Domain Name Service

Getting Started

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Contents

1 Quick Start

DNS provides functions for different network scenarios.

Functions

Select a type of function based on **Table 1-1**.

Table 1-1 DNS functions

Function	Scenario	Reference
Public domain name resolution	Map domain names to IP addresses of web servers or web applications on the Internet.	**Routing Internet Traffic to a Website**
Private domain name resolution	Map private domain names to private IP addresses within VPCs.	**Routing Traffic Within VPCs**
Reverse resolution	Map IP addresses to public domain names. PTR records are mainly used to build email servers.	**Translating an IP Address to a Domain Name**

Registering with Huawei Cloud

You must have a Huawei Cloud account to access the DNS console. If you do not have an account, register one with Huawei Cloud.

1. Visit the **https://www.huaweicloud.com/eu/**.
2. Click **Register**.

   The registration page is displayed. Enter the required information. After the registration, the system automatically redirects you to the account information page.

After registration, your account will have permissions to access the DNS service, as well as all other Huawei Cloud services.

2 Routing Internet Traffic to a Website

Scenarios

After you register a domain name and set up a website, you can configure record sets to point the domain name to the IP address of the web server where the website is deployed so that visitors can use the domain name to access your website over the Internet.

For example, you have already built a website on a web server with an IPv4 EIP bound. To allow users to access your website using domain name example.com and its subdomain www.example.com, do as follows:

- Add an A record set that maps domain name example.com to the EIP.
- Add an A record set that maps subdomain www.example.com to the EIP.

📖 **NOTE**

Configuring DNS records for a website is irrelevant to the registrar of the domain name, and the account and location of the web server. You only need to obtain the domain name and the EIP of the web server.

No matter whether the web server is on the same cloud as the domain name, you can create a public zone and configure records for the domain name.

- You register a domain name with a third-party registrar and deploy the web server on Huawei Cloud.
- You register a domain name with a third-party registrar and deploy the web server on a cloud where the domain name is hosted, other than Huawei Cloud.
- You register a domain name with a third-party registrar and deploy the web server on a cloud that is not the one where the domain name is hosted.
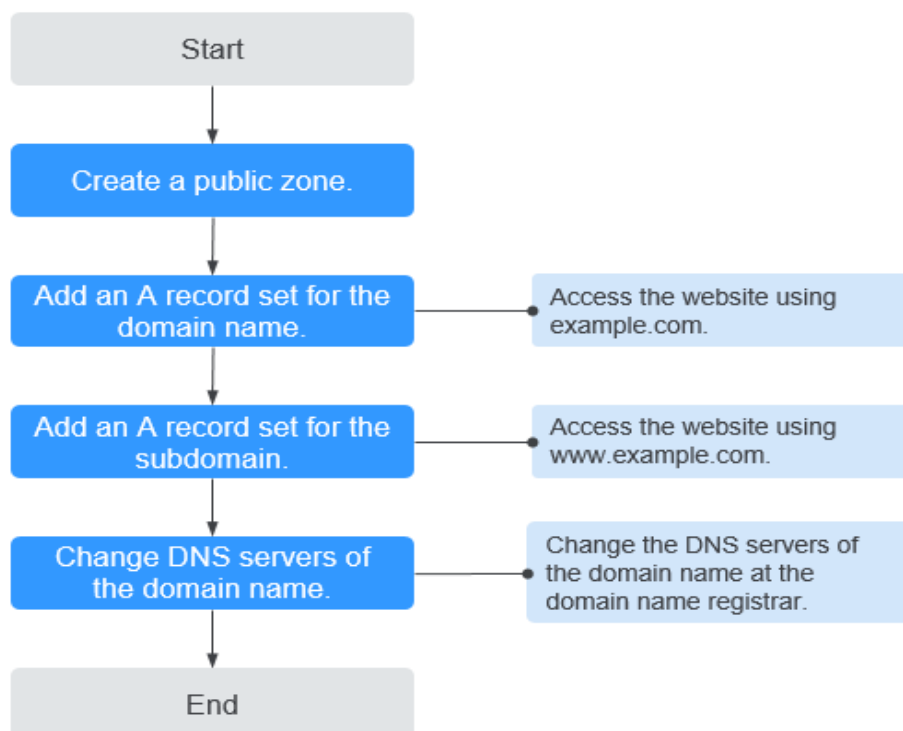
Prerequisites

- You have registered a domain name example.com with a third-party registrar.
- You have deployed a web server and obtained its IP address.

Procedure

Figure 2-1 shows the process for configuring a domain name for your website.

Figure 2-1 Process for configuring a domain name

Step 1. Create a Public Zone

Create a public zone for your domain name on the DNS console.

1. Log in to the management console.

2. Hover the cursor over ☰ in the upper left corner. In the service list, choose **Networking** > **Domain Name Service**.

    The DNS console is displayed.

3. In the navigation pane on the left, choose **Public Zones**.

    The **Public Zones** page is displayed.

4. Click **Create Public Zone**.

5. Set **Name** to **example.com**.

    Set other parameters by referring to **Creating a Public Zone**.

6. Click **OK**.

    View the created public zone on the **Public Zones** page.

    If the system displays a message indicating that the public zone has already been created by another user, see **Regaining a Domain Name**.

📖 **NOTE**

Click the zone name to view zone details. You can view SOA and NS record sets automatically generated by the system.

- The SOA record set defines the DNS server that is the authoritative information source for a particular domain name.
- The NS record set defines authoritative DNS servers for a domain name.

You can modify the NS record set based on the region of the domain name. For more information about DNS servers, see **What Are the DNS Servers Provided by the Huawei Cloud DNS Service?**

Step 2. Add an A Record Set for the Domain Name

Add an A record set to the created public zone to allow access the website using example.com.

1. On the **Public Zones** page, click the domain name (**example.com**) in the public zone you created.

   The **Record Sets** page is displayed.

2. Click **Add Record Set**.

3. Set the parameters as follows:

   - **Name**: Leave this parameter blank. The system automatically considers example.com as the name, and requests are routed to example.com.
   - **Type**: Set it to **A – Map domains to IPv4 addresses**.
   - **Value**: Enter the EIP of the web server.

   Retain the default settings for other parameters. For detailed descriptions of the parameters, see **Adding an A Record Set**.

4. Click **OK**.

   View the added record set in the record set list and ensure that the status of the record set is **Normal**.

Step 3. Add an A Record Set for the Subdomain

Add another record set to allow access to your website using www.example.com.

1. On the **Public Zones** page, click the domain name (**example.com**) in the public zone you created.

   The **Record Sets** page is displayed.

2. Click **Add Record Set**.

3. Set the parameters as follows:

   - **Name**: Set the value to **www**, indicating that the subdomain to be resolved is **www.example.com**.
   - **Type**: Set it to **A – Map domains to IPv4 addresses**.
   - **Value**: Enter the EIP of the web server.

   Retain the default settings for other parameters. For detailed descriptions of the parameters, see **Adding an A Record Set**.

4. Click **OK**.

   View the added record set in the list and ensure that the status of the record set is **Normal**.

Step 4. Change DNS Server Addresses of the Domain Name

The DNS service provides authoritative DNS servers for domain resolution.

After you create a public zone, an NS record set is generated, which specifies the DNS servers provided by the DNS service.

If DNS server addresses of the public domain name are not the same as those in the NS record set, the DNS service will not be able to resolve the domain name. You must change the DNS server addresses of the domain name on the registrar's website.

☐ NOTE

Generally, the changes to DNS server addresses take effect within 48 hours, but the time may vary depending on the domain name registrar's cache duration.

Query the DNS server addresses provided by the DNS service.

1. Log in to the management console.

2. Hover the cursor over ☰ in the upper left corner. In the service list, choose **Networking** > **Domain Name Service**.

   The DNS console is displayed.

3. In the navigation pane on the left, choose **Public Zones**.

   The **Public Zones** page is displayed.

4. Click the name of the public zone you created.

   Locate the NS record set. The DNS server addresses provided by the DNS service are displayed under **Value**.

Change the DNS servers.

Log in to the domain name registrar's website and change the DNS server addresses to those provided by the DNS service. Refer to the domain name registrar's documentation for detailed operations.

Checking Whether the Record Sets Have Taken Effect

For details, see **How Do I Check Whether Record Sets Have Taken Effect?**

3 Routing Traffic Within VPCs

Scenarios

If you have deployed ECSs and other cloud services on Huawei Cloud, you can configure private domain names for the ECSs so that they can communicate with each other or access the cloud services over a private network.

You can create any private zones that are unique within VPCs. You do not need to register the domain names.

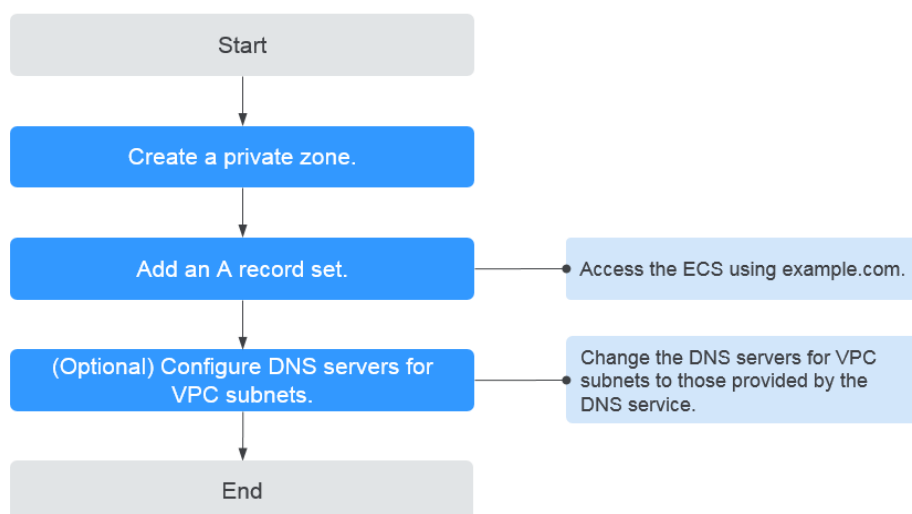The following are operations for you to create a private zone and add an A record set to it.

Prerequisites

You have created an ECS and obtained its VPC name and private IP address.

Procedure

Figure 3-1 shows the process for configuring a private zone for a domain name.

Figure 3-1 Process for configuring a private zone

📖 **NOTE**

To ensure that the private domain name can be resolved in a VPC, verify that the DNS server addresses for the VPC subnet are those provided by the DNS service.For DNS server addresses in each region, see .**What Are the Private DNS Servers Provided by the Huawei Cloud DNS Service?** If the DNS server addresses are not those provided by the Huawei Cloud DNS service, change them.

You can view or change the DNS server addresses for the VPC subnet by performing the operations in **Step 3. (Optional) Configure DNS Server Addresses for the VPC Subnet**.

Step 1. Create a Private Zone

Create a private zone to allow access to your ECS using a private domain name.

1. Log in to the management console.

2. Hover the cursor over ☰ in the upper left corner. In the service list, choose **Networking** > **Domain Name Service**.

    The DNS console is displayed.

3. In the navigation pane on the left, choose **Private Zones**.

    The **Private Zones** page is displayed.

4. Click 📍 in the upper left corner and select the desired region and project.

5. Click **Create Private Zone**.

6. Set **Name** to **example.com** and select the VPC where the ECS resides.

    For details about more parameters, see **Creating a Private Zone**.

7. Click **OK**.

8. Switch back to the **Private Zones** page.

    View the created private zone.

    📖 **NOTE**

    Click the zone name to view zone details. You can view SOA and NS record sets automatically generated by the system.

    - The SOA record set defines the DNS server that is the authoritative information source for a particular domain name.

    - The NS record set defines authoritative DNS servers for a domain name.

Step 2. Add an A Record Set

To access the ECS using example.com, add an A record set.

1. On the **Private Zones** page, click the name of the private zone you created.

    The **Record Sets** page is displayed.

2. Click **Add Record Set**.

3. Configure the parameters as follows:

    - **Name**: Leave this parameter blank. The system automatically considers example.com as the name, and requests are routed to example.com.

    - **Type**: Set it to **A – Map domains to IPv4 addresses**.

    - **Value**: Enter the private IP address of the ECS.

Retain the default settings for other parameters. For details, see **Adding an A Record Set**.

4. Click **OK**.

5. Switch back to the **Record Sets** page.

   View the added record set in the record set list of the zone and ensure that the status of the record set is **Normal**.

Step 3. (Optional) Configure DNS Server Addresses for the VPC Subnet

To ensure that the private domain name can be resolved in a VPC, verify that the DNS server addresses for the VPC subnet are those provided by the DNS service.For DNS server addresses in each region, see .**What Are the Private DNS Servers Provided by the Huawei Cloud DNS Service?** If the DNS server addresses are not those provided by the Huawei Cloud DNS service, change them.

Query the private DNS server addresses provided by the DNS service.

1. Log in to the management console.

2. Hover the cursor over   in the upper left corner. In the service list, choose **Networking** > **Domain Name Service**.

   The DNS console is displayed.

3. In the navigation pane on the left, choose **Private Zones**.

   The **Private Zones** page is displayed.

4. Click   in the upper left corner and select the desired region and project.

5. In the private zone list, click the name of the zone and view the DNS server addresses.

Change the DNS server addresses.

1. Go to the private zone list.

2. Click the VPC name under **Associated VPC**.

   On the VPC console, change the DNS server addresses for the VPC subnet.

   For details, see **Modifying a Subnet**.

Checking Whether the Record Sets Have Taken Effect

For details, see **How Do I Check Whether Record Sets Have Taken Effect?**

4 Translating an IP Address to a Domain Name

Scenarios

PTR records are used to prove credibility of IP addresses and domain names of email servers. To avoid being tracked, most spam senders use email servers whose IP addresses are dynamically allocated or not mapped to registered domain names. If you do not want emails sent from your email server to be considered as spam, add a PTR record to map the email server IP address to a domain name. In this way, the email recipient can obtain the domain name by IP address and will know that the email server is trustworthy.

If you use an ECS as an email server, configure a PTR record to map the EIP of the ECS to the domain name.

This following are operations for you to add a PTR record for a cloud resource, such as ECS.

Constraints

Currently, you can configure PTR records only for IP addresses with a 32-bit subnet mask.

Prerequisites

- You have registered a domain name with Huawei Cloud or a third-party registrar.
- You have created an ECS and bound an EIP to it.

Procedure

1. Log in to the management console.

2. Hover the cursor over ☰ in the upper left corner. In the service list, choose **Networking** > **Domain Name Service**.

   The DNS console is displayed.

3. In the navigation pane on the left, choose **PTR Records**.

The **PTR Records** page is displayed.

4.   Click ⦾ in the upper left corner and select the desired region and project.

5.   Click **Create PTR Record**.

–   **EIP**: Select the EIP of the ECS.

–   **Domain Name**: Enter the domain name that the EIP points to.

Retain the default settings for other parameters. For detailed descriptions of the parameters, see **Creating a PTR Record**.

6.   Click **OK**.

View the created PTR record on the **PTR Records** page.

📖 **NOTE**

If the domain name is mapped to multiple EIPs, you must create a PTR record for each EIP.

7.   Verify that the PTR record has taken effect.

Run the following DOS command on a PC connected to the Internet:

nslookup -qt=ptr *IP address*