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Discover App Service networking features

3 minutes

By default, apps hosted in App Service are accessible directly through the internet and can reach only internet-hosted endpoints. But for many applications, you need to control the inbound and outbound network traffic.

There are two main deployment types for Azure App Service. The multitenant public service hosts App Service plans in the Free, Shared, Basic, Standard, Premium, PremiumV2, and PremiumV3 pricing SKUs. There is also the single-tenant App Service Environment (ASE) hosts Isolated SKU App Service plans directly in your Azure virtual network.

Multi-tenant App Service networking features

Azure App Service is a distributed system. The roles that handle incoming HTTP or HTTPS requests are called *front ends*. The roles that host the customer workload are called *workers*. All the roles in an App Service deployment exist in a multi-tenant network. Because there are many different customers in the same App Service scale unit, you can't connect the App Service network directly to your network.

Instead of connecting the networks, you need features to handle the various aspects of application communication. The features that handle requests to your app can't be used to solve problems when you're making calls from your app. Likewise, the features that solve problems for calls from your app can't be used to solve problems to your app.

Inbound features	Outbound features
App-assigned address	Hybrid Connections
Access restrictions	Gateway-required virtual network integration
Service endpoints	Virtual network integration

Inbound features	Outbound features
Private endpoints	

You can mix the features to solve your problems with a few exceptions. The following inbound use cases are examples of how to use App Service networking features to control traffic inbound to your app.

Inbound use case	Feature
Support IP-based SSL needs for your app	App-assigned address
Support unshared dedicated inbound address for your app	App-assigned address
Restrict access to your app from a set of well-defined addresses	Access restrictions

Default networking behavior

Azure App Service scale units support many customers in each deployment. The Free and Shared SKU plans host customer workloads on multitenant workers. The Basic and higher plans host customer workloads that are dedicated to only one App Service plan. If you have a Standard App Service plan, all the apps in that plan will run on the same worker. If you scale out the worker, all the apps in that App Service plan will be replicated on a new worker for each instance in your App Service plan.

Outbound addresses

The worker VMs are broken down in large part by the App Service plans. The Free, Shared, Basic, Standard, and Premium plans all use the same worker VM type. The PremiumV2 plan uses another VM type. PremiumV3 uses yet another VM type. When you change the VM family, you get a different set of outbound addresses. If you scale from Standard to PremiumV2, your outbound addresses will change. If you scale from PremiumV2 to PremiumV3, your outbound addresses will change. In some older scale units, both the inbound and outbound addresses will change when you scale from Standard to PremiumV2.

There are a number of addresses that are used for outbound calls. The outbound addresses used by your app for making outbound calls are listed in the properties for your app. These addresses are shared by all the apps running on the same worker VM family in the App Service deployment. If you want to see all the addresses that your app might use in a scale unit, there's a property called `possibleOutboundAddresses` that will list them.

Find outbound IPs

To find the outbound IP addresses currently used by your app in the Azure portal, click **Properties** in your app's left-hand navigation.

You can find the same information by running the following command in the Cloud Shell. They are listed in the **Additional Outbound IP Addresses** field.

Bash Copy

```
az webapp show \
    --resource-group <group_name> \
    --name <app_name> \
    --query outboundIpAddresses \
    --output tsv
```

To find all possible outbound IP addresses for your app, regardless of pricing tiers, run the following command in the Cloud Shell.

Bash Copy

```
az webapp show \
    --resource-group <group_name> \
    --name <app_name> \
    --query possibleOutboundIpAddresses \
    --output tsv
```

Next unit: Exercise: Create a static HTML web app by using Azure Cloud Shell

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