Using server debug logging options

The following DNS debug logging options are available:

- **Direction of packets**

  Send Packets sent by the DNS server are logged in the DNS server log file.

  Receive Packets received by the DNS server are logged in the log file.

- **Content of packets**

  Standard queries Specifies that packets containing standard queries (per RFC 1034) are logged in the DNS server log file.

  Updates Specifies that packets containing dynamic updates (per RFC 2136) are logged in the DNS server log file.

  Notifies Specifies that packets containing notifications (per RFC 1996) are logged in the DNS server log file.

- **Transport protocol**

  UDP Specifies that packets sent and received over UDP are logged in the DNS server log file.

  TCP Specifies that packets sent and received over TCP are logged in the DNS server log file.

- **Type of packet**

  Request Specifies that request packets are logged in the DNS server log file (a request packet is characterized by a QR bit set to 0 in the DNS message header).

  Response Specifies that response packets are logged in the DNS server log file (a response packet is characterized by a QR bit set to 1 in the DNS message header).

- **Enable filtering based on IP address** Provides additional filtering of packets logged in the DNS server log file. This option allows logging of packets sent from specific IP addresses to a DNS server, or from a DNS server to specific IP addresses.

- **File name** Lets you specify the name and location of the DNS server log file.

  For example:

  - *dns.log* specifies that the DNS server log file should be saved as *dns.log* in the systemroot\System32\Dns directory.

- *temp\dns.log* specifies that the DNS server log file should be saved as *dns.log* in the systemroot\Temp directory

- **Log file maximum size limit** Lets you set the maximum file size for the DNS server log file. When the specified maximum size of the DNS server log file is reached, the DNS server overwrites the oldest packet information with new information. Note: If left unspecified, the DNS server log file's size can take up a large amount of hard disk space.

By default, all debug logging options are disabled. When selectively enabled, the DNS Server service can perform additional trace-level logging of selected types of events or messages for general troubleshooting and debugging of the server.

Debug logging can be resource intensive, affecting overall server performance and consuming disk space. Therefore, it should only be used temporarily when more detailed information about server performance is needed.

Logging can also be viewed in event viewer under Applications and Services Log. It records common events such as:

- Starting and stopping of the DNS service.
- Background loading and zone signing events.
- Changes to DNS configuration settings.
- Various warnings and error events.