NetReach

for Web

NetReach allows users to access, control and manage WTI devices via a single, centralized interface. NetReach is a containerized web application that can be hosted on Azure cloud platform.

Users with the appropriate role can manage application resources.

- Admin role grants access to manage Admin Center and Inventory resources
- User role grants access to manage Inventory resources

NetReach Architecture

NetReach is an API-driven application that provides secure access to remote WTI devices.

NetReach app uses the secure Hypertext Transfer Protocol (HTTPS).

NetReach encrypts users, OAuth registration and AppID data; using AES encryption.

NetReach Authentication Methods to login to application interface:

- Password-based for local Authentication
- SSO - OAuth integration with Azure, AWS and Google

NetReach RESTful API requests to WTI devices can include parameters that give NetReach more details about what needs to be done. The following are some different types of parameters:

- Path parameters that specify URL details.
- Query parameters that request more information about the resource.

NetReach uses API token based authentication to communicate with WTI devices.

NetReach Requirements

NetReach deploys as a containerized application in a Linux-based Azure App Service. To run a NetReach container in an App Service, the host service must be at least:

- Dev/Test (for less demanding workloads)
    - Basic B2/Basic B3

- Production (for most demanding workloads)

- Premium v3

CPU and RAM Guidelines

No. Devices	vCPU	RAM
50 units and under	2 cores	4 GB
100 units and under	2 cores	8 GB
100 units and above	4 cores	16 GB

NOTE: CPU and RAM utilization increase with more demanding workloads (storage, network utilization and the number of devices).

Deploy in the Cloud

Azure App Service provides the hosting environment for an Azure-based web app. You can configure App Service to retrieve the image for the web from a repository in Azure Container Registry.

To deploy in the Azure App Service environment, complete the following steps:

1. Create a Web App and Deploy NetReach from WTI Azure Container Registry
2. Configure NetReach Container for App Service
3. Endpoints in NetReach to reach WTI devices

Create a Web App and Deploy NetReach from WTI Azure Container Registry

1. Go to the Azure portal home page, and under **Azure services**, select **Create a resource**. The **Create a resource** pane appears.
2. In the left menu pane, select **Web**, and under *Popular Azure services*, select **Web App**. The Create Web App pane appears.
3. On the **Basics** tab, enter the following values for each setting.

Setting	**Value**
Project Details	
Subscription	Select your default Azure subscription in which you're allowed to create and manage resources.
Resource Group	From the dropdown list, select an existing or create new resource group

Instance Details	
Name	Enter a unique name and make a note of it later. Note: secure unique on - creates a site with a unique default hostname
Publish	Container
Operating System	Linux
Region	Select the same location that is close to you from previous exercise.
Pricing plans	
Linux plan	select an existing or create new Linux plan
Pricing plan	Refer to NetReach Requirements (e.g. Dev/Test Basic B2)
Zone redundancy	
Zone redundancy	Use the default

4. Select the **Container** tab at the top of the screen.
5. On the **Container** tab, enter the following values for each setting.

Setting	**Value**
Sidecar support (preview)	Accept default
Image Source	Other container registries
Docker hub options	
Access Type	Private
Registry server URL	URL should be provided by WTI
Username	Username should be provided by WTI
Password	Password should be provided by WTI
Image and tag	netreach-image:<version> (e.g. netreach-image:v1.00)
Startup Command	Leave this setting empty

6. Select **Review and create**, and then select **Create**. Wait until the web app has been deployed before you continue.

NOTE: The first time you run NetReach Docker image in App Service, App Service does a docker pull and pulls all image layers. These layers are stored on disk. Each time the app restarts, App Service does a docker pull from WTI Azure Registry. It pulls only changed layers. If there are no changes, App Service uses existing layers on the local disk.

Configure NetReach Container for App Service

Enable persistent shared storage in NetReach container. You can use the /home directory in NetReach container file system to persist file across restarts and share them across instances.

By default, persistent storage is disabled on Linux custom containers. To enable it, set the WEBSITES_ENABLE_APP_SERVICE_STORAGE app setting value to true.

1. Go to the Azure portal home page, and under **Azure services**, select **App Services, and select your NetReach web app**.
2. In the left menu pane, under Settings, select **Environment variables**, and under *App Settings tab*, click on Add. The Add/Edit application pane appears.

Setting	**Value**
Name	WEBSITES_ENABLE_APP_SERVICE_STORAGE
Value	true

3. Select **Apply**.

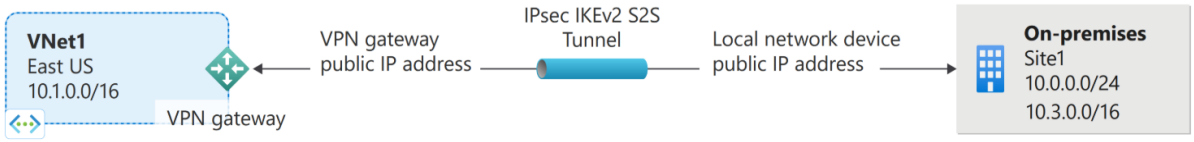
NOTE: If WEBSITES_ENABLE_APP_SERVICE_STORAGE environment variable already exists, modify the value to true and select apply.

Endpoints in NetReach to Reach WTI devices

- **Public Endpoints**

  By default, NetReach app hosted in App Service is accessible directly through the internet and can reach only internet-hosted endpoints of WTI devices.

- **Private Endpoints**
  For NetReach app to reach on-premise WTI devices endpoints. You'll need to create a site-to-site (S2S) VPN gateway connection between your on-premises network and Azure virtual network.



See the link below for tutorial: create a site-to-site VPN connection in the Azure portal and prerequisites.

https://learn.microsoft.com/en-us/azure/vpn-gateway/tutorial-site-to-site-portal