Advanced Scripting   
Lab: Network Module

Last Updated: 4/20/2024 4:07 PM Version 1  
Document Prepared for: CYBER360 Student

# Instructions

Work together with your partner to complete these lab activities. Prepare your script file to define the functions outlined below.

# Overview

For this assignment you will create a module named *<your\_name>-***Network** that contains three functions **Get-MACVendor**, **Get-IPNetwork**, and **Test-IPNetwork** (from the previous lab and from exercise 1.5). You will also add a class named MAC to the module that can be used to store the information about MAC addresses, and modify **Get-MACVendor** to use objects of this class.

# Requirements:

1. Create a module named *<name>***-Network.psm1** where *<name>* is your name without spaces.
2. Add a class named MAC with the following members:
   1. Property named **Address** to hold the MAC Address.
   2. Method called **MACVendorID** that returns the vendor portion of the Mac address (The vendor portion of a MAC address is the first 3 bytes of the address, so if the address is 00:11:22:33:44:55:66 the vendor portion is 00:11:22) that is in the Address property. It should return a string.
   3. Static Method named **MACVendorID** with a parameter named **Address** that accepts a MACaddress and returns a string that contains the vendor portion of the MAC address that was passed in.
   4. Property Named **Vendor** that will contain the vendor’s full name.
   5. A constructor with a parameter named **Address** that takes a MAC address and sets the Address property; fix up the address to use the colon format rather than dashes.
3. Modify the **Get-MACVendor** function as follows:
   1. Return MAC objects with the **Vendor** filled in, rather than just returning a string.
   2. Make the **DatabasePath** parameter optional. If the user does not specify a database, use the **MACData.txt** file included with your module (see below).
4. Include the following author comment block in your .psm1 file:

# <# Program Name : <program> Date: <datecreated> Author: <yourname> Corse: CIT361 I, <yourname>, affirm that I wrote this script as original work completed by me. #>

1. Create a manifest file for your module.
   1. Expose the functions Get-MACVendor, Get-IPNetwork, and Test-IPNetwork
   2. Set the version to 0.1
   3. Set the Author to your name
   4. Set the company to: (make up a fictitious company name).
2. Create the proper folder structure for your module, including version sub-folder.
3. Include the **MACDatabase.txt** file with your module.

Publish your module to the class repository. Use the publish-module cmdlet to publish your module.  
The API Key is: 29ab3bb0c968aaf8e78d62c9457366b555d4ccaf  
You should have registered the repository in exercise 9.1.

# Deliverable

Also upload your completed module script to I-Learn Canvas.

# Hint

While you’re writing and debugging your class and functions, use a **.ps1** extension on your script. When everything is working and you’re ready to turn it into a module and create a manifest, rename the script file to give it a **.psm1** extension.

# Scoring Standard (“rubric”)

|  |  |
| --- | --- |
| Completed comment block | 1 point (or -25 points if it’s missing) |
| MAC class | 5 points |
| Get-IPNetwork and Test-IPNetwork included | 2 |
| Get-MACVendor modified and included | 3 |
| Manifest | 4 |
| Proper module folder structure in zip file | 5 |
| Successfully published module | 5 points |
| TOTAL | 25 points |
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