Hide details](#)

Update settings

Allow ASR to manage



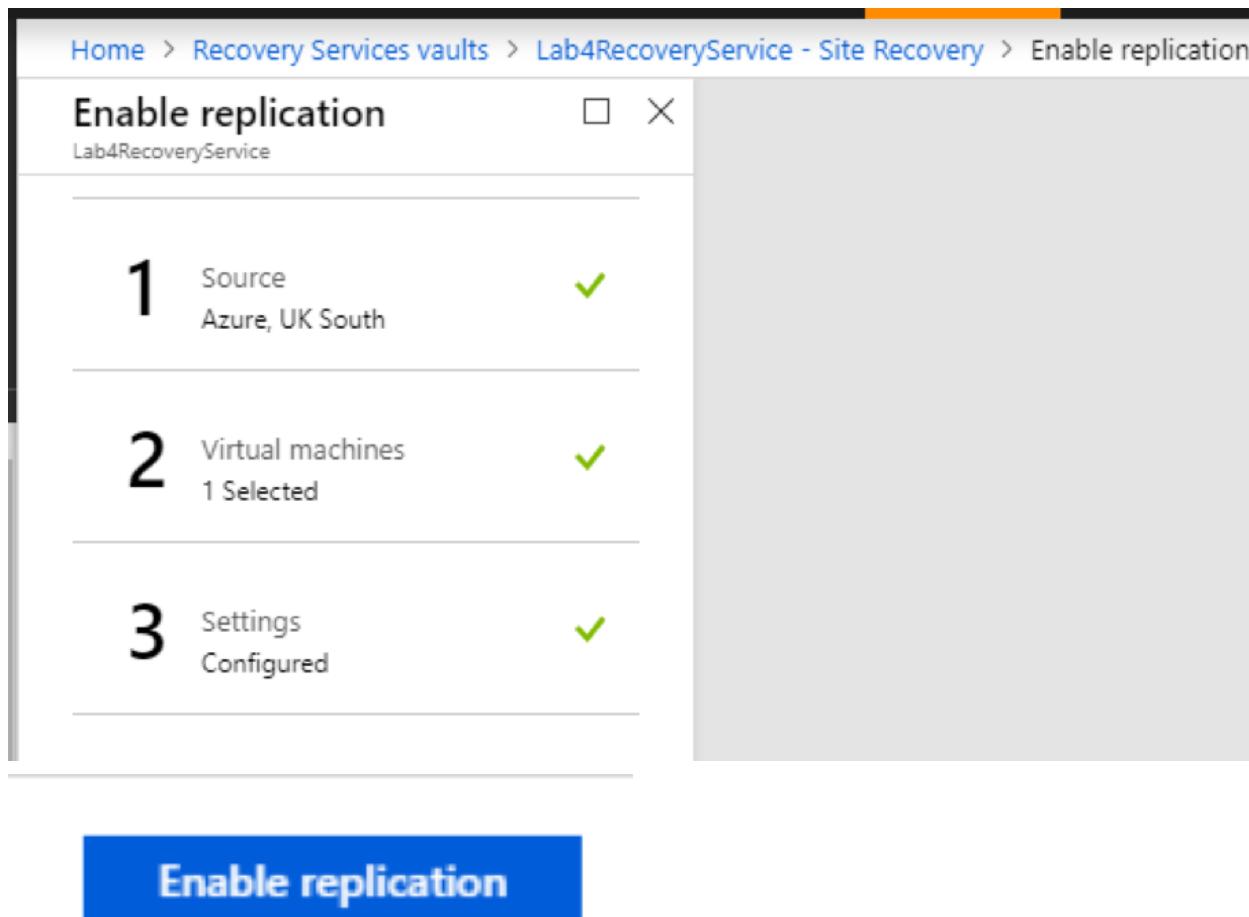
Automation account

Lab4Recov-irb-asr-automationaccount



Create target resources

12. Click on 'Enable Replication' and monitor the progress via the Azure portal notification(s):



Home > Recovery Services vaults > Lab4RecoveryService - Site Recovery > Enable replication

Enable replication

Lab4RecoveryService

1 Source

Azure, UK South

2 Virtual machines

1 Selected

3 Settings

Configured

Enable replication

13. Once replication has been enabled click on 'Replicated Items':

Lab4RecoveryService - Site Recovery

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14. Verify your VM is marked as healthy and click on 'Enabling Protection' to monitor progress of replication:

NAME	REPLICATION HEALTH	STATUS	ACTIVE LOCATION
labvm	Healthy	Enabling protection	UK South

NAME	STATUS	START TIME	DURATION
Prerequisites check for enabling protection	Successful	3/26/2019, 4:06:41 PM	00:00:07
Installing Mobility Service and preparing target	In progress	3/26/2019, 4:06:48 PM	...
Enable replication			...
Starting initial replication			...
Updating the provider states			...

15. Once replication has completed your VM should display 'Protected'. Click on the name of your VM:

Refresh Replicate Columns Filter

Last refreshed at: 3/26/2019, 4:54:03 PM

i Finished loading data from service.

Filter items...

NAME	REPLICATION HEALTH	STATUS	ACTIVE LOCATION
labvm	Healthy	Protected	UK South

16. Click 'Failover':

17. Click 'Yes' to the warning about test failover, and then click 'OK' at the failover screen:

18. Click the notification in the Azure portal to monitor failover progress:

NAME	REPLICATION HEALTH	STATUS	ACTIVE LOCATION
labvm	-	Failover completed	UK West

19. Verify the failed over VM is now running in the target region:

The screenshot shows the Azure portal interface. At the top, there's a navigation bar with icons for Home, All resources, and a search bar. Below it is a list of virtual machines:

Name	Type	Status	Location
labvm	Virtual machine	Stopped (deallocated)	ASR-A2A
labvm	Virtual machine	Running	ASR-A2A-asr
labvm	Virtual machine	Running	UK South
labvm	Virtual machine	Running	UK West

In the center, the details for the selected 'labvm' (Status: Running) are displayed:

Resource group (change)	: ASR-A2A-asr	Computer name	:	labvm
Status	:	Operating system	:	Windows
Location	:	Size	:	Standard DS2 v2 (2 vcpus, 7 GB memory)
Subscription (change)	:	Public IP address	:	-
Subscription ID	:	Private IP address	:	192.168.10.4
		Virtual network/subnet	:	LAB_VNET-asr/Lab_Subnet
		DNS name	:	-

20. Start typing “Recovery Services Vault” into the search bar at the top of the screen until the Recovery Services Vault resource is available, then click on it:

The screenshot shows the Azure search interface. The search bar at the top contains the text "recovery ser". Below the search bar, there are three main categories: RESOURCES, RESOURCE GROUPS, and SERVICES. Under SERVICES, there is a result titled "Recovery Services vaults" which is highlighted with a blue background.

21. Click on ‘Replicated Items’:

 **Lab4RecoveryService - Site Recovery**

Recovery Services vault

Search (Ctrl+ /) << Filter settings

 Overview

 Activity log

 Access control (IAM)

 Tags

 Diagnose and solve problems

Settings

 Properties

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22. Click on your VM which should show a status of 'Failover Completed':

NAME	REPLICATION HEALTH	STATUS	ACTIVE LOCATION
labvm	-	Failover completed	UK West

23. Click 'Re-protect':

The screenshot shows the Azure portal interface for a failover item. At the top, there are several buttons: Failover, Test Failover, Cleanup test failover, Commit, Resynchronize, Change recovery point, Re-protect (which is highlighted with a red box), Disable Replication, Error Details, and Refresh. Below these buttons, there's a section titled 'Essentials' with tabs for 'Health and status' and 'Failover readiness'. Under 'Health and status', it shows 'Replication Health' (Status: Failover completed, RPO: -), 'Last successful Test Failover' (Configuration issues: No issues). To the right, there's a box titled 'Latest recovery points' with the sub-instruction 'Click above to see the latest recovery points.' Below this, there are sections for 'Errors(0)' and 'Events - Last 72 hours(0)', both showing 'No errors' and 'No events' respectively.

24. Click 'OK' at the Re-protect screen:

The screenshot shows the 'Re-protect' configuration dialog. At the top, it says 'Re-protect' with a close button (X) to its right. Below that is a dropdown menu set to 'ukwest to uksouth'. The main content area has two main sections: 'Resource group, Network, Storage and Availability' and 'Customize' (with a pencil icon). The 'Resource group' section shows 'Target resource group' as 'ASR-A2A'. The 'Network' section shows 'Target virtual network' as 'LAB_VNET'. The 'Storage' section shows 'Cache storage accounts' as '(new) u1z915lab4recoveasrcache'. The 'Availability' section shows 'Target availability sets' as 'Not Applicable'. The 'Customize' section shows 'Replica managed disks' as '(new) 0 premium disks(s), 1 standard disk(s)'. At the bottom is a large blue 'OK' button.

25. Verify that the VM is replicating back to its original region from its failed over region:

Filter items...			
NAME	REPLICATION HEALTH	STATUS	ACTIVE LOCATION
labvm	✓ Healthy	Enabling protection	UK West
..			
NAME	REPLICATION HEALTH	STATUS	ACTIVE LOCATION
labvm	✓ Healthy	Protected	UK West

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