Rainbow Analyst Professional Managed Deployment Guide

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Software installation options

There are a number of options for installing the Rainbow Analyst Professional ("Rainbow") add-in for Excel and activating a licence (if one has been purchased):

- In small organisations it will be simplest for each user to install their own copy of Rainbow. They will need to download (from https://www.themodelanswer.com/download/) and run the Windows installer file RainbowPro.msi. Then to activate a Rainbow licence from within Excel, they can click under User Guide (on the Rainbow tab) and select About Rainbow and enter the relevant licence details.

- If there is a problem downloading or running the installer file, another option is to download the Rainbow add-in file from https://www.themodelanswer.com/download/#addinfiles. The add-in file (e.g. RainbowPro.xlam) should be copied to the user's add-ins folder (which is normally C:\Users\[username]\AppData\Roaming\Microsoft\AddIns) or another convenient location. It can then be activated through the Excel menu (click Excel Add-ins on the Developer tab, or File > Options > Add-ins).

- In larger organisations the installed software base will generally be managed centrally by the IT function. The following sections of this document aim to provide the relevant technical data needed in order to implement remote deployment and configuration of the Rainbow software.

The RainbowPro.msi installer will also update an existing Rainbow installation to the latest version. Alternatively from version 12.4.3 onwards, users can click under User Guide (on the Rainbow tab) and select Check For Updates. If there are problems updating, Rainbow can be uninstalled and then re-installed, and existing settings will be preserved. The process for uninstalling Rainbow is explained in the Frequently Asked Questions (FAQs) at https://www.themodelanswer.com/support/

Although installation is normally straightforward, there are a number of IT configuration issues that can occasionally cause problems. Like the process for uninstalling Rainbow, these are covered in the Frequently Asked Questions (FAQs) at https://www.themodelanswer.com/support/

Per-user and per-machine installation

The installer file RainbowPro.msi installs the Rainbow add-in file RainbowPro.xlam on a per-user basis in the standard (per-user) folder for Excel add-ins, which (as noted above) is normally C:\Users\[username]\AppData\Roaming\Microsoft\AddIns

It is in fact possible to configure the Rainbow add-in on a per-machine (rather than per-user) basis without installing it as a recognised add-in, simply by placing a copy of the add-in file RainbowPro.xlam in the relevant auto-run XLSTART folder. The exact folder location varies depending on whether a 32-bit or 64-bit version of Microsoft 365 (Office) has been installed:
C:\Program Files (x86)\Microsoft Office\Office16\XLSTART (32-bit)
C:\Program Files\Microsoft Office\root\Office16\XLSTART (64-bit)

Under this per-machine configuration, the Rainbow add-in will start automatically whenever Excel is opened, and so it will appear to behave like a normal add-in, even though it will not appear on the list of Application Add-Ins under Excel Options (click File > Options > Add-ins). Note that the per-machine XLSTART folders listed above should not be confused with the per-user XLSTART folder at
C:\Users\[username]\AppData\Roaming\Microsoft\Excel\XLSTART\

However, this per-machine configuration is now strongly deprecated, because it effectively bypasses Excel's own systems for managing classic add-ins. This means that if Rainbow has been configured on a per-machine basis as described, and a user then downloads and installs Rainbow as a classic add-in on the normal per-user basis, there will be two copies of the add-in attempting to run simultaneously whenever Excel is opened. There have been several cases of this problem, which results in Rainbow crashing unpredictably with random error messages. These errors can appear to be due to problems in the add-in itself, but in fact they are caused entirely by the dual configuration described above.

Where Rainbow has been configured on a per-machine basis, clearly one solution is to locate the relevant per-machine XLSTART folder (as listed above) and delete the add-in file RainbowPro.xlam. Another solution is to download (from https://www.themodelanswer.com/download/) and run the special-purpose installer file named RainbowClean64.msi. As well as installing Rainbow on a normal per-user basis, the RainbowClean64.msi installer will delete any copies of the RainbowPro.xlam add-in file from the 32-bit and/or the 64-bit per-machine XLSTART folder.

It may be helpful to be aware that the normal per-user installation process has two stages:

- First, the MSI installer RainbowPro.msi creates some necessary Windows registry entries and copies the Rainbow add-in file RainbowPro.xlam to the standard (per-user) add-ins folder. It also copies a very small add-in file named AddRainbowPro.xlam to the per-user XLSTART folder.

- Second, when the user next opens Excel the AddRainbowPro.xlam file starts automatically, and this adds Rainbow to Excel's list of add-ins, which the MSI installer is

unable to do. Excel then opens the Rainbow add-in, which automatically deletes the AddRainbowPro.xlam file.

Managed deployment

Many larger organisations are using Endpoint Manager (formerly SCCM and/or InTune) from Microsoft to automate software deployment. To enable Rainbow to work better with these Microsoft tools, Rainbow versions from 12.4.0 (14 August 2021) onwards use a Windows (MSI) installer instead of the previous proprietary EXE installer.

The details of how to deploy Rainbow with Endpoint Manager will vary between organisations, but the following information will be relevant:

- The RainbowPro.msi installer can be run in silent mode with the parameter INSTALL=QUIET (not case-sensitive), e.g. msiexec /i RainbowPro.msi install=quiet.

- Generally it should be possible to install Rainbow under Endpoint Manager as a basic line-of-business (LOB) app rather than a Win32 app.

- The Rainbow licence can be activated with a registry key script as described below (under Licence activation). The RainbowPro.msi installer also supports the parameters UNAME, UEMAIL and UCODE to set up the UserName, UserEmail and UserCode registry key data.

  PLEASE NOTE that by using this procedure you are confirming that you and your organisation have read and accepted the Rainbow License Agreement as set out at the end of the Rainbow User Guide (as accessed from the Rainbow tab in Excel, with the registry key IncludeAgrmnt either absent or set to 1 as explained below) or other terms and conditions agreed between your organisation and M G Shallcross trading as The Model Answer.

  - o If UserName contains whitespace, the UNAME value will need double quotes, and in PowerShell the no-parse marker --% will also be needed. Alternatively ++ can be substituted for the space character.
  - o For example, msiexec /i RainbowPro.msi install=quiet uname="XYZ Company" uemail=itsupport@xyzcompany.com ucode=4350-0710-8701-6949
  - o Alternatively, msiexec /i RainbowPro.msi install=quiet uname=XYZ++Company uemail=itsupport@xyzcompany.com ucode=4350-0710-8701-6949

- By default the Rainbow installer sets up the registry key values AllowVBScript, DataSampling, DirectSupport, and IncludeAgrmnt (as described below under Functionality management) with data values of 1, as appropriate for an individual Rainbow user.

  - o Alternatively, the installer will accept the parameter USAGE=CORPORATE to set all three values to 0, e.g. msiexec /i RainbowPro.msi install=quiet usage=corporate

- For a more complex setup with a mix of 1 and 0 values, it will be necessary to use a registry key script as described below.

- If it proves necessary to make direct changes to the registry keys for licence activation and functionality management (as described below), instead of supplying parameters to the Rainbow installer (as described above), this can be done with a registry key script file.

  - Either export the relevant keys as a REG file from the Registry Editor, or create the REG script file with a text editor using the templates set out below.
  - Run the file with Administrator privileges using regedit /s file.reg (for local testing, open a Command Prompt window as Administrator and run this command).

- Because the Rainbow add-in file is comparatively small (around 2 MB), there is no separate process for patching the software. Updates can be installed simply by deploying an updated version of the add-in file RainbowPro.xlam to the user's add-ins folder (normally C:\Users\[username]\AppData\Roaming\Microsoft\AddIns). The add-in file is available for download from https://www.themodelanswer.com/download/#addinfiles . There is no need to change or re-initialise any of the registry keys that have already been set.

Licence activation

The Rainbow licence can be activated remotely (without user involvement) by setting the relevant keys in the HKCU registry hive. These can be set either by supplying parameters to the Rainbow installer file (as described above), or by directly setting the required values.

PLEASE NOTE that by using this procedure you are confirming that you and your organisation have read and accepted the Rainbow License Agreement as set out at the end of the Rainbow User Guide (as accessed from the Rainbow tab in Excel, with the registry key IncludeAgrmnt either absent or set to 1 as explained below) or other terms and conditions agreed between your organisation and M G Shallcross trading as The Model Answer.

- Create registry key HKCU\Software\VB and VBA Program Settings\RainbowAnalyst\UserDetails and within it create the following REG_SZ values corresponding to the licence details:

  - UserName - e.g. XYZ Company
  - UserEmail - e.g. itsupport@xyzcompany.com
  - UserCode - e.g. 4350-0710-8701-6949

- The REG file required to set the above registry values will be something like this:
  Windows Registry Editor Version 5.00
  [HKEY_CURRENT_USER\Software\VB and VBA Program Settings]
  [HKEY_CURRENT_USER\Software\VB and VBA Program Settings\RainbowAnalyst]
  [HKEY_CURRENT_USER\Software\VB and VBA Program

Settings\RainbowAnalyst\UserDetails]
"UserName"="XYZ Company"
"UserEmail"="itsupport@xyzcompany.com"
"UserCode"="4350-0710-8701-6949"

- The above registry values will activate the licence, and after the user next runs Excel (which will automatically load Rainbow Analyst), the Rainbow software will create further REG_SZ values showing the licence expiry date and the Rainbow version number:

    - ExpiryDate - e.g. 12/31/2024 0:0:0
    - ExpiryPeriod - normally blank until close to the licence expiry date
    - Version - e.g. 24.04.0

Functionality management

There are a few minor elements of Rainbow's functionality which may need to be restricted in a corporate environment. These are detailed below, and there are two simple methods to apply all of these restrictions at once:

- If Rainbow is installed by directly running the installer file RainbowPro.msi, then selecting "Corporate" during installation will create the four registry values detailed below with data 0 (rather than 1 as for the default "Personal" installation).

- If a silent install is required, the same "Corporate" installation (with all options disabled) can be achieved with the USAGE parameter, i.e. msiexec /i RainbowPro.msi install=quiet usage=corporate

However, if it is required to enable some options and disable others, this can be achieved by directly setting the relevant values in the HKCU registry hive:

- First create registry key HKCU\Software\RainbowAnalyst and then within it create the following REG_DWORD values with data 1 (to enable) or 0 (to disable):

    - AllowVBScript – If set to 0 this disables the two Rainbow functions that attempt to create and run a VBScript file, viz. "Check For Updates" and "Uninstall"; instead Rainbow will display a message stating that the function has been disabled.
    - DataSampling – If set to 0 this disables the "Sample Data" function, and instead Rainbow will display a message advising users to contact their local digital audit team for details of audit sampling tools.
    - DirectSupport – If set to 0 this removes all references (in message boxes etc. within Rainbow) to "support@themodelanswer.com" (the email address for direct support from the The Model Answer) and replaces them with references to "your local IT support team".
    - IncludeAgrmnt – If set to 0 this removes the final "Licence Agreement" section of the User Guide, so that the "User Guide" function only shows the preceding sections of the Guide.

- The relevant REG file to set the values to 0 will be something like this:
  Windows Registry Editor Version 5.00
  [HKEY_CURRENT_USER\Software\RainbowAnalyst]
  "AllowVBScript"=dword:00000000
  "DataSampling"=dword:00000000
  "DirectSupport"=dword:00000000
  "IncludeAgrmnt"=dword:00000000

Access to the VBA Project Object Model (VBOM)

In order for Rainbow to function fully, it needs to be able to access the Visual Basic Object Model (VBOM), or in other words, Rainbow's VBA code needs to be able to access information about the VBA Project in any workbook that is being analysed. And so when Rainbow first runs, if it finds that access to the VBOM is not enabled, it will prompt the user to turn this on by selecting File > Options > Trust Center > Trust Center Settings > Macro Settings and checking the box marked Trust access to the VBA project object model.

It is also possible to enable access to the VBOM directly through the Windows registry. The value for this option is normally stored in registry key HKCU\Software\Microsoft\Office\16.0\Excel\Security, in a REG_DWORD value AccessVBOM, which is set to 0 or 1 to prevent or allow access. In addition, it is possible for IT administrators to set a corresponding value in the HKLM hive of the registry, i.e. HKLM\SOFTWARE\Microsoft\Office\16.0\Excel\Security\AccessVBOM. This HKLM value (if it exists) overrides the HKCU value, and the relevant option in the Excel user interface is then greyed out (cannot be modified).

Occasionally IT administrators may take the view that enabling access to the VBOM is a security threat, but this is very much a minority view. It is important to recognise that disabling VBOM access only prevents programmatic (e.g. VBA) access to the VBOM, and does not prevent any individual from opening the VB editor and manually writing harmful VBA code. And if VBOM access is disabled, some features of Rainbow will not be available:

- It will not be possible to use the Menu Guide, the Data Explorer, the Macro Explorer, the Names Toolbox report and the Tidy Up Reports function.

- It will not be possible to check macros in Risk Map or compare macros in Comparison Toolbox, and the Summary Report will show "N/K" (not known) against Visual Basic modules and VB code (lines).

- In addition there will be no interactive Help button on the reports in other functions.

If for some reason it is decided to disable access to the VBOM, then (as noted above) Rainbow will display a message prompting users to enable VBOM access. It is possible to suppress this message by creating registry key HKCU\Software\VB and VBA Program Settings\RainbowAnalyst\GenlPrefers and then within this key setting up a REG_SZ value EnableVBOM with data of 0. This can still be changed (restoring the prompt message) by setting the "Enable access to Visual Basic" option in Rainbow's Preferences, but this will not

allow the VBOM access to be modified if an overriding value has been set in the HKLM hive as described above.