

Managing a DNS Server



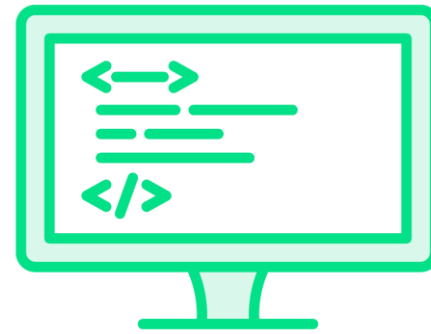
Adam Bertram

6x Microsoft MVP

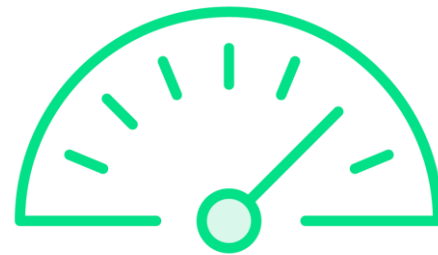
adamtheautomator.com Twitter: [@adbertram](https://twitter.com/adbertram)



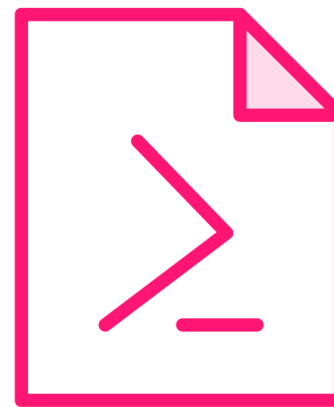
Why Use PowerShell for DNS?



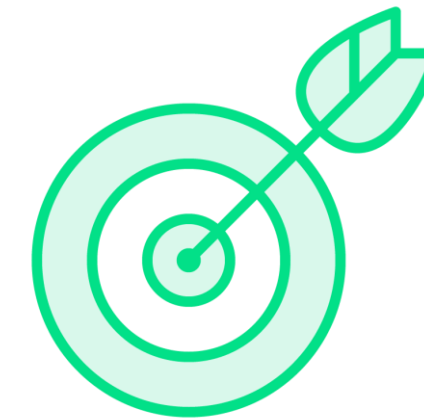
**Automation
and Scripting**



**Speed and
Efficiency**



PowerShell

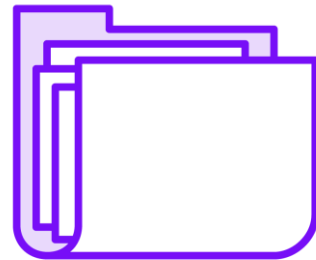


**Precision
and Control**

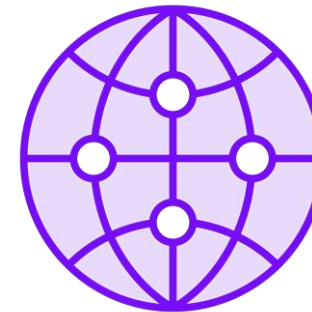


Gearing up for the Module

DNS Records Management



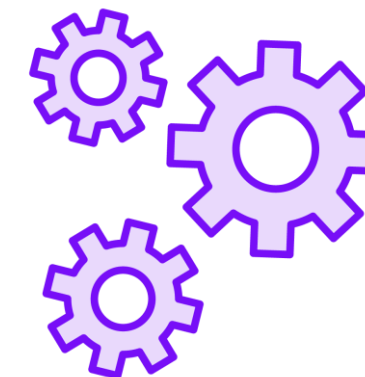
DNS Zones and Forwarders



Client-side DNS Resolution



Troubleshooting

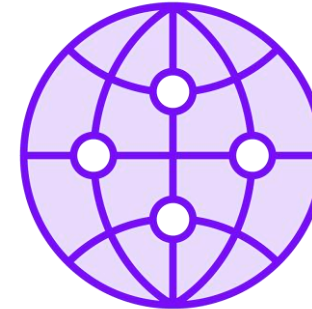


Gearing Up for the Module

DNS Records Management



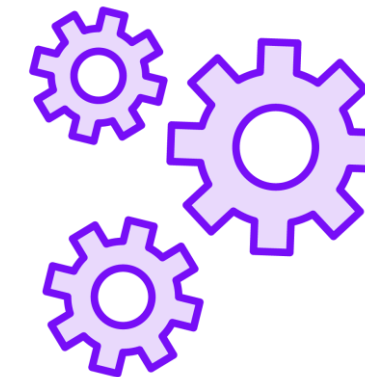
DNS Zones & Forwarders



Client-Side DNS Resolution

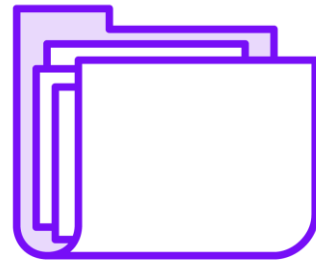


Troubleshooting

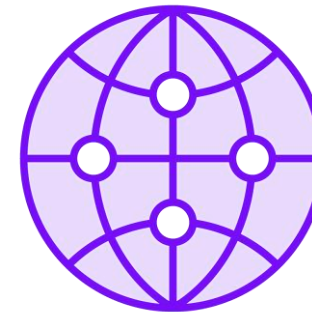


Gearing up for the Module

DNS Records Management



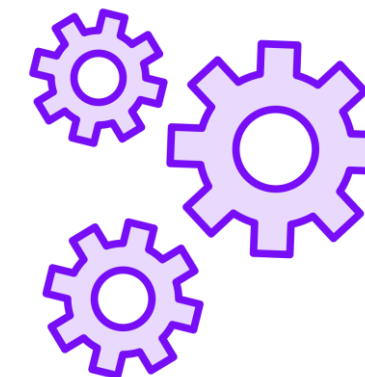
DNS Zones and Forwarders



Client-side DNS Resolution

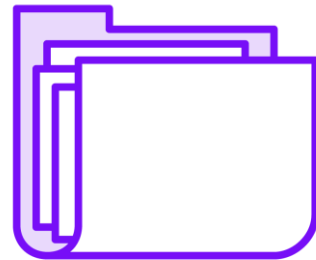


Troubleshooting

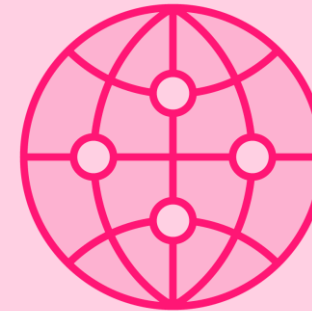


Gearing up for the Module

DNS Records Management



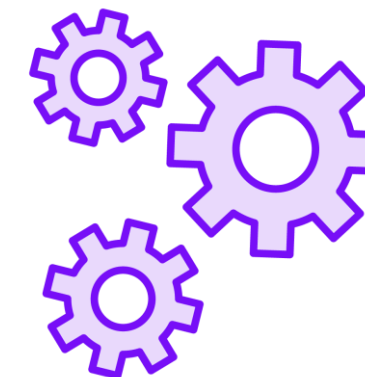
DNS Zones and Forwarders



Client-side DNS Resolution

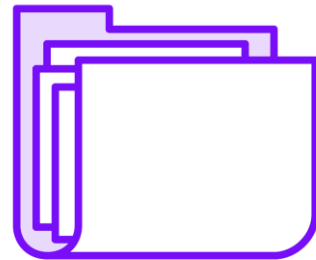


Troubleshooting

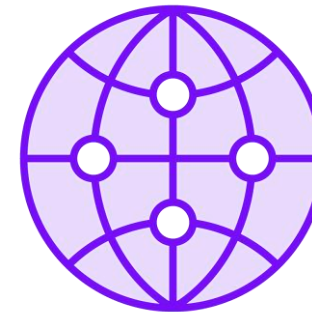


Gearing up for the Module

DNS Records Management



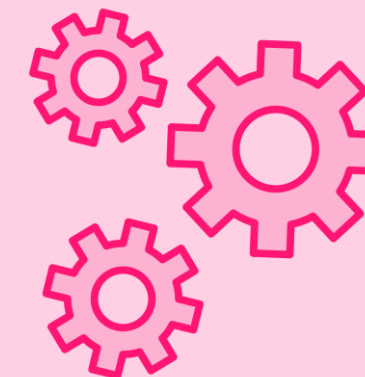
DNS Zones and Forwarders



Client-side DNS Resolution



Troubleshooting



Getting Started with DNS Server and PowerShell



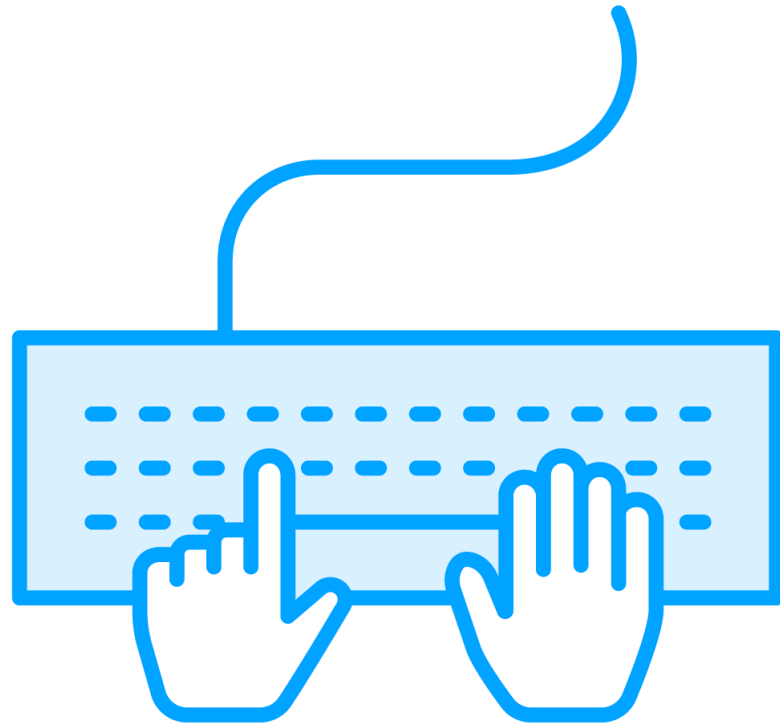
Fetching all DNS records

Filtering specific records

Checking DNS server status



Managing DNS with PowerShell



**Learn Key DNS
Management Commands**



Configure Zones and Records



Add-DnsServerResourceRecord

Get-DnsServerResourceRecord

Remove-DnsServerResourceRecord

- ◀ **The command used to create new DNS records**
- ◀ **This command lets you view existing records**
- ◀ **This is your eraser, to delete a DNS record**



Adding and Querying DNS Records



Create a record

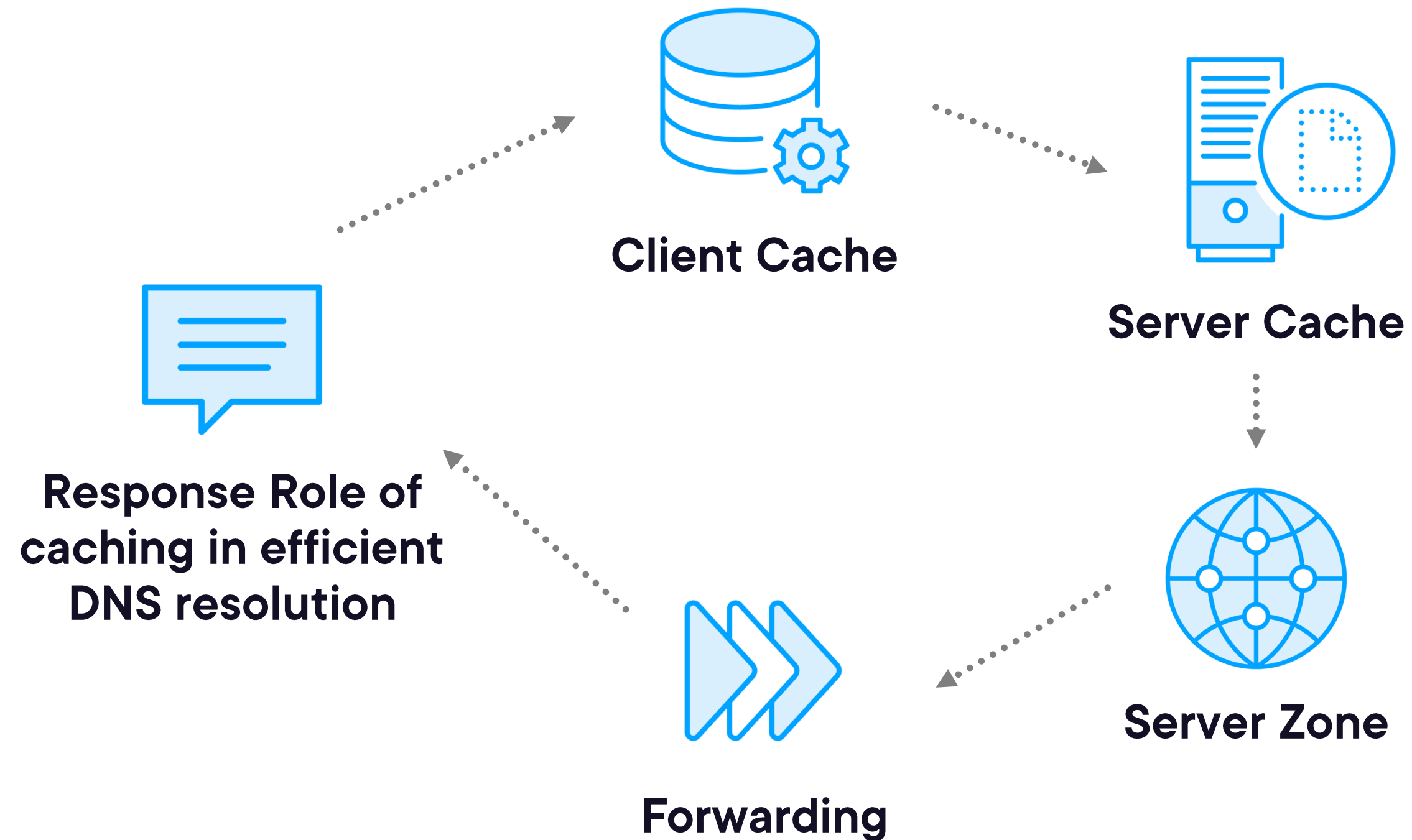
Setup CNAME

Configure MX record

Remove DNS record



The DNS Client-server Resolution Process



DNS Client-side Resolution in Action



Inspect current DNS client cache

Resolve ****`example.psforsysadmins.local`****
bypassing cache

Verify domain entry in cache post-
resolution

Clear the DNS client cache



DNS Server-side Cache Management with PowerShell



Initiate with a clear DNS server cache

**Resolve and cache an external domain
(**`google.com`**)**

**Measure and compare resolution times
without and with server caching**



Diving into DNS Zones with PowerShell

```
New-DnsServerPrimaryZone  
Get-DnsServerZone  
Remove-DnsServerZone
```

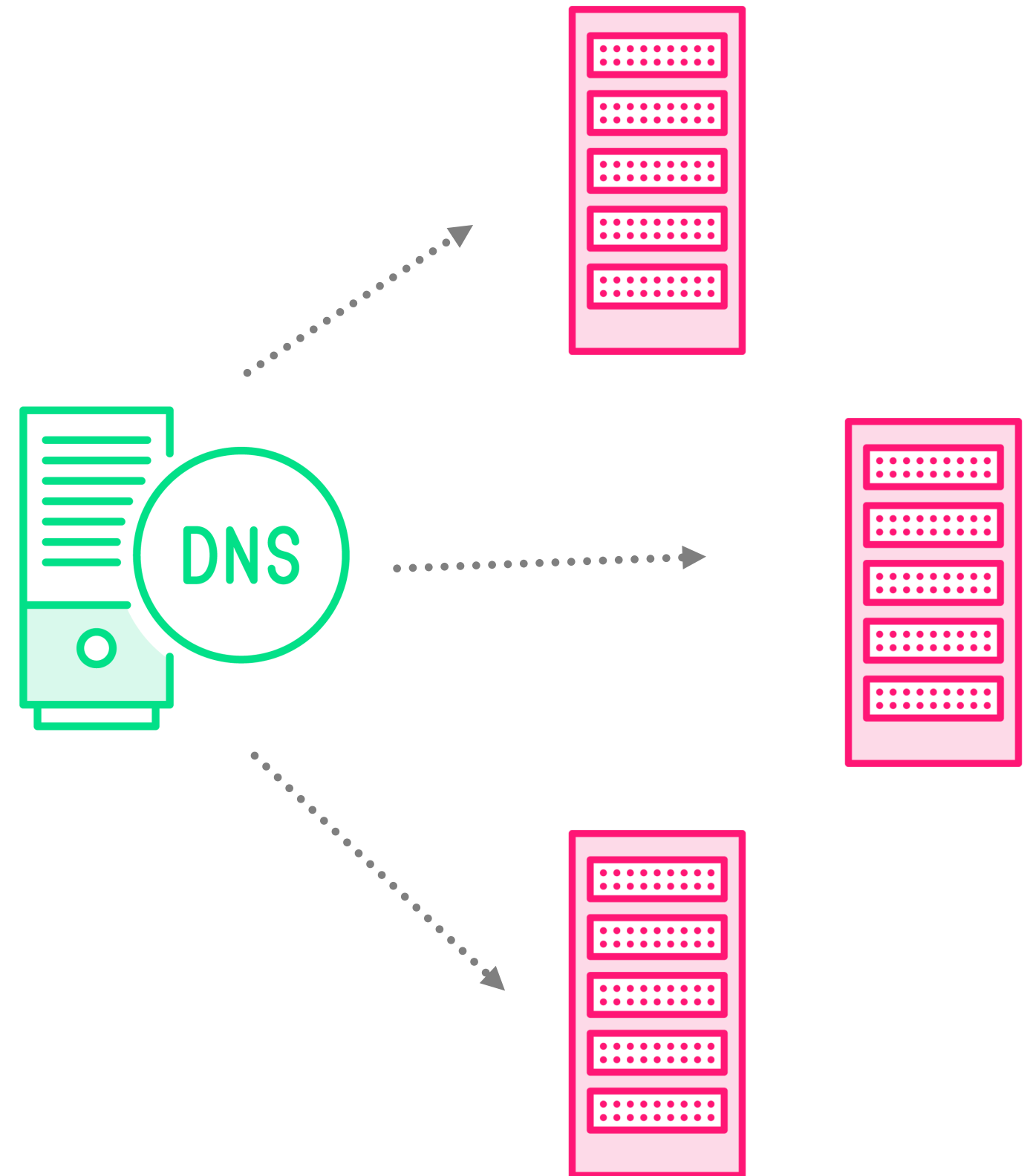


Navigating DNS Forwarders

Add-DNSServerForwarder

Get-DnsServerForwarder

Add-DnsServerConditionalForwarderZone



Hands-on Zone and Forwarder Management

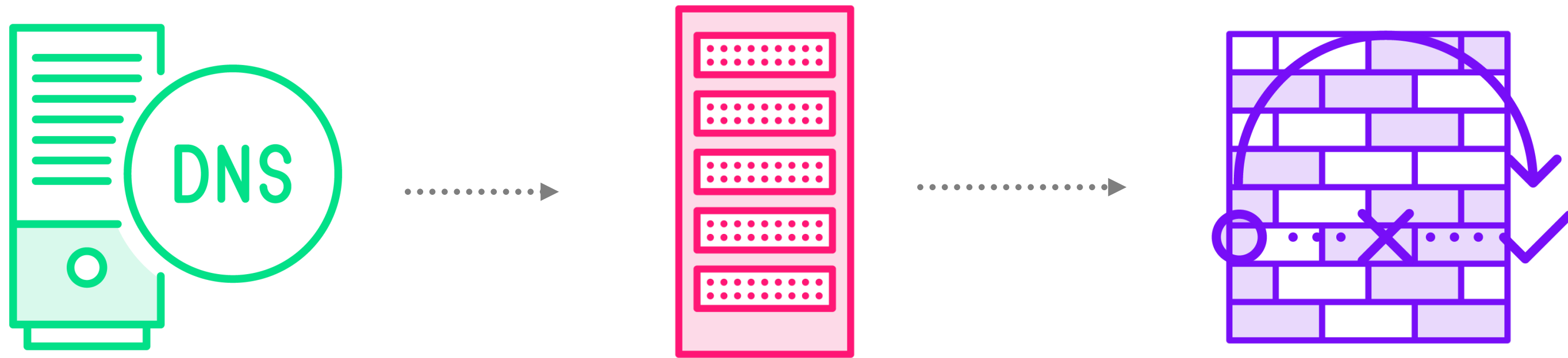


Set up a new DNS Forwarder

Configure Conditional Forwarding



Importance of DNS Troubleshooting



Role of DNS

Impact of Downtimes

**Need for Quick
Resolution**



Diagnosing DNS with PowerShell



**Intermittent website and app timeouts
reported by users**

Investigation finds DNS resolution failures

Internal DNS server causing problems

