Here is the documentation for the code provided:

# # DNS and DNS ON HTTPS Proxy Management Script

This script provides a system tray application to manage DNS settings and control a proxy’s activation status using the Windows Management Instrumentation (WMI) interface. The script utilizes the `pystray` library for the system tray icon, `PIL` (Python Imaging Library) for the icon image, and a custom `proxy\_program` module for controlling the proxy operation.

## ### Key Components:

- \*\*DNS Class\*\*: Manages DNS server configuration for network adapters on the system.

- \*\*Proxy Management\*\*: Enables or disables a predefined proxy through WMI.

- \*\*System Tray Icon\*\*: Provides a GUI for managing DNS and proxy settings.

## ### DNS Class Overview:

The `DNS` class contains the following DNS providers as constants:

- SHECAN

- F403

- RADAR

- ELECTRO

- CLOUD

- GOOGLE

## The class provides two primary methods:

- `change\_dns(self, provider)`: Changes the DNS servers of all enabled network adapters to the specified provider's servers.

- `get\_dns(self, at\_first=False)`: Retrieves the current DNS server for enabled network adapters if known, otherwise returns 'unknown' or 'None'.

## ### Proxy Management:

Proxy settings are managed using WMI within the `setunset\_proxy` method of the `DNS` class which is a wrapper to control proxy settings.

## ### System Tray Icon `pystray`:

The script creates a system tray icon with several menu items for each function. These are:

- DNS Configuration

- DOH (DNS over HTTPS) Toggle

- VPN (placeholder for future implementation)

- Exit

## ### Threading:

To prevent blocking calls, a thread is started (`doh\_thread`) when the DNS over HTTPS (DOH) option is activated, which in turn starts the `proxy\_program`.

## ### Functions:

- `doh(txt)`: Activates or deactivates the DOH functionality based on the user's selection.

- `vpn()`: Stub for future VPN functionality.

- `on\_quit(icon)`: Cleanup function called when exiting the application.

- `update\_trey(txt, place, txt2=None)`: Updates the system tray icon and menu based on changes in DNS or proxy status.

## ### Global Variables:

- `doh\_thread`: The thread handling the DOH operation.

- `doh\_running`: A flag indicating whether the DOH process is active.

- `icon\_status`: Tracks the activation status of proxy, DNS, and VPN features.

- `icon`: The pystray icon instance.

## ### Execution:

At the start of the script:

- An instance of the `DNS` class is created.

- The system tray icon is configured and starts running.

- The DNS status is checked and the system tray icon is updated accordingly.

## ### Dependencies:

This script requires the following Python modules:

- `threading`

- `pystray`

- `PIL` or `Pillow`

- `wmi`

- `pythoncom`

- `sys`

Make sure these dependencies are installed before running the script.

## ### Usage:

To use the application, simply run the script. Once it's running, you can control your DNS settings and proxy directly from the system tray icon by right-clicking on it and using the context menu.

Remember, this documentation provides a high-level overview; users should have a basic understanding of Python and Windows network configuration to fully utilize the script.