Create & Manage DNS Zones and Records with PowerShell

Create & Manage DNS Zones and Records with PowerShell

https://woshub.com/create-manage-dns-zones-records-powershell/

A Windows administrator can use the good old `Dnscmd` cli tool or **DNSServer** module for PowerShell to manage DNS zones and records. In this article we'll cover the basic operations of bulk creating, modification, and removing different DNS records or zones using PowerShell.

Contents:

DNSServer PowerShell Module

The **DNSServer** module for PowerShell is a part of RSAT. On Windows 10 you will have to install RSAT separately, and on Windows Server you can enable the module using Server Manager GUI (Role Administration Tools -> DNS Server Tools).

install DNS Server Tools with DNSServer module for PowerShell

Image not found or type unknown

Make sure the DNSServer PowerShell module is install on your computer:

```
Get-Module DNSServer –ListAvailable
```

You can display the list of commands in it (the module version for Windows Server 2016 has 134 cmdlets):

```
Get-Module DNSServer
```

Get-Module DNSServer

Image not found or type unknown

Manage DNS Zones with PowerShell

Display the list of DNS zones on your server (in our case, it is a domain controller):

```
Get-DnsServerZone –ComputerName dc01
```

To add a new primary DNS zone named woshub.com, run this command:

```
Add-DnsServerPrimaryZone -Name woshub.com -ReplicationScope "Forest" –PassThru
```

As you can see, the primary DNS zone integrated into Active Directory has been created (*isDsIntegrated=True*).

Add-DnsServerPrimaryZone

Image not found or type unknown

You can create a Reverse Lookup Zone:

```
Add-DnsServerPrimaryZone -NetworkId "192.168.100.0/24" -ReplicationScope Domain
```

To synchronize a new zone with other DCs in the domain, run the following command:

```
Sync-DnsServerZone –passthru
```

Display the list of records in the new DNS zone (it is empty):

```
Get-DnsServerResourceRecord -ComputerName dc01 -ZoneName contoso.local
```

Get-DnsServerResourceRecord

Image not found or type unknown

To remove the DNS zone, use the command:

```
Remove-DnsServerZone -Name woshub.com -ComputerName dc01
```

It will also remove all existing DNS records in the zone.

Managing DNS Records with DNSServer PowerShell Module

To create a new A record for the host in the specified DNS zone, use this command:

```
Add-DnsServerResourceRecordA -Name ber-rds1 -IPv4Address 192.168.100.33 -ZoneName woshub.com -TimeToLive 01:00:00
```

To add a PTR record to the Reverse Lookup Zone, you can add **–CreatePtr** parameter to the previous command or create the pointer manually using the **Add-DNSServerResourceRecordPTR** cmdlet:

```
Add-DNSServerResourceRecordPTR -ZoneName 100.168.192.in-addr.arpa -Name 33 -PTRDomainName ber-rds1.woshub.com
```

To add an alias (**CNAME**) for the specific A record, run this command:

```
Add-DnsServerResourceRecordCName -ZoneName woshub.com -Name Ber-RDSFarm -HostNameAlias ber-rds1.woshub.com
```

To change (update) the IP address in the A record, you will have to apply quite a complex method since you cannot change an IP address of a DNS record directly:

```
$NewADNS = get-DnsServerResourceRecord -Name ber-rds1 -ZoneName woshub.com -ComputerName dc01
$OldADNS = get-DnsServerResourceRecord -Name ber-rds1 -ZoneName woshub.com -ComputerName dc01
```

Then change the IPV4Address property of the $NewADNS object:

```
$NewADNS.RecordData.IPv4Address = [System.Net.IPAddress]::parse('192.168.100.133')
```

Change the IP address of the A record using the **Set-DnsServerResourceRecord** cmdlet:

```
Set-DnsServerResourceRecord -NewInputObject $NewADNS -OldInputObject $OldADNS -ZoneName woshub.com -ComputerName dc01
```

Make sure that the IP address of the A record has changed:

```
Get-DnsServerResourceRecord -Name ber-rds1 -ZoneName woshub.com
```

Image not found or type unknown
Change/Update DNS Host Record IP Address via PowerShell

You can display the list of DNS records of the same type by using the **–RRType** parameter. Let’s display the list of CNAME records in the specified DNS zone:

```
Get-DnsServerResourceRecord -ComputerName DC01 -ZoneName woshub.com -RRType CNAME
```

Get-DnsServerResourceRecord RRType

You can also use filters by any DNS record parameters using Where-Object. For example, to display the list of A records containing *rds* phrase in their hostnames:

```
Get-DnsServerResourceRecord -ZoneName woshub.com -RRType A | Where-Object HostName -like "*rds*"
```

Get-DnsServerResourceRecord Where-Object HostName like

To remove DNS records, the Remove-DnsServerResourceRecord cmdlet is used.

For example, to remove a CNAME record, run the command:

```
Remove-DnsServerResourceRecord -ZoneName woshub.local -RRType CName -Name Ber-RDSFarm
```

To remove an A DNS record:

```
Remove-DnsServerResourceRecord -ZoneName woshub.local -RRType A -Name ber-rds1 –Force
```

To remove a PTR record from a Reverse Lookup Zone:

```
Remove-DnsServerResourceRecord -ZoneName “100.168.192.in-addr.arpa” -RRType “PTR” -Name “33”
```

How to Create Multiple A and PTR DNS Records from a .CSV File?

Suppose, you want to create multiple A records at a time in the specific DNS Forward Lookup Zone. You can add them one-by-one using the `Add-DnsServerResourceRecordA` cmdlet, but it is easier to add A records in bulk from a .CSV file.

Create a text file *NewDnsRecords.txt* with the names and IP addresses you want to add to DNS. The txt file format is as follows:

```
HostName, IPAddress
```

Adding Multiple DNS Records From .TXT/ .CSV File with PowerShell Script

To create A records in the woshub.com zone according to the data in your TXT/CSV file, use the following PowerShell script:

```
Import-CSV "C:\PS\NewDnsRecords.txt" | %{
Add-DNSServerResourceRecordA -ZoneName woshub.com -Name $_."HostName" -IPv4Address $_."IPAddress"
}
```

If you want to add records to the Reverse Lookup Zone at the same time, add the **–CreatePtr** parameter to your `Add-DNSServerResourceRecordA` command.

Then using DNS Manager console (`dnsmgmt.msc`) or `Get-DnsServerResourceRecord -ZoneName woshub.local` make sure that all DNS records have been created successfully.

Bulk add DNS recordes using PoweShell

Image not found or type unknown

If you want to add PTR records to the Reverse Lookup Zone in bulk, create a text or a CSV file with the following structure:

```
octet,hostName,zoneName
102,ber-rds2.woshub.com,100.168.192.in-addr.arpa
103,ber-rds3.woshub.com,100.168.192.in-addr.arpa
104,ber-rds4.woshub.com,100.168.192.in-addr.arpa
105,ber-rds5.woshub.com,100.168.192.in-addr.arpa
```

Then run the script:

```
Import-CSV "C:\PS\NewDnsPTRRecords.txt" | %{
Add-DNSServerResourceRecordPTR -ZoneName $_."zoneName" -Name $_."octet" -PTRDomainName $_."hostName"
}
```

Make sure that your PTR records appeared in the DNS Reverse Lookup Zone.

Revision #3
Created 2 April 2025 14:37:55 by ColtM
Updated 2 April 2025 14:40:19 by ColtM