

## Deploying the Barracuda Web Application Firewall Virtual Machine Scale Sets (VMSS) - PAYG Instance in Microsoft Azure

<https://campus.barracuda.com/doc/73700426/>

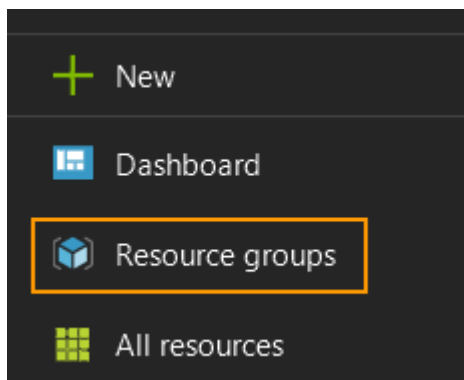
Before proceeding with deploying the Barracuda Web Application Firewall (WAF) VMSS, do the following:

- [Step 1. Create a Resource Group](#)
- [Step 2. Create a Storage Account](#)

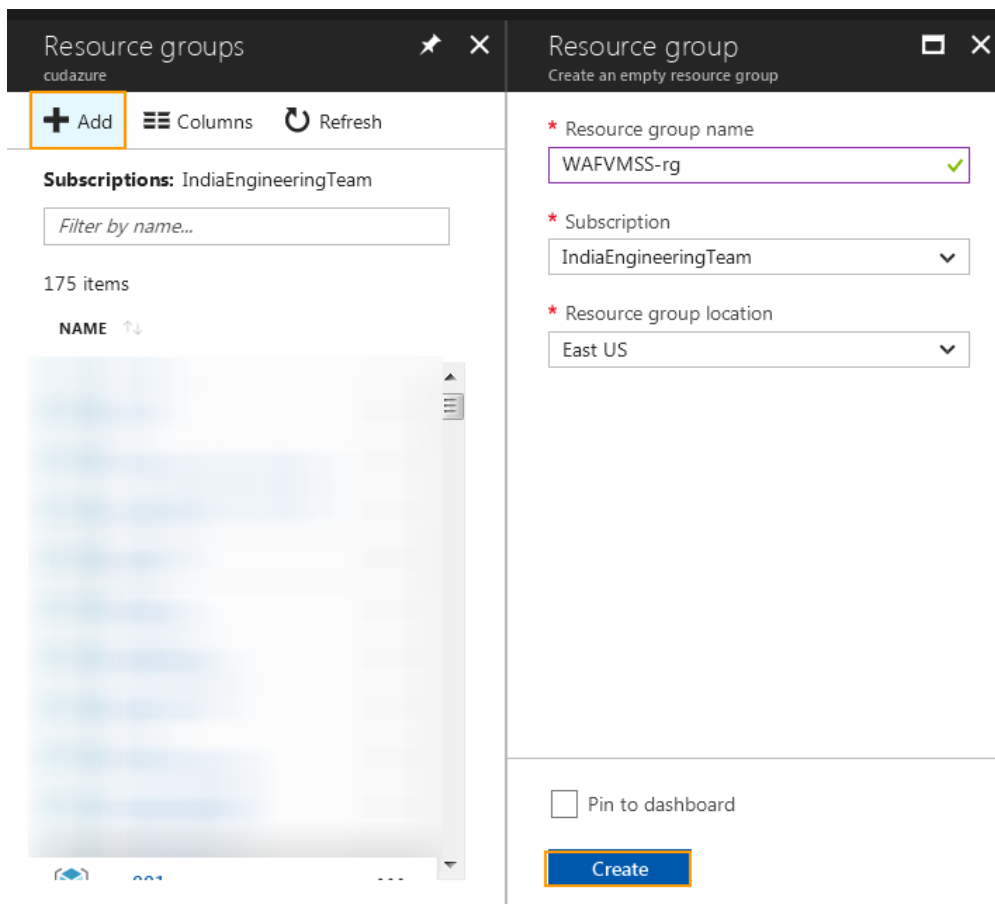
### Step 1. Create a Resource Group

To create a resource group, perform the following steps:

1. Log into the [Microsoft Azure Portal](#).
2. Click **Resource groups** in the left panel.



3. In the **Resource groups** page, click **Add** and specify values for the following:
  1. **Resource group name:** Enter a name for the resource group.
  2. **Subscription:** Select the subscription in which you want to create the resource group.
  3. **Resource group location:** Select a location for the resource group.
  4. Click **Create**.



**Resource groups**  
cudazure

**+ Add** Columns Refresh

**Subscriptions:** IndiaEngineeringTeam

Filter by name...

175 items

NAME ↑↓

**Resource group**  
Create an empty resource group

\* Resource group name  
WAFVMSS-rg ✓

\* Subscription  
IndiaEngineeringTeam ▼

\* Resource group location  
East US ▼

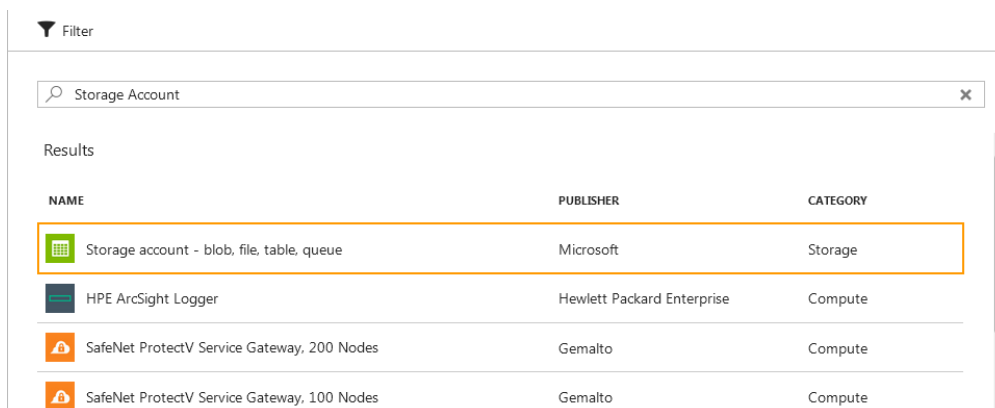
☐ Pin to dashboard

**Create**

## Step 2. Create a Storage Account

Perform the following steps to create a storage account:





1. Log into the [Microsoft Azure Portal](#).
2. Click **New** in the left panel, and type *Storage Account* in the **Search** field.
3. In the search results, select **Microsoft Storage account**.



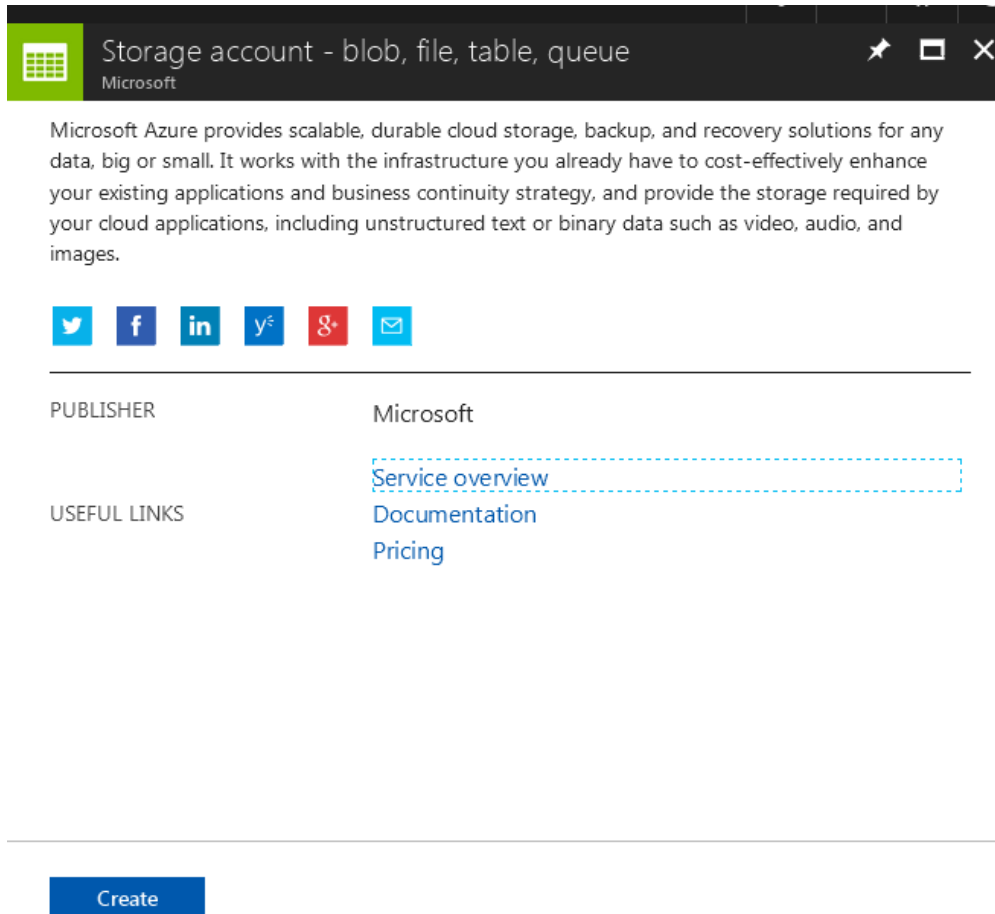
Filter

Storage Account

Results

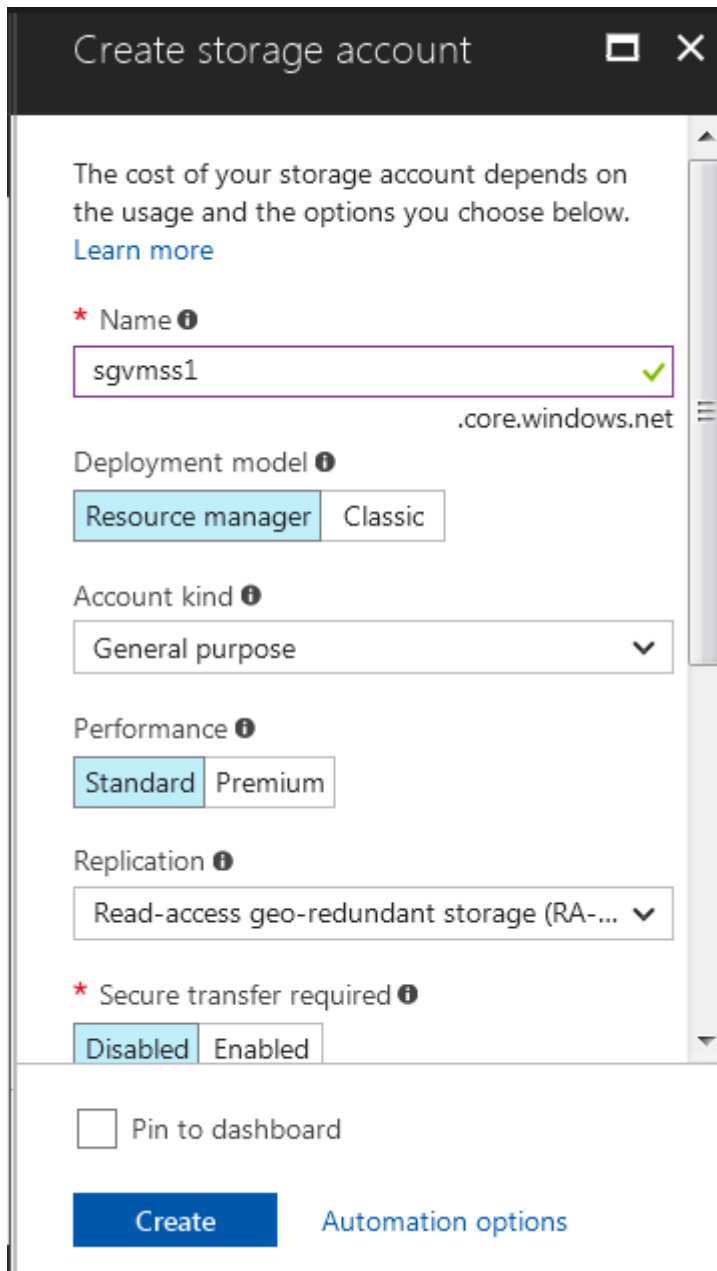
NAME	PUBLISHER	CATEGORY
 Storage account - blob, file, table, queue	Microsoft	Storage
 HPE ArcSight Logger	Hewlett Packard Enterprise	Compute
 SafeNet ProtectV Service Gateway, 200 Nodes	Gemalto	Compute
 SafeNet ProtectV Service Gateway, 100 Nodes	Gemalto	Compute

4. In the **Storage account - blob, file, table, queue** page, click **Create**.



5. In the **Create storage account** page:

1. **Name:** Enter a name for the storage account.
2. **Deployment model:** Ensure the deployment model is set to **Resource Manager**.
3. **Account kind:** Select the type of storage account that needs to be created. **Default:** General purpose
4. **Performance:** Select the performance tier as required.
5. **Replication:** Select the replication option for the storage account.
6. **Secure transfer required:** Select **Enabled** if you want to transfer the data into or out of storage account. Default: Disabled.
7. **Subscription:** Select the subscription in which you want to create the storage account. **Note:** Ensure that the subscription for the storage account and the resource group is same.
8. **Resource group:** Select the resource group created in **Step 1. Create a Resource Group**.
9. **Location:** Select the location for the storage account. **Note:** Ensure that the location for the storage account and the resource group is same.
10. Click **Create**.



Create storage account

The cost of your storage account depends on the usage and the options you choose below. [Learn more](#)

\* Name ⓘ  
sgvmss1 ✓  
.core.windows.net

Deployment model ⓘ  
Resource manager Classic

Account kind ⓘ  
General purpose ▼

Performance ⓘ  
Standard Premium

Replication ⓘ  
Read-access geo-redundant storage (RA-... ▼

\* Secure transfer required ⓘ  
Disabled Enabled

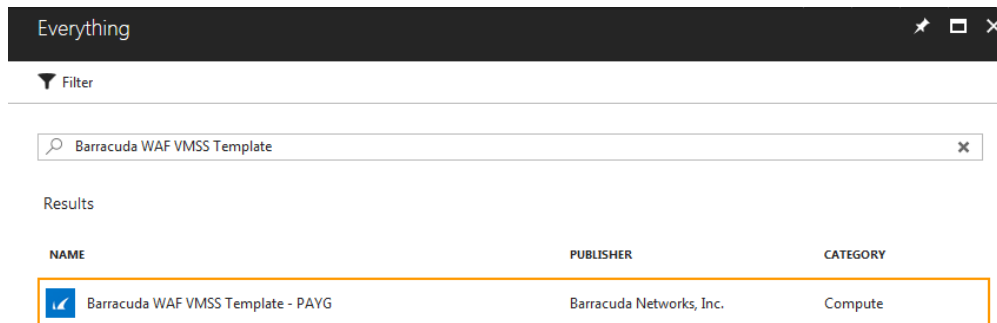
☐ Pin to dashboard

Create [Automation options](#)

## Deploying the Barracuda WAF VMSS

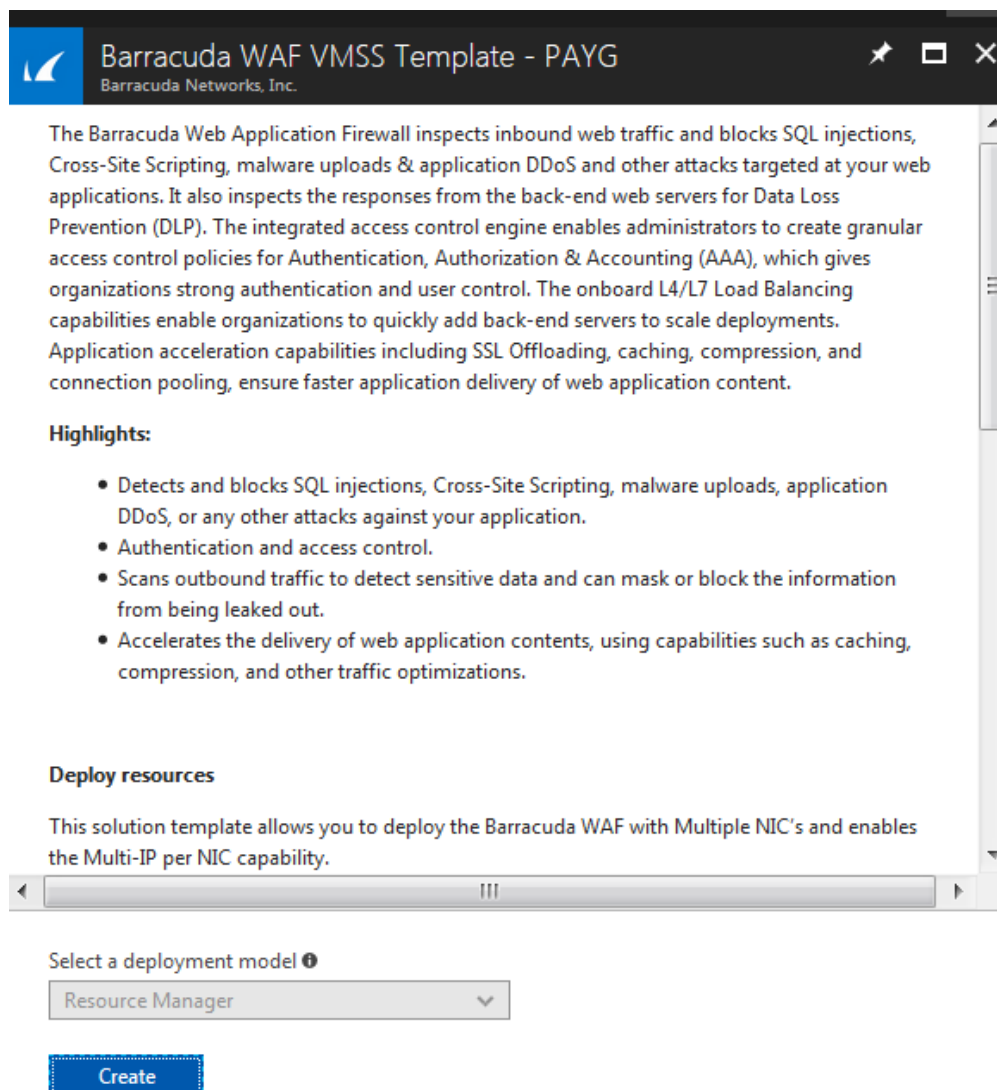
Perform the following steps to deploy the Barracuda WAF VMSS instance:

1. Log into the [Microsoft Azure Portal](#).
2. Click **Marketplace** at the bottom of the screen.
3. In the **Everything** page, type *Barracuda WAF VMSS Template* in the **Search** text field.
4. In the search results, select **Barracuda WAF VMSS Template - PAYG**.



5. In the **Barracuda WAF VMSS Template - PAYG** page:

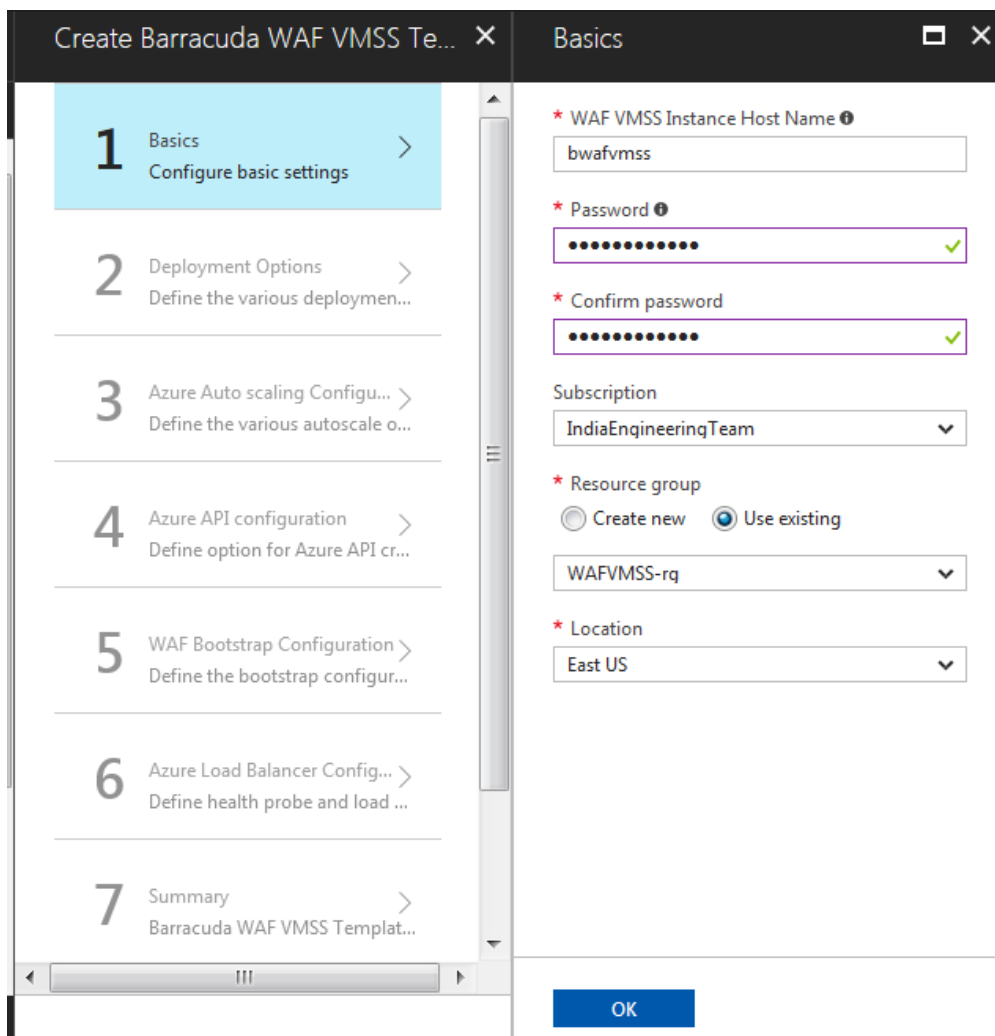
1. Read the product overview.
2. Click **Create**.



6. In the **Create Barracuda WAF VMSS Template - PAYG > 1 Basics** page:

1. **Barracuda WAF VMSS Set Name:** Enter a name for the Barracuda WAF VMSS.
2. **Password:** Enter a password for authentication. This will be your password to access the Barracuda WAF web interface.

3. **Confirm Password:** Re-enter the password for confirmation.
4. **Billing Method:** Select **Pay as You Go (Hourly Billing)** from the drop-down list as your billing method.
5. **Firmware Version:** From the drop-down list, select the firmware version on which your instance is deployed.
6. **Subscription:** Select the subscription from the drop-down list.
7. **Resource group:** Create a new resource group or select a resource group that is empty from the existing **Resource group** list.
8. **Location:** Select a location for the Barracuda WAF VMSS.
9. Click **OK**.



**Create Barracuda WAF VMSS Template** X

**Basics** [Maximize] [Close]

**1 Basics** >  
Configure basic settings

**2 Deployment Options** >  
Define the various deployment options

**3 Azure Auto scaling Configuration** >  
Define the various autoscale options

**4 Azure API configuration** >  
Define option for Azure API configuration

**5 WAF Bootstrap Configuration** >  
Define the bootstrap configuration

**6 Azure Load Balancer Configuration** >  
Define health probe and load balancing

**7 Summary** >  
Barracuda WAF VMSS Template Summary

\* **WAF VMSS Instance Host Name** ⓘ  
bwafvmss

\* **Password** ⓘ  
[Masked Password] ✓

\* **Confirm password**  
[Masked Password] ✓

**Subscription**  
IndiaEngineeringTeam ▼

\* **Resource group**  
☐ Create new ☒ Use existing  
 WAFVMSS-rq ▼

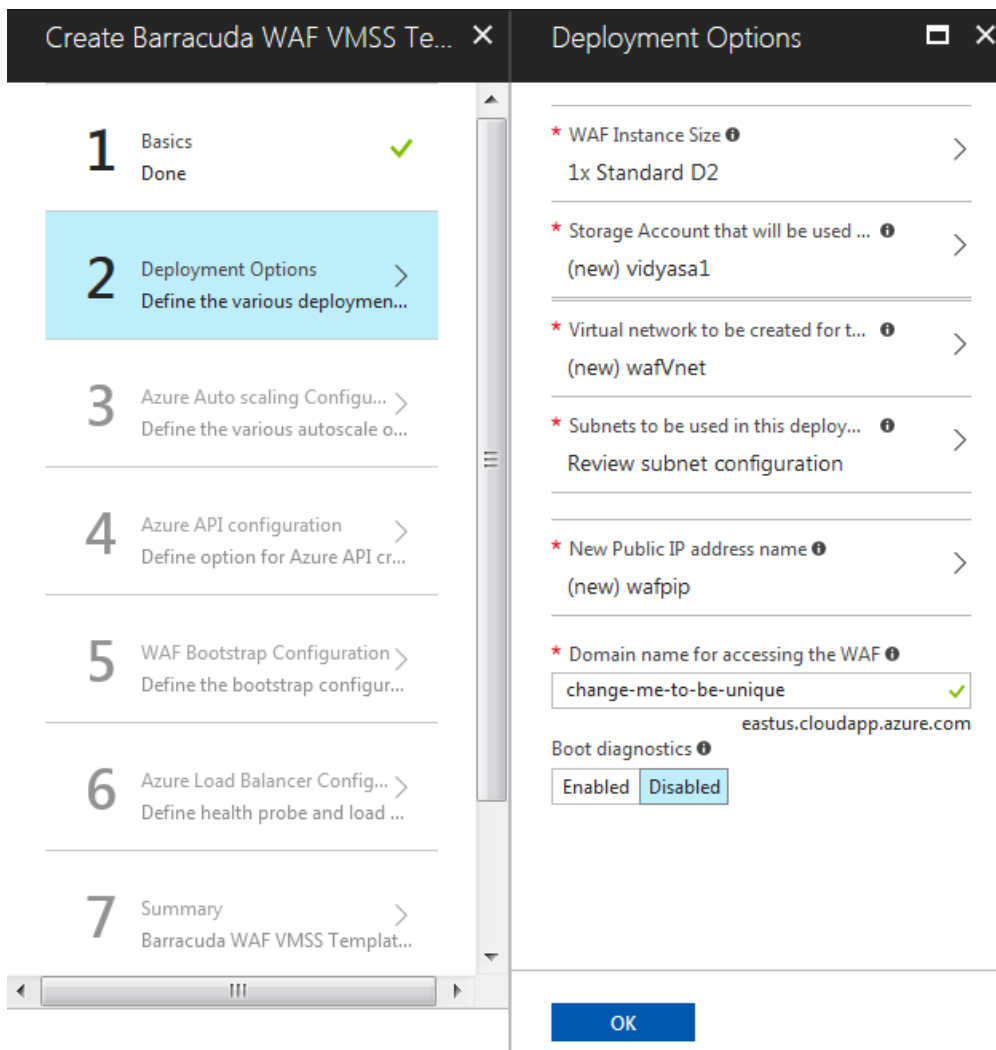
\* **Location**  
East US ▼

**OK**

7. In the **Create Barracuda WAF VMSS Template - PAYG > 2 Deployment Options** page:
  1. **Barracuda WAF Instance Size:** Select a size for the instance.
  2. **Storage Account:** Create a new storage account or select a storage account from the existing **Storage account** list.  

The storage account should be in the same region where the Barracuda WAF VMSS instance needs to be deployed.
  3. **Virtual network:** Create a new virtual network, or select a virtual network from the existing **Virtual network** list in which you want to deploy the Barracuda WAF VMSS.

4. **Subnets:** Review the subnet configuration and modify if required.
5. **New Public IP address name:** Enter a name for the public IP address associated with the Barracuda WAF VMSS.
6. **Domain name for accessing the Barracuda WAF:** Enter the domain for the Barracuda WAF VMSS.
7. **Boot diagnostics:** When **Enabled**, the boot up debug logs gets saved in the specified storage account.
8. Click **OK**.



8. In the **Create Barracuda WAF VMSS Template - PAYG > 3 Azure Auto Scaling Configuration** page:

1. **Instance Count**

1. **Initial Instances:** Enter the number of instances to be deployed initially to serve the traffic. **Default:** 2
2. **Maximum Instances:** Enter the maximum number of instances to be scaled up to handle the traffic when required. **Default:** 5
3. **Minimum Instances:** Enter the minimum number of instances to be scaled down when the traffic less. **Default:** 2

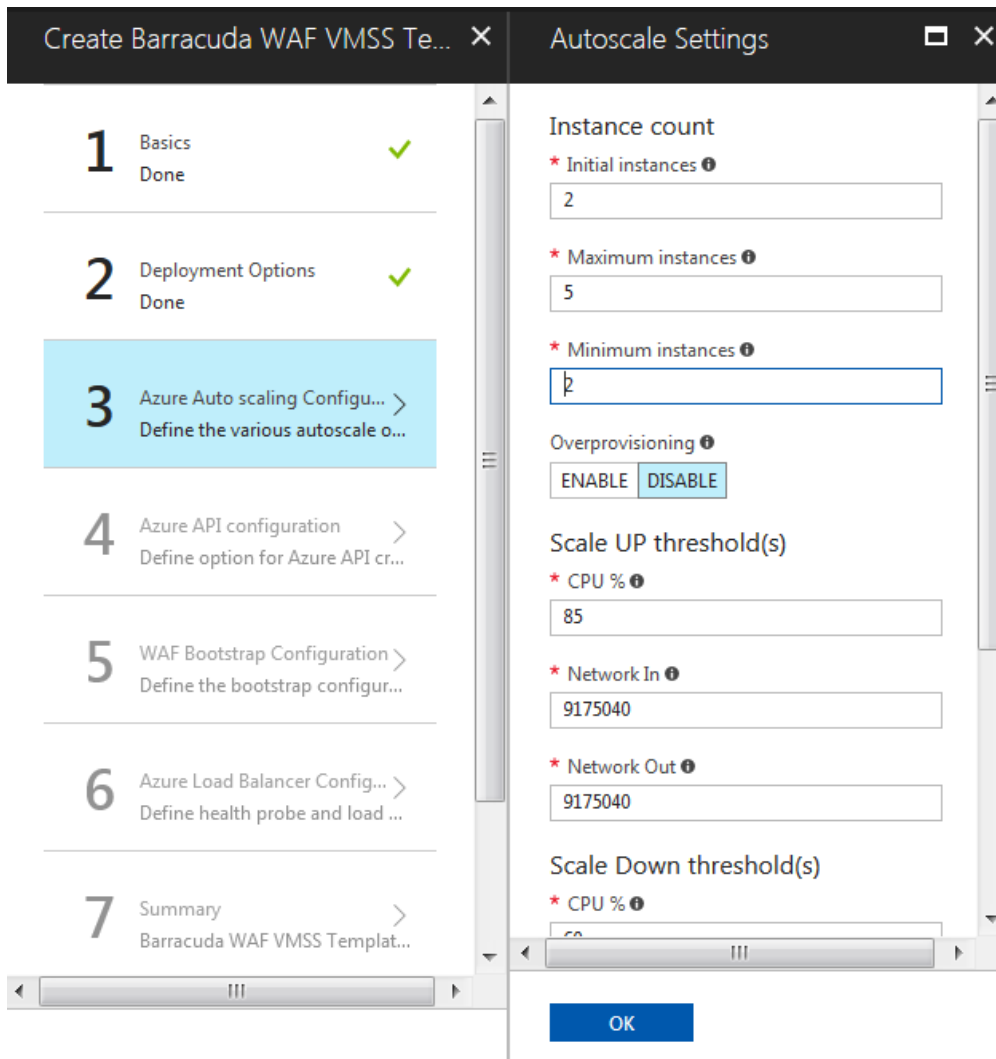
- Ensure that the **Minimum Instances** are lesser than or same as the **Initial**

## Instances.

- If the **Initial Instances** value is less than the **Minimum Instances**, the deployment of instances will fail.

4. **Overprovisioning:** When set to **Enable**, the VMSS spins up more number of virtual machines than what is required to handle the traffic.
2. **Scale Up Thresholds**
  1. **CPU%:** Enter the scale up threshold for CPU utilization. **Default:** 85%
  2. **Network In:** Enter the scale up threshold for NetworkIn throughput. **Default:** 9175040
  3. **Network Out:** Enter the scale up threshold for NetworkOut throughput. **Default:** 9175040
3. **Scale Down Thresholds**
  1. **CPU%:** Enter the scale down threshold for SPU utilization. **Default:** 60%
  2. **Network In:** Enter the scale down threshold for NetworkIn throughput. **Default:** 5242880
  3. **Network Out:** Enter the scale down threshold for NetworkOut throughput. **Default:** 5242880
4. **Notification Email ID(s) in CSV Format:** Enter the email address to which the auto scaling event notification emails needs to be sent.
5. Click **OK**.





**Create Barracuda WAF VMSS Template - PAYG**

**Autoscale Settings**

1 Basics Done ✓

2 Deployment Options Done ✓

3 Azure Auto scaling Configuration > Define the various autoscale o...

4 Azure API configuration > Define option for Azure API cr...

5 WAF Bootstrap Configuration > Define the bootstrap configur...

6 Azure Load Balancer Configuration > Define health probe and load ...

7 Summary > Barracuda WAF VMSS Templat...

**Instance count**

\* Initial instances ⓘ

2

\* Maximum instances ⓘ

5

\* Minimum instances ⓘ

2

**Overprovisioning ⓘ**

ENABLE DISABLE

**Scale UP threshold(s)**

\* CPU % ⓘ

85

\* Network In ⓘ

9175040

\* Network Out ⓘ

9175040

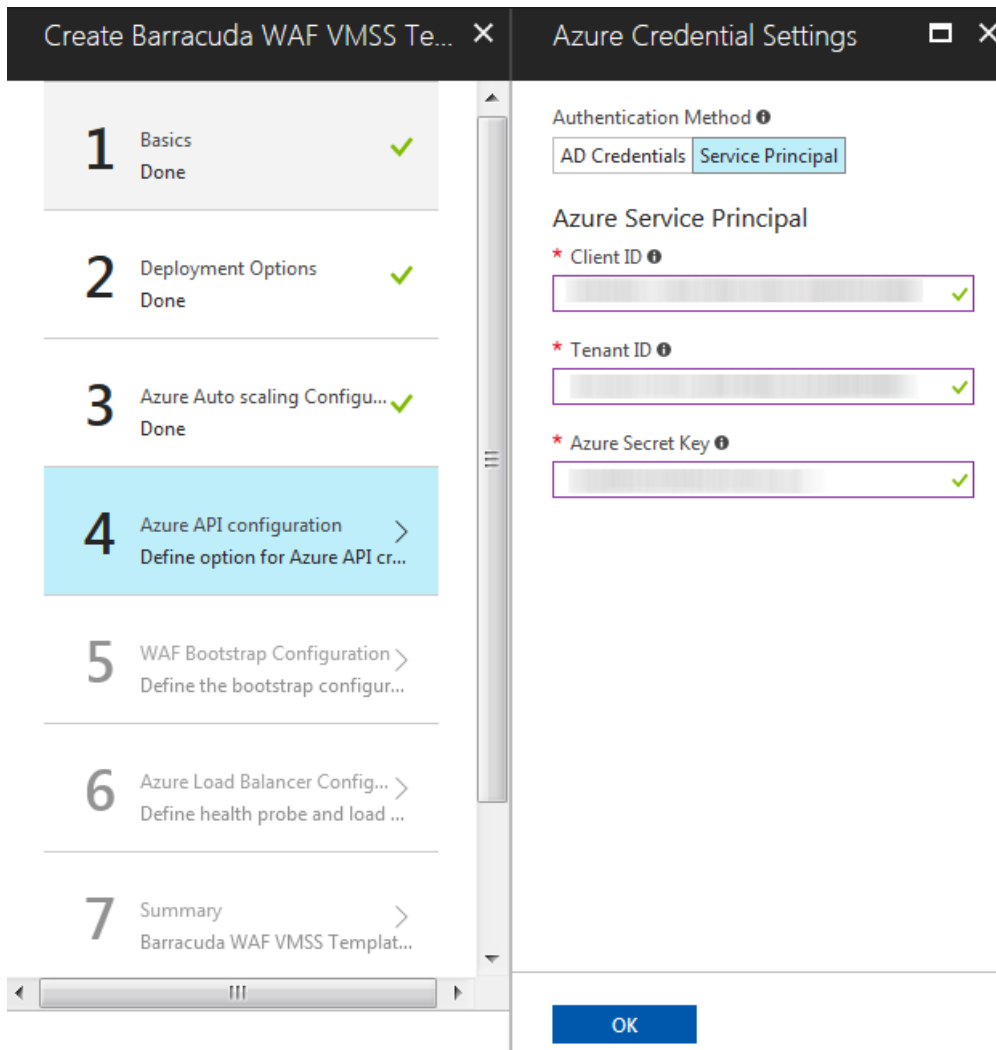
**Scale Down threshold(s)**

\* CPU % ⓘ

60

OK

9. In the **Create Barracuda WAF VMSS Template - PAYG > 4 Azure API Configuration** page:
10. **Authentication Method:** Select the authentication method to authenticate to Azure Active Directory (AAD).
  1. **Azure AD Credentials**
    1. **Azure User ID:** Enter the user name to authenticate to the AAD.
    2. **Azure User Password:** Enter the password associated with user.
    3. **Confirm Password:** Re-enter the password to confirm.
  2. **Azure Service Principal**
    1. **Client ID:** Enter the ID of the application in AAD.
    2. **Tenant ID:** Enter the ID of the Active Directory tenant.
    3. **Azure Secret Key:** Enter the secret key generated.
3. Click **OK**.



**Create Barracuda WAF VMSS Template** X

**Azure Credential Settings** □ X

1 Basics Done ✓

2 Deployment Options Done ✓

3 Azure Auto scaling Configuration Done ✓

**4 Azure API configuration** >  
Define option for Azure API cr...

5 WAF Bootstrap Configuration >  
Define the bootstrap configur...

6 Azure Load Balancer Configuration >  
Define health probe and load ...

7 Summary >  
Barracuda WAF VMSS Templat...

Authentication Method ⓘ  
AD Credentials Service Principal

Azure Service Principal

\* Client ID ⓘ  
[Redacted] ✓

\* Tenant ID ⓘ  
[Redacted] ✓

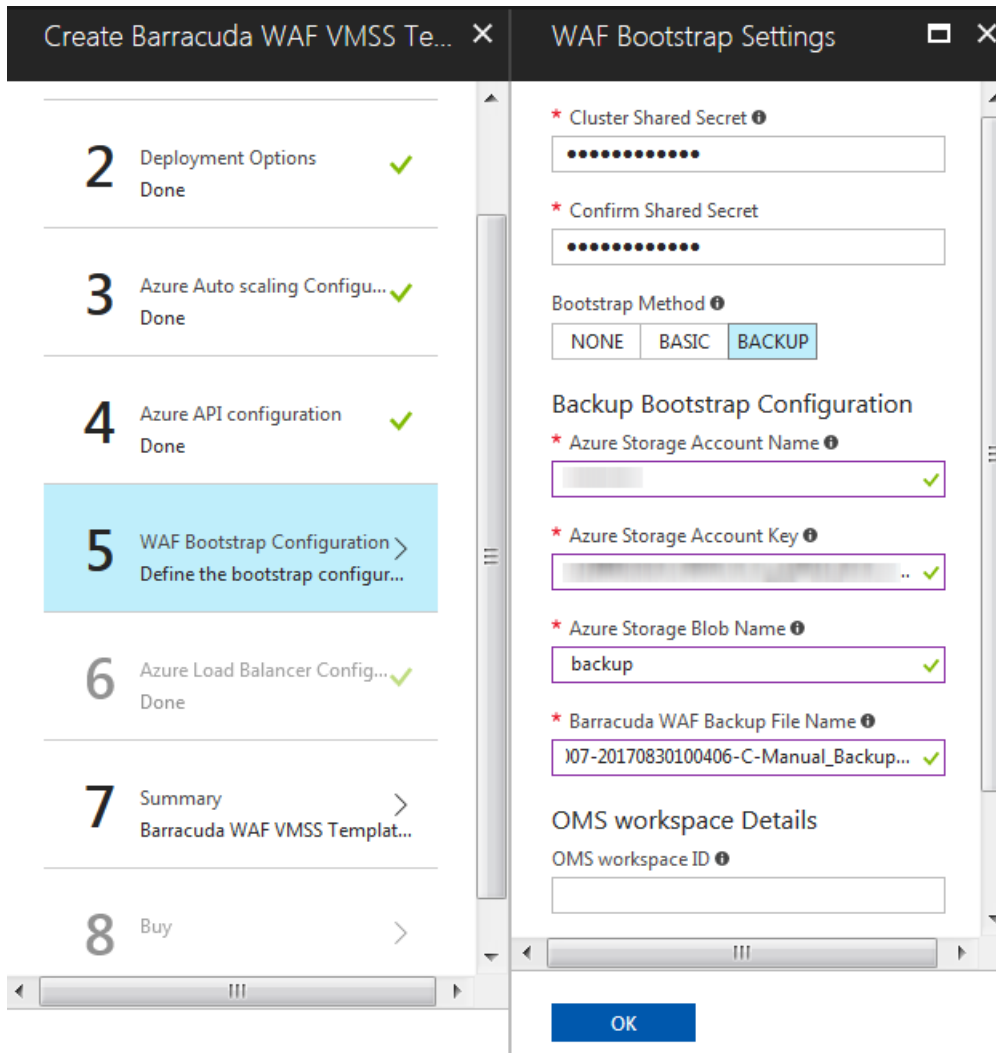
\* Azure Secret Key ⓘ  
[Redacted] ✓

OK

12. In the **Create Barracuda WAF VMSS Template - PAYG > 5 Barracuda WAF Bootstrap Settings** page.

1. **Cluster Shared Secret:** Enter a password to be used by the Barracuda WAF instances in the VMSS group.
2. **Confirm Shared Secret:** Re-type the shared secret password.
3. **Bootstrap Method:** Select the method (**NONE**, **BASIC** or **BACKUP**) for bootstrapping.
4. **Basic Bootstrap Configuration**
  1. **WAF Service Name:** Enter a name for the service that needs to be created on the Barracuda WAF instances.
  2. **WAF Service Port:** Enter the port number on which the service is listening to.
  3. **Backend Servers (IP:PORT):** Enter the IP address of the server followed by the port that needs to be protected by the Barracuda WAF. Use comma (,) as a separator to specify multiple server IP addresses.
5. **Backup Bootstrap Configuration**
  1. **Azure Storage Account Name:** Enter the name of the storage account.
  2. **Azure Storage Account Key:** Enter the key of the storage account.
  3. **Azure Storage Blob Name:** Enter the name of the blob configured in the storage account.
  4. **Type of Backup File:** Select the appropriate backup file from the drop-down list

5. **Barracuda WAF Backup File Name:** Enter the name of the backup file that you want to use for bootstrapping the instances.
6. **OMS Workspace Details**
  1. **OMS Workspace ID:** Enter the workspace ID of the OMS server (if any).
  2. **OMS Workspace Primary Key:** Enter the primary key of the OMS server.
7. Click **OK**.



13. In the **Create Barracuda WAF VMSS Template - PAYG > 6 Azure Load Balancer Configuration** page:

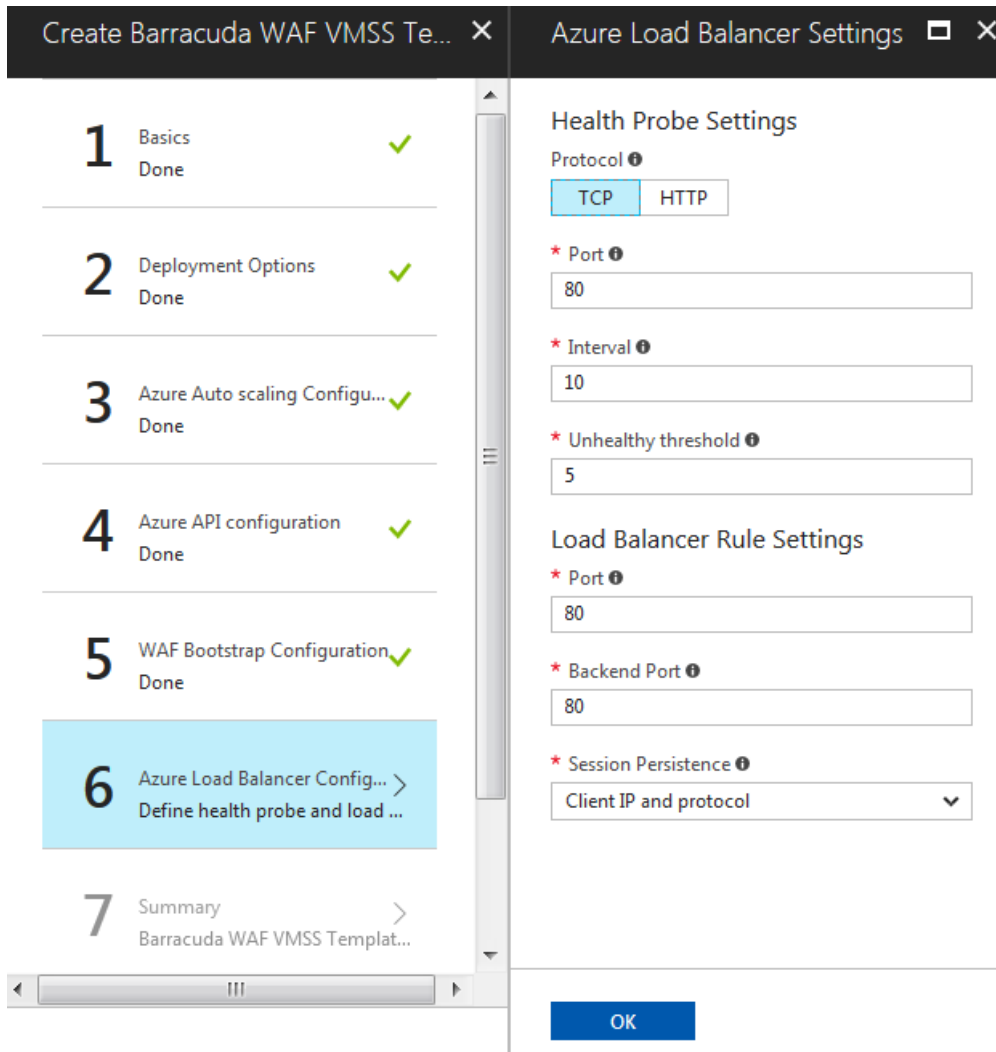
1. **Health Probe Settings**

1. **Protocol:** Select **TCP** or **HTTP**. It is recommended to use the **TCP** protocol.
2. **Port:** Enter the port to be used when probing the instance.
3. **Interval:** Enter the interval time to probe the instance.
4. **Unhealthy threshold:** Enter how many attempts can fail before the backend instance is marked as unhealthy.

2. **Load Balancer Rule Settings**

1. **Port:** Enter the port on which the load balancer is listening.
2. **Backend Port:** Enter the port on which the Barracuda WAF is listening.

3. **Session Persistence:** Select the persistence type.
3. **EULA Acceptance Details**
  1. **User Name:** Enter the username of the user signing the EULA agreement.
  2. **Email ID:** Enter the Email ID of the user signing the EULA agreement.
  3. **Company Name:** Enter the user's company name.
  4. **Domain Name:** Enter the domain name for the Barracuda WAF VMSS.
4. Click **OK**.



Create Barracuda WAF VMSS Te... x Azure Load Balancer Settings □ x

**1** Basics Done ✓

**2** Deployment Options Done ✓

**3** Azure Auto scaling Configu... Done ✓

**4** Azure API configuration Done ✓

**5** WAF Bootstrap Configuration Done ✓

**6** Azure Load Balancer Config... > Define health probe and load ...

**7** Summary > Barracuda WAF VMSS Templat...

**Health Probe Settings**

Protocol ⓘ

TCP HTTP

\* Port ⓘ

80

\* Interval ⓘ

10

\* Unhealthy threshold ⓘ

5

**Load Balancer Rule Settings**

\* Port ⓘ

80

\* Backend Port ⓘ

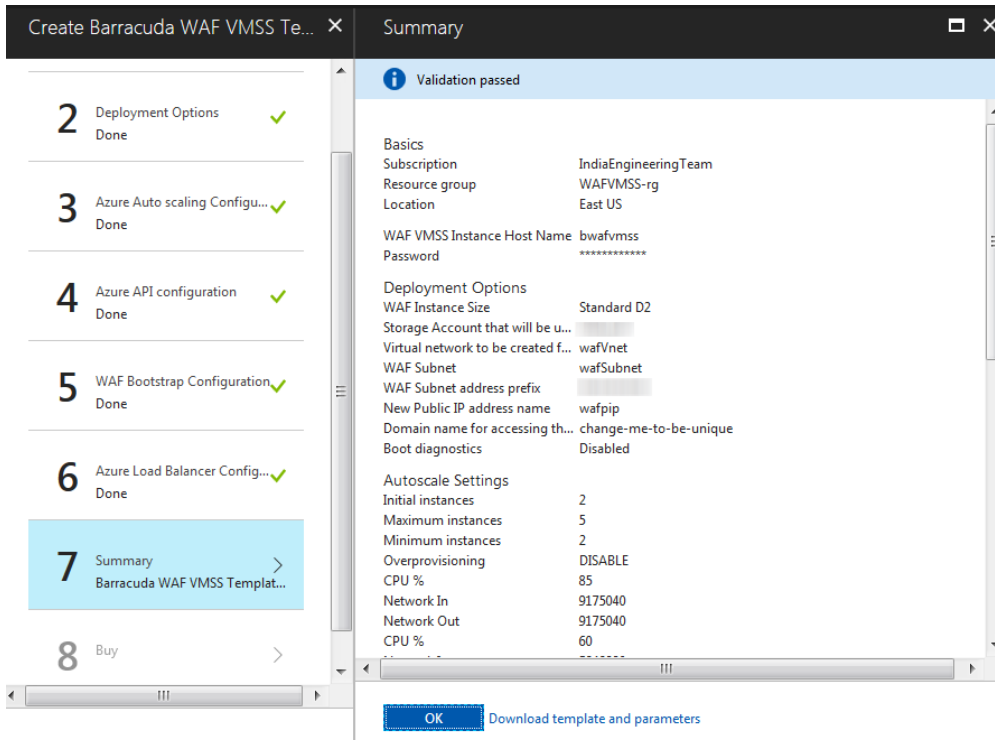
80

\* Session Persistence ⓘ

Client IP and protocol ▼

OK

14. In the **Create Barracuda WAF VMSS Template - PAYG > 7 Summary** page, verify the values you entered and click **OK**.



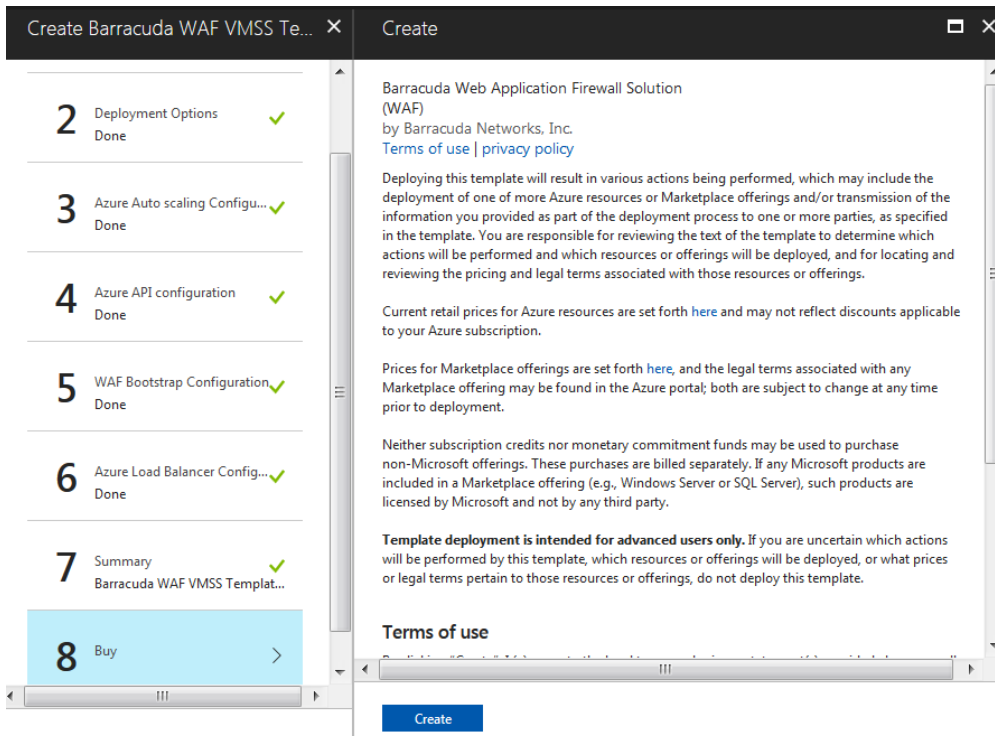
The screenshot shows the 'Summary' step of the 'Create Barracuda WAF VMSS Template' wizard. On the left, a progress bar shows steps 2 through 8, with step 7 'Summary' highlighted. The main area displays a 'Validation passed' message and a summary of the configuration. Below the summary, there are buttons for 'OK' and 'Download template and parameters'.

Basics	
Subscription	IndiaEngineeringTeam
Resource group	WAFVMSS-rg
Location	East US
WAF VMSS Instance Host Name	bwafvmss
Password	*****

Deployment Options	
WAF Instance Size	Standard D2
Storage Account that will be u...	
Virtual network to be created f...	wafVnet
WAF Subnet	wafSubnet
WAF Subnet address prefix	
New Public IP address name	wafpip
Domain name for accessing th...	change-me-to-be-unique
Boot diagnostics	Disabled

Autoscale Settings	
Initial instances	2
Maximum instances	5
Minimum instances	2
Overprovisioning	DISABLE
CPU %	85
Network In	9175040
Network Out	9175040
CPU %	60

15. In the **Create Barracuda WAF VMSS Template - PAYG > 8 Buy** page, read the **Terms of use | privacy policy** and click **Create**.



The screenshot shows the 'Create' step of the 'Create Barracuda WAF VMSS Template' wizard. On the left, a progress bar shows steps 2 through 8, with step 8 'Buy' highlighted. The main area displays the 'Barracuda Web Application Firewall Solution (WAF)' by Barracuda Networks, Inc., with links to 'Terms of use' and 'privacy policy'. It includes a detailed paragraph about the deployment process, a note on current retail prices for Azure resources, a note on Marketplace offerings, and a disclaimer about non-Microsoft offerings. At the bottom, there is a 'Terms of use' section and a 'Create' button.

**Barracuda Web Application Firewall Solution (WAF)**  
by Barracuda Networks, Inc.  
[Terms of use](#) | [privacy policy](#)

Deploying this template will result in various actions being performed, which may include the deployment of one or more Azure resources or Marketplace offerings and/or transmission of the information you provided as part of the deployment process to one or more parties, as specified in the template. You are responsible for reviewing the text of the template to determine which actions will be performed and which resources or offerings will be deployed, and for locating and reviewing the pricing and legal terms associated with those resources or offerings.

Current retail prices for Azure resources are set forth [here](#) and may not reflect discounts applicable to your Azure subscription.

Prices for Marketplace offerings are set forth [here](#), and the legal terms associated with any Marketplace offering may be found in the Azure portal; both are subject to change at any time prior to deployment.

Neither subscription credits nor monetary commitment funds may be used to purchase non-Microsoft offerings. These purchases are billed separately. If any Microsoft products are included in a Marketplace offering (e.g., Windows Server or SQL Server), such products are licensed by Microsoft and not by any third party.

**Template deployment is intended for advanced users only.** If you are uncertain which actions will be performed by this template, which resources or offerings will be deployed, or what prices or legal terms pertain to those resources or offerings, do not deploy this template.

**Terms of use**

[Create](#)

## Figures

1. Resource\_Group.png
2. Create\_Resource\_Group.png
3. Storage\_Account.png
4. Create\_SA.png
5. Create\_storage\_account.png
6. Barracuda\_WAF\_VMSS\_Template\_Search.png
7. WAF\_VMSS\_Template\_PAYG.png
8. Basic\_Settings.png
9. Deployment\_Options.png
10. Auto\_Scaling\_Configuration.png
11. Service\_Principal.png
12. Backup\_Bootstrap.png
13. Load\_Balancer\_Configuration.png
14. Summary.png
15. Buy.png

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