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Introducing User Profile Wizard

Why User Profile Wizard?

A User Profile is where Windows stores your stuff. It is where your Desktop, Documents, Pictures and Music files are all saved. Your User Profile is also where Windows keeps all the information that makes your computer personal to you, like your desktop wallpaper, Internet favorites and the lists of documents you’ve recently opened.

As the Windows operating system has developed, User Profiles have become ever more important and are now an integral part of the way that Windows organizes data. In some circumstances however, this tying of data to a single user account can be a problem.

As businesses grow, IT requirements change. You might need to reconcile multiple Windows domains into a single Active Directory; you may be connecting your standalone computers to a domain for the first time; or you may be moving to cloud based services like Azure AD and Office 365. When you sign in with a new account, Windows will create a new profile for you and you lose all your data and settings.

This is the problem User Profile Wizard solves. ForensiT User Profile Wizard is a workstation migration tool that will migrate your original user profile to your new logon so that you can carry on using all your existing data, and keep the same settings that you’ve always had.

User Profile Wizard does not move, copy or delete any data. Instead it configures the existing profile “in place” so that it can be used by the user’s new account. This makes the process both very fast and very safe.

This user guide is designed to introduce you to what User Profile Wizard can do. For example, by using the User Profile Wizard Deployment Kit you can build a scalable, enterprise solution to migrate tens of thousands of workstations, each with multiple user profiles.

User Profile Wizard has been developed to save you time, effort and money. We hope you like it.
Installation

Installing User Profile Wizard

You should run the User Profile Wizard setup program on a single “Administrator” machine. The setup program will install the User Profile Wizard application files and documentation, together with the User Profile Wizard Deployment Kit. You can then copy and distribute the User Profile Wizard application files.

The only files you need to run User Profile Wizard are Profwiz.exe and Profwiz.config. You do NOT need to run the setup program on all the machines you want to migrate.

Installing

To install User Profile Wizard run the setup program.

The setup program installs both User Profile Wizard and the User Profile Wizard Deployment Kit.

The User Profile Wizard User Guide, installed with User Profile Wizard, is a PDF file. If you need PDF reader software, you can download it free of charge from the Adobe website at https://get.adobe.com/reader/
**Licensing**

When you purchase User Profile Wizard you will be sent a link by email to download a `Profwiz.config` file. This file contains your licensing information.

To license User Profile Wizard, you simply need to copy the license file into the same folder as the User Profile Wizard executable file, `Profwiz.exe`.

To copy the license file, click the “Start” button and find “ForensiT User Profile Wizard”. Click “Deployment Files” to open the Deployment Files folder. Copy your license config file into the folder.

**Deployment Files**

To run the User Profile Wizard on another machine you just need to copy the `Profwiz.exe` and `Profwiz.config` files. **No other files are required.**

The `Profwiz.exe` and `Profwiz.config` files can be copied to any convenient location such as a USB memory flash drive (memory stick or pen drive) or a network share.
What have I got?

The User Profile Wizard setup program installs five shortcuts on the start menu.

- The User Profile Wizard User Guide. This document!
- The Deployment Files folder. This folder contains the files needed to migrate a workstation to a new domain.
- The User Profile Wizard Command Line Console
- The User Profile Wizard Deployment Kit

We will reference these icons throughout this user guide.
Overview

User Profile Wizard is designed to make migrating workstations to a new domain as easy as possible. Here’s a high-level overview of the process for migrating from one domain to another:

1. Save your domain migration settings to Profwiz.config. To save your domain migration settings run the Deployment Kit. See the Getting Started chapter in this guide.

2. Generate a migration script. If you want to automate workstation migrations, generate a script, again using the Deployment Kit. See Automating Enterprise Migrations.

3. Test the migration process.

4. Deploy the migration files. Copy the migration files from the Project folder to a network share. Create a Computer Startup Group Policy Object to call the migration script, or deploy using a Desktop management tool like SCCM.

4. Test the deployed solution.


If you just want to migrate workstations interactively see Migrating User Profiles with User Profile Wizard

If you are looking to “push” migrations from a single administrator machine see Push migrations and the Command Line Console

User Profile Wizard can also be used to migrate devices to Azure AD, or to migrate devices from a domain back to a workgroup.
Getting Started

Using the Deployment Kit to save your domain migration settings

The settings User Profile Wizard needs to migrate workstations and profiles are saved in the Profwiz.config file.

Profwiz.config is a standard xml file. You can edit it in notepad or any xml editor of your choice. However, the easiest way to gather the settings that User Profile Wizard needs is to run the User Profile Wizard Deployment Kit.

The User Profile Wizard Deployment Kit is available from the Start menu: Start F->ForensiT User Profile Wizard->User Profile Wizard Deployment Kit.

You don’t have to use the Deployment Kit to be able to use User Profile Wizard, but if you don’t save your settings to the Profwiz.config file you will have to enter them every time you want to migrate a machine.

In this section we will run through the basic settings needed to get User Profile Wizard up and running. We will return to the more advanced settings in “Creating Enterprise Migration Scripts” later in this user guide.
Step 1 - Welcome

When you start the User Profile Wizard Deployment Kit the first thing you see is the Welcome page. Click Next to continue.

Step 2 – Config File

The first thing the Deployment Kit asks you is whether you want to create a new migration project or edit an existing one. To get started choose “Create migration project”

You can name your project anything you want. Keep in mind, however, that the name of the project will be the default name for your migration script. A good choice is the name of the new domain.
Step 3 – Domain Information

This is where we enter the name of the new domain. In this example, the new domain name is ‘HOMESTEAD’:

The options here are “Join Domain”, “Force Join”, “Join Workgroup”, and “Azure AD”

**Join Domain** tells User Profile Wizard to join a workstation to a new on-premises domain.

**Force Join** tells User Profile Wizard to join the workstation to the new domain *even if it is already joined* to the domain. This option is useful if you are replacing one domain with a domain of the same name.

**Join Workgroup** tells User Profile Wizard to unjoin a workstation from an existing domain and add the workstation to a workgroup. See the [Migrating from domain to local accounts](#) chapter later in this guide.

**Azure AD** tells User Profile Wizard to migrate profiles to new Azure AD accounts.

The Azure ID File Path is the path to the .xml file that User Profile Wizard uses to look up the Object IDs of new Azure AD user accounts. See [Migrating to Azure AD](#) later in this Guide.

Click **Next** to continue.
Step 4 – Domain Administrator

User Profile Wizard needs to know what user name and password you want to use to join your workstations to the new domain. Enter these here. The password will be encrypted when it is stored in Profwiz.config file.

Click **Next** to continue.
Step 5 – Workstation Information

Step 5 lets you specify two additional options for joining your workstations to the new domain.

**Enter AdsPath** lets you specify where in your Active Directory tree you want the workstation object to be created. To browse the Active Directory tree click **Browse...** You can then select the container of your choice. (See below.)

**Use lookup file to get new computer names** lets you rename the workstation when it is joined to the domain. We will cover this in “Automating Enterprise Migrations” later in this guide.

Click **Next** to continue.
Select Computer Container

Select the container where the computer account will be created.

- HOMESTEAD
  - Computers
  - Domain Controllers
  - Workstations

[OK] [Cancel]
Step 6 – Existing Domain

In Step 6 you tell User Profile Wizard whether you are migrating from an existing on-premises domain. If you are, enter the existing domain name.

Click Next to continue.
Step 7 – Update sIDHistory

At Step 7 you can choose whether to maintain the SID history of the source domain account.

We will return to sIDHistory in “Automating Enterprise Migrations” later in this guide.
Step 8 – User Account Options

Step 8 allows you to set various options related to a user’s existing user account.

Use lookup file to get new account names allows you to map a user’s existing account name to their new domain account name if the account names are different. We will cover this in “Automating Enterprise Migrations” later in this guide.

Rename Profile Folder enables you to rename the existing profile folder (usually C:\Users\Username) to match the user’s new domain username. We will discuss this in more detail in the “Automating Enterprise Migrations” chapter later in this guide.

Enable ZeroConfigExchange enables Microsoft’s ZeroConfigExchange for automatically configuring Outlook.

Click **Next** to continue.
Step 9 – VPN Settings

Step 9 enables you to save settings related to migrating over a VPN. We will return to these in “Automating Enterprise Migrations” later in this guide.

![VPN Settings](image-url)
Step 10 – Run Options

User Profile Wizard needs to be run with Administrator credentials on the workstation that is being migrated. If you are migrating a workstation remotely, User Profile Wizard will need to connect to the machine using Administrator credentials for the remote machine.

Enter the Administrator credentials here.

Click **Next** to continue.
Step 11 – Script Options

Step 11 is where you specify your scripting options to automate the migration process. We will return to here in the “Automating Enterprise Migrations” chapter in this guide. For now we will just uncheck the “Use Script” box.

Enter the log file path

User Profile Wizard will save a migration log file to the location you specify. The default is C:\Users\Public\Documents\Migrate.log. Take note of the log file path! If you ever need to contact ForensiT Support, we will always ask you for the log file.

Click Next to continue.
Step 12 – Follow on Script

User Profile Wizard has the ability to run any Windows Script or executable in the security context of the local administrator account you specify in step 10.

Step 12 lets you specify the additional “Follow on” code you want to run. Again, we will return to this in “Automating Enterprise Migrations” later in this guide.

Click **Next** to continue.
Congratulations

That’s it! When you click Next at Step 10, the Deployment Kit tells you it is ready to write the configuration file.

Click *Yes*.
**What did we just do?**

By running the Deployment Kit, we have committed the information and settings needed to migrate workstations and profiles to the Profwiz.config file. If you open up the Profwiz.config file it looks like this:

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ForensiTUserProfileWizard xmlns="http://www.ForensiT.com/schemas">
  <Parameters>
    <!-- ForensiT User Profile Wizard run options -->
    <!-- Note: options set here are overridden by parameters passed on the command line -->
    <Domain>HOMESTEAD</Domain>
    <AdsPath>OU=Workstations,DC=homestead,DC=local</AdsPath>
    <Azure></Azure>
    <AzureObjectIDFile></AzureObjectIDFile>
    <ForceJoin>False</ForceJoin>
    <NoJoin>False</NoJoin>
    <NoDefault>False</NoDefault>
    <Delete></Delete>
    <Disable></Disable>
    <UnJoin>False</UnJoin>
    <Workgroup></Workgroup>
    <ForceRoamingOption></ForceRoamingOption>
    <!-- Credentials -->
    <DomainAdmin>HOMESTEAD\Migrator</DomainAdmin>
    <DomainPwd>21D2712AE2CE31F63DD00814991A57B84DEB6D8F5C0963EB</DomainPwd>
    <LocalAdmin>FARM\Migrator</LocalAdmin>
    <LocalPwd>0511ABBEE37F69E6B310E8E1DA10041365F4A814436EC897</LocalPwd>
    <SetsIDHistory>False</SetsIDHistory>
    <OldDomainAdmin></OldDomainAdmin>
    <OldDomainPwd></OldDomainPwd>
    <Key>B\t79F/ak</Key>
    <!-- Corporate Edition Settings -->
    <Silent>False</Silent>
    <NoMigrate>False</NoMigrate>
    <NoReboot>False</NoReboot>
    <RemoveAdmins>False</RemoveAdmins>
    <MachineLookupFile></MachineLookupFile>
    <Log>C:\Users\Public\Documents\Migrate.Log</Log>
    <!-- Script Settings -->
    <RunAs></RunAs>
    <Hash></Hash>
    <RunScriptPerUser>False</RunScriptPerUser>
    <RunAsSystem></RunAsSystem>
    <!-- Settings for migrating all profiles -->
    <All>True</All>
    <OldDomain>FARM</OldDomain>
  </Parameters>
</ForensiTUserProfileWizard>
```
<UserLookupFile></UserLookupFile>
<Exclude>ASPNET,Administrator,defaultuser0</Exclude>

<!-- Advanced Settings -->
<Persist>False</Persist>
<NoGUI>False</NoGUI>
<SkipOnExistingProfile>False</SkipOnExistingProfile>
<SkipOnDisabledAccount>False</SkipOnDisabledAccount>
<SkipOnNoUserLookup>False</SkipOnNoUserLookup>
<FailOnMachineNameNotFound>False</FailOnMachineNameNotFound>
<UseExistingComputerAccount>False</UseExistingComputerAccount>
<ServicePath></ServicePath>
<RenameProfileFolder>True</RenameProfileFolder>
<ProtocolPriority></ProtocolPriority>
<DC></DC>
_CopyProfile>False</CopyProfile>
<DeepScan>1</DeepScan>

<!-- Outlook Settings -->
<ZeroConfigExchange>False</ZeroConfigExchange>

<!-- VPN Settings -->
<VPN>False</VPN>
<DefaultUserPwd></DefaultUserPwd>
</Parameters>

We will go through each of the config file elements later, but hopefully you can recognize the information we’ve entered: the <Domain> element holds the name of the new domain entered at Step 3; the <AdsPath> element specifies the Active Directory container where the workstation object will be created, this was selected in Step 5; the <DomainAdmin> and <DomainPwd> elements hold the new domain credentials – with the password now encrypted – that were entered at Step 4, and so on.

Now that we have saved the settings, it is time to run User Profile Wizard.
Migrating User Profiles
with User Profile Wizard

This chapter will show you how to use the Wizard to interactively migrate an existing user profile so that it can be used by a user’s new domain account.

In this chapter we will run User Profile Wizard interactively in GUI mode using the settings in the Profwiz.config file we created in the previous chapter. Skipped the previous chapter and came straight here? No problem – you will just have to enter the settings as you go.

Migrating a workstation using the User Profile Wizard GUI is *deliberately easy*. You can do it in a few clicks.
Welcome
When you start User Profile Wizard the first thing you see is the Welcome page.
Click **Next** to continue.

Select Computer
The first option you have is to choose the workstation you want to migrate. This can be the Local Computer – the computer User Profile Wizard is running on, or another computer on the network.

You can enter the name of a computer directly in the edit box, or you can click **Browse…** to find a machine on the network.
Click **Next** to continue.

User Profile Wizard will now attempt to connect to the workstation.

If you have saved Administrator credentials for the workstation in the Profwiz.config file, User Profile Wizard will use the credentials to connect to the workstation. If you haven’t done this, or if the credentials in the Profwiz.config file are invalid, you will be prompted:
Enter Username and Password

Enter the DOMAIN\username and password of an account with permission to access VM-HSF09L32MD0L.

Name: 
Password: 

OK  Cancel
Select a User Profile

The next step is to select the existing profiles that the new user accounts will use.

User Profile Wizard lists the profiles assigned to each user account. You just need to select the account names of the users whose profiles you want to migrate. If you have the Corporate or Professional Edition you can select multiple accounts.

**Disable Local Accounts**

If a profile you have selected is currently assigned to a local account, you can tell the wizard to disable the account after the migration is completed by checking the “Disable Account” checkbox.

**Delete Local Accounts**

If a profile you have selected is currently assigned to a local account, you can tell the wizard to delete the account after the migration is completed by checking the “Delete Account” checkbox.
Unassigned Profiles

User Profile Wizard lists the currently assigned profile: that is, the profile that each user is currently using. Note that this is not necessarily the user’s original profile.

For example, say that Jane leaves your organization and Alice takes over her position. It is decided that it makes sense to run User Profile Wizard to assign Jane’s profile to Alice. Alice, however, has already logged onto Jane’s machine and already has a profile.

What happens to Alice's profile? The answer is nothing. The profile stays on the machine, but it is not used by anyone, it is "unassigned." To list these unassigned profiles, tick the "Show Unassigned Profiles" box. The first time you do this, you will get a warning. This is because profiles sometimes become corrupted so that Windows cannot read them. When this happens Windows creates a new profile for a user. If you look in the profiles directory, usually “C:\Users”, you will sometimes see profile folders with names like USER.DOMAIN. These are profiles Windows has created because it cannot read the user's original profile. It is obviously not a good idea to use a corrupted profile, and the User Profile Wizard warns you of the possibility.

The User Profile Wizard lists unassigned profiles with the unknown user icon. It will also list the profiles for user accounts that have been deleted from the machine. In this case, the actual user name is not available and you will only see the user account SID (Security Identifier.)

The User Profile Wizard will always try to resolve the domain and account associated with a particular profile. However, this is not always possible - for example, if a domain is no longer available on the network. In these circumstances you should be able to work out the profile you want to migrate by looking at the profile path.

Create Copy

By default, User Profile Wizard does not move, copy or delete any data. Instead it configures the existing profile “in place” so that it can be used by the user’s new account. This makes the migration process both very fast and very safe. By contrast, “Create Copy” will create a copy of the original profile and assign the copy to the user’s new account.

You should think carefully before choosing to copy a profile. Copying a profile will significantly slow the migration process, and will obviously take up disk space.

Copying a profile is not an option in the Personal Edition.

When you're ready, click Next to continue
Select a User Profile (Personal Edition)

The Personal Edition only allows you to select one profile to migrate at a time.
User Account Information

This is the page where you enter information about the new user who will be given access to an existing profile.

Enter the domain

Enter the domain of the user account that will be given access to the existing profile.

If there is a `<Domain>` setting in the Profwiz.config file, the domain name will appear in the "Enter the domain" combo box. If your machine is already joined to a domain, that domain name will also appear in the combo box.

If the "Enter the domain" box is blank, and you are joining your machine to a new domain, type the new domain name.

You can also choose the local machine name by clicking on the down arrow. This will allow you to migrate a profile to a local user account if you want to.
Join Domain

If your machine is not already joined to a domain, or if you enter a new domain name, the "Join Domain" check box is checked by default. Remove the tick if you do not want the machine to be joined to the domain you have specified.

If the machine is already joined to the domain, the "Join Domain" check box is filled in. To force user Profile Wizard to join the machine to the domain again, click the check box to enter a tick.

Join Workgroup

If you want to unjoin your machine from a domain and add the machine to a workgroup instead, tick the “Join Workgroup” check box. The “Join Workgroup” check box will only be enabled if you have selected the local computer name in the "Enter the domain" box, and the machine is already joined to a domain. See the Migrating from domain to local accounts chapter later in this guide for more information.

Enter the account name

The "Enter the account name" text box will be different depending on whether you are migrating more than one user account profile and whether you have specified a user lookup file (see Rename user accounts below).

If you have only selected one profile to migrate, and have not specified a user lookup file, the "Enter the account name" text box will be blank and you will need to enter the user’s new account name. This can be a plain Windows account name like "JSmith" or an account name in UPN (User Principle Name) format, for example, jsmith@auron.net.

If you have selected more than one profile to migrate, and have not specified a user lookup file, the "Enter the account name" text box will be greyed out and read “Using matching account names”:

Enter the account name:
Using matching account names

☑ Set as default logon

This means that User Profile Wizard will look for an account in the new domain that matches the name of the old user account. So if the user’s account name is currently
“Jane”, User Profile Wizard will look for an account called “Jane” in the new domain. If the account cannot be found in the new domain, the profile will not be migrated.

If you have selected more than one profile to migrate, and have specified a user lookup file, the "Enter the account name" text box will be greyed out and read “Using lookup file”:

![Enter the account name: Using lookup file Set as default logon]

This means that User Profile Wizard will search the user lookup file for the user’s existing account name to try and find a new account name for the user. If it finds a match, the new account name will be used. If the user's account name is not found, User Profile Wizard will look for an account in the new domain that matches the user’s existing account name.

Finally, if you have selected a single profile to migrate and have specified a user lookup file, if User Profile Wizard finds a match for the user's existing account name, the new user account name will appear in the "Enter the account name" text box.

**Default Logon**

By default, the Wizard will set the account you specify to be the default logon on the machine. Remove the tick in the "Set as default logon" text box if you do not want the default logon to change.

Click **Next** to continue.
Migrating Profile

As soon as you click Next, the configuration process begins. User Profile Wizard will update the progress window at each stage.

If you are joining your machine to the domain – and you haven’t saved domain credentials to the Profwiz.config file - you will be prompted for a username and password with the necessary permissions.

Save Log...

When the migration is complete, the “Save Log…” button will become active, allowing you to save the output in the progress window. This is useful if there has been an error which you need to investigate. Should you ever need to contact ForensiT Support, we will almost always ask you for a migration log.

When configuration is complete click Next.
Congratulations!

You're done. If there were any problems, you can click **Back** and check the progress window for errors. Click **Finish** to close the Wizard.

If the Wizard has joined a machine to the domain you specified, you will be prompted to reboot.

If someone is logged onto the remote computer and you click “Yes” they will not be able to stop their machine rebooting.
Automating Enterprise
Migrations

In this chapter we discuss automating enterprise migrations using scripting, and more advanced options for migrating workstations and profiles.

Introduction

In the previous chapter we saw how easy it was to migrate a workstation using User Profile Wizard in GUI mode. However, if you need to migrate a large number of machines—hundreds, thousands, or tens of thousands—it is not practical to run the Wizard manually to migrate every workstation.

User Profile Wizard has been designed from the ground up to automate workstation migrations. In this chapter we see how easily this can be done. We will also return to the some of the more advanced settings we didn’t cover in the “Getting Started” chapter:

- Migrate all workstation profiles
- Map user accounts to new domain account names
- Rename workstations
- Migrate over a VPN
- Securely run additional code

To migrate the workstations, we will use a migration script, generated by the Deployment Kit, that will be called when the user logs on with their existing user account. The scenario here is that after the user logs on to the existing domain, the migration script will call User Profile Wizard which will migrate all the user profiles on the machine and join it to the new domain. The machine will then reboot, and the user will logon to the new domain with their new domain account.
Return of the Deployment Kit

The first thing we will do is modify the Profwiz.config file that we created in the “Getting Started” chapter earlier. To do this we will run the User Profile Wizard Deployment Kit again. We could just edit Profwiz.config manually, but this is easier. Additionally, this time we will create a migration script.

By default, the Deployment Kit picks up the last Profwiz.config file you configured, so we just need to choose “Edit an existing migration project” and click next.

The Deployment Kit reads the settings we have already configured so we just need to click next at Step 3 and Step 4.
Rename workstations

User Profile Wizard can rename workstations when they are joined to a domain. To do this the Wizard needs to be able to map the old computer name to the new computer name. It does this by looking up the old computer name in a “look-up” file.

A look-up file is just a plain comma-separated text file. Computer names are listed in a look-up file as follows:

Computer1, NewName1
Computer 2, NewName2

**Note** If you are using Excel to create a .csv file, put the old name and new name in different columns:

![CSV file example]

Save as “CSV (Comma delimited)(*.csv)”
We can specify the look-up file at Step 5 when running the Deployment Kit.

The location of the lookup file is relative to the machine where User Profile Wizard is running. So, if you were migrating a remote machine the lookup file could be on your hard drive.

In our example, however, we want to be able to run User Profile Wizard from a script. In this case we need to put the look-up file in a location where everyone has access, so we are putting in on a network share on the *old* domain.

**Note** Generally, you should always use a UNC path to specify a network share, not a mapped drive like P:\Share. The reason for this is that if User Profile Wizard is running using Administrator credentials, the drive will not be mapped for the Administrator user account.
Maintaining SID History

Maintaining the SID history of a user’s old domain account when they logon to the new domain is a powerful mechanism for granting the new domain user account access to the network and local resources enjoyed by the old domain account.

Setting the SID history is a security sensitive operation. To set the SID history, data must be exchanged between Domain Controllers on the old (source) domain and new (target) domain. It follows that both domains need to be available when the migration takes place. You must also provide domain Administrator credentials for both domains.

In it very important to stress here that Maintaining SID history is OPTIONAL.

User Profile Wizard does NOT need to set the SID history in order to migrate a user to a new domain.

User Profile Wizard does NOT need the old domain to be in place. 
To have User Profile Wizard update the SID history of the new domain account, tick **Update sIDHistory** box and enter the credentials of a domain administrator for the old (source) domain.

Additional configuration of both the old and new domains will be required. See Configuring domains to maintain SID history in the “Troubleshooting” section below.
**Rename user accounts**

It may be the case that when you migrate to your new domain, your users will have new account names. In exactly the same way that User Profile Wizard can map old workstation names to new workstations names, it can map old user account names to new user account names.

A look-up file is just a plain comma-separated text file. User names are listed in a look-up file as follows:

Username1,NewUser1  
Username2, NewUser2

**Note** If you are using Excel to create a .csv file, put the old name and new name in different columns:

![CSV file example](image)

Save as “CSV (Comma delimited)(*.csv)”
We enter the path to the user account look-up file in Step 8 of the Deployment Kit.

![ForensiT User Profile Wizard Deployment Kit - Step 8 of 13](image)

**User Account Options**
Choose user account migration options

- [ ] Use lookup file to get new account names.
- **Enter lookup file path:** `\FARMDC\Migration\Users.csv`
- [ ] Skip migration if user is not found in lookup file
- [ ] Rename Profile Folder

Enable ZeroConfigExchange only if you are changing your Email configuration.

- [ ] Enable ZeroConfigExchange

To set this option using the Deployment Kit we just need to check the **Rename Profile Folder** check box at Step 8.

**Rename Profile Folder**

By default, the name of a user’s profile folder will be their account name. For example, Jane’s profile will typically be `C:\Users\Jane`. If Jane’s account name changes when her workstation is migrated to a new domain, it may be useful – perhaps for support purposes - to change the name of her profile folder to her new user account name. For example, her profile folder could be renamed `C:\Users\JSmith`.

User Profile Wizard can rename the profile folder for us when the profile is migrated. To set this option using the Deployment Kit we just need to check the **Rename Profile Folder** check box at Step 8.

Some care should be taken when choosing to rename profile folders. Some legacy applications save the path to the profile and may no longer work if the profile folder name is changed. You should always test renaming profiles in your environment before migrating your user’s machines with this option.
Skip migration if user is not found in lookup file

By default, User Profile Wizard will always try and migrate a profile to a new user account. So if it finds an old domain account profile for Jane, it will search in the lookup file for Jane’s new domain account name. If it finds one, it will use that. If it doesn’t find one, it will still try and migrate the profile, but using the original account name: so in this example, it will look for a “Jane” account in the new domain, and migrate the profile to that account if it finds it.

There are times when you may not want this to happen. Ticking the “Skip migration if user is not found in lookup file” does exactly what it says.

Enable ZeroConfigExchange

By setting this option, User Profile Wizard will write the necessary registry values to enable Microsoft’s ZeroConfigExchange for automatically configuring Outlook.

You should only enable ZeroConfigExchange if you are changing your email configuration. By default User Profile Wizard will migrate Outlook settings unchanged.

For more information on ZeroConfigExchange please refer to the relevant Microsoft documentation.
Migrating over a VPN

Migrating over a VPN requires special handling. The problem is not so much with the migration itself, but what happens afterwards.

Most VPN connections are made by the user when they are logged on to Windows using software such as Cisco’s VPN client. When a machine is migrated to a new domain it needs to reboot; however, as soon as it reboots the VPN connection is lost. The problem is that after the machine reboots the user cannot logon again – there is no VPN connection to authenticate to the domain and Windows cannot cache the logon credentials until the user does authenticate.

To avoid this “Catch-22” situation and allow the user to logon offline, User Profile Wizard is able to cache the user’s logon credentials itself during the migration.

To enable password caching, tick the “Enable offline password caching” check box.

To cache the user’s logon credentials, User Profile Wizard needs to know the user’s password. There are two options for specifying the password.
Firstly, you can simply prompt the user for their new domain account password:

Keep in mind however, that if more than one user account profile is being migrated on a workstation, the logged on user will be prompted to supply a password for all the other users as well! For this reason, it is best to use this option with the “Only migrate logged on user” option at Step 6.

Secondly, you can set a default logon password that will be used by all users that are migrated. To do this, choose “Use default password for all users” and enter the password.

**Initializing VPN mode... Fails. Access is denied.**

The only time we ever see an issue with using VPN credential caching is if there is an Anti-Virus or security program blocking the software from working correctly. Caching domain credentials is a low-level operation, and this can be flagged as suspicious by some third-party applications.

If you get an error, you will need to configure your Anti-Virus program to allow User Profile Wizard to work.
Script Options

The script options page is where we start to automate User Profile Wizard, and begin to harness the real power of the software.

Tick **Use Script** and then select the migration script that you want to use. You can use one of the scripts that are pre-installed in the “Scripts” folder; or, you can of course use a script you have developed yourself.
The pre-installed scripts are described below.

The **Copy Script to Project Folder** is selected by default. This will create a copy of the script that you want to use, and save it in your project folder. The script will be renamed to the name of your project.

**Deploy using a Desktop management tool, like SCCM, or a Group Policy**

Deploying your migration using a Desktop Management tool, or Computer Startup script Group Policy is highly recommended. In these circumstances, the migration will run in the security context of the SYSTEM account, so you do not want User Profile Wizard to use any alternative credentials, or show any prompts. Ticking **Deploy using a Desktop management tool, like SCCM, or a Group Policy** makes these necessary changes for you.
Pre-installed Scripts

**Migrate-All.ps1**
This is the default migration script. The script will attempt to migrate all the profiles on a workstation that match your criteria to new user accounts: so all profiles from an old domain, or all local account profiles. This is the recommended script in most circumstances.

**Migrate-LastLoggedOnUser.ps1**
The script gets the last logged on user information from the registry, and migrates that user’s profile to a new account.

**Migrate-BySid.ps1**
This script offers you a great deal of flexibility. Instead of just working with the profile list in the registry, which means that the user SID must be able to be resolved to a user account name, the script uses the ProfWiz.exe /SOURCEPROFILE parameter to directly migrate the profile. In order to select the profiles that you want to migrate, you filter them based on the type of user SID.

If you want to automate the migration of existing Azure AD account profiles to new user accounts, you need to use this script. Here we filter on Azure SIDs by uncommenting that filter:

```
# Internal script variables DO NOT change
UserSID = "$null"
ProfilePath = "$null"
$Reboot = $false

# Set your script variables here
# Uncomment the filter that you want to use
# $Filter = "LocalSids"
# $Filter = "DomainSids"
# $Filter = "AzureSids"

# If you are filtering by Domain SIDs, set the domain RID for your domain
# $DomainRID = "5-2-5-21-2010793018-5992010091"

# Set $PassByFolderName to $true to migrate using the profile folder name, or $false to migrate using the user Sid
# $PassByFolderName = $true

# If you want to use a lookup file, specify that here
# $LookupFile = "..\Users.csv"
```

Note that if you want to filter by domain SIDs, you need to enter the RID (the Relative Identifier) of the domain – which is just the first part of the user SID – so the script knows what to look for.
Save-AzureADUser.ps1
This script generates the ForensiTAzureID.xml file that User Profile Wizard uses to look up the Object IDs of the Azure AD user accounts you want to migrate the user profiles to. Do not use this script for migrations! If you do, we'll just laugh at you.
Running Additional Code

User Profile Wizard allows you to run a “follow-on” file – an executable file, a script or a batch file - in the security context of the local administrator account you specify for running the migration. This has proved very useful for customers who need to carry out additional tasks using administrator permissions.

To specify the code to run, you just need to select the file in Step 12.

**Note** this file must already exist. This is because the Deployment Kit will generate a security hash of the file. The security hash ensures that only the code you specify will run: if the code is changed in anyway, User Profile Wizard will return a “Hash Error”.

You have the option to **Run script for each user**. If you check this box, User Profile Wizard will call the script each time a user profile is successfully migrated. If you do not check this box, the script will only be called once - after the workstation has been successfully joined to the new domain.
For additional information on scripting, please see Advanced Scripting Options later in this guide.

When we click next we are asked to confirm that we want to create the migration script.
Next Steps...

When the changes have been written to the Profwiz.config file and the script file has been created, the Deployment Kit offers us two options.

Open Deployment Folder does just that, and gives you access to your migration files.
Create Single Deployment File

Deploying a single file is often easier than managing multiple files, such as lookup files and follow-on scripts. The User Profile Wizard Deployment Kit can create a single deployment file that can contain all the files needed for the migration.

When you click the **Create Single Deployment File** button, your deployment files – Profwiz.exe, Profwiz.config, the migration script, together with any lookup files, and any follow-on file - are all embedded in the single deployment file. The Deployment Kit creates a single deployment executable file with the same name as the migration script. In our example here, it is called Migrate-Homestead.exe (see below.)
What did we just do?

Here's the Profwiz.config file after we have made our changes

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ForensiTUserProfileWizard xmlns="http://www.ForensiT.com/schemas">
  <Parameters>
    <!-- ForensiT User Profile Wizard run options -->
    <!-- Note: options set here are overridden by parameters passed on
         the command line -->
    <Domain>HOMESTEAD</Domain>
    <AdsPath>OU=Workstations,DC=homestead,DC=local</AdsPath>
    <Azure></Azure>
    <AzureObjectIDFile></AzureObjectIDFile>
    <ForceJoin>False</ForceJoin>
    <NoJoin>False</NoJoin>
    <NoDefault>False</NoDefault>
    <Delete></Delete>
    <Disable></Disable>
    <UnJoin>False</UnJoin>
    <Workgroup></Workgroup>
    <ForceRoamingOption></ForceRoamingOption>
    <!-- Credentials -->
    <DomainAdmin>HOMESTEAD\Migrator</DomainAdmin>
    <DomainPwd>21D2712AE2CE31F63DD00814991A57B84DEB6D8F5C0963EB</DomainPwd>
    <LocalAdmin>FARM\Migrator</LocalAdmin>
    <LocalPwd>C66E7C5F00927C5563D523515CEB98A1</LocalPwd>
    <SetsIDHistory>True</SetsIDHistory>
    <OldDomainAdmin>FARM\Migrator</OldDomainAdmin>
    <OldDomainPwd>CED4A83F61036FD05C7087E270FA1B09AE136A97ABEB089</OldDomainPwd>
    <Key>B}t79F/ak</Key>
    <!-- Corporate Edition Settings -->
    <Silent>False</Silent>
    <NoMigrate>False</NoMigrate>
    <NoReboot>False</NoReboot>
    <RemoveAdmins>False</RemoveAdmins>
    <MachineLookupFile>\FARMDC1\Migration\Computers.csv</MachineLookupFile>
    <Log>C:\Users\Public\Documents\Migrate.Log</Log>
    <!-- Script Settings -->
    <RunAs>\FARMDC1\Migration\Follow-on.ps1</RunAs>
    <Hash>F3B515B6E3C652A0D89B5D4DB9A98509B56834B2069CA4BFC8A0F38FC9EF173
  7839F6B6FF263</Hash>
    <RunScriptPerUser>False</RunScriptPerUser>
    <RunAsSystem></RunAsSystem>
    <!-- Settings for migrating all profiles -->
  </Parameters>
</ForensiTUserProfileWizard>
```
Perhaps the most important setting we have changed is the <All> element – the one that tells User Profile Wizard to migrate all profiles when migrating a workstation.

If you double-click on Profwiz.exe now – or run User Profile Wizard from the Start menu – you no longer get the Wizard GUI. This is because you cannot migrate all profiles on a machine using the GUI, so setting <All> to True forces the Wizard to run in command-line (CLI) mode.
As a fail-safe to stop you accidently migrating your Administrator machine, the Wizard will warn you if you do try and run it in GUI mode.

![User Profile Wizard](image)

You will **not** see this warning if you run the Wizard from a script, or from the command line, or if you are migrating a remote machine. You will also suppress this prompt if you explicitly tell the Wizard not to run in GUI mode by setting the Profwiz.config element to ‘True’:

```xml
<NoGUI>True</NoGUI>
```
Fine Tuning

There are a couple of tweaks that we can make to the Profwiz.config file to fine-tune the migration process.

We have told User Profile Wizard to migrate all the user account profiles on the workstation. However, there may be some standard accounts that we do not want to migrate; for example, the Administrator account. To have User Profile Wizard exclude certain user accounts from the migration we just have to add the account names to the `<Exclude>` element in the Profwiz.config file. Multiple accounts are separated by commas:

`<Exclude>ASPNET,Administrator</Exclude>`

To edit the Profwiz.config file just open it up in notepad.

Another useful option is `<RemoveAdmins>`. In order to minimize disruption to the end user, User Profile Wizard adds the new domain user account to any local groups that the old user account was a member of. Experience has shown us, however, that users have often been added to the local Administrators account. Joining a new domain is a good time to clean up these permissions. By setting `<RemoveAdmins>` to ‘True’ you can tell User Profile Wizard not to add the user’s new domain account to the local Administrators group.

`<RemoveAdmins>True</RemoveAdmins>`
The Migration Script

The only job of the migration script is to call User Profile Wizard to migrate a workstation. In order to do that, the script checks whether the machine has already been migrated (and quits if it has.)

Deploying the Script

We have now configured User Profile Wizard to automatically migrate workstations to the new domain. The next step is to deploy the files.

To start migrating workstations we just need to copy the migration files from the project folder on the Administrator machine to a network share. We then need to call the migration script from a Computer Startup script.

The only files we need to copy to the network share are Profwiz.exe and Profwiz.config, along with any look-up files we are using. The migration script will also need to be copied to a share where it can be called by the Computer Startup script.

Deploying a Single Deployment File

If you have created a single deployment file that’s the only file you need! Copy it to a network share and call it from the Computer Startup script.
Advanced Scripting Options

This section assumes you are familiar with scripting.

User Profile Wizard gives you option of running a “follow-on” script either after the migration to the domain is complete, or after each user profile is migrated.

When User Profile Wizard calls the script after a user’s profile is migrated, it passes the script two parameters: the new target user account name, and the new target user account SID. What’s more, User Profile Wizard makes the target user’s registry available under HKEY_USERS, which means that your follow-on script can directly manipulate registry values for the target user.

So, for example, if we want to write the user’s new account name to a “ScriptUpdate” string value under the SOFTWARE\ForensiT\Update key, we could do something like this:

```powershell
$AccountName = $args[0]
$UserSid = $args[1]
$RegUpdatePath = "Registry:HKEY_USERS\$UserSid\SOFTWARE\ForensiT\Update"
if (-not (Test-Path $RegUpdatePath)) {
    New-Item -Path $RegUpdatePath -Force
}
Set-ItemProperty -Path $RegUpdatePath -Name ScriptUpdate -Value $AccountName
```
Migrating from domain to local accounts

It is just as easy to use User Profile Wizard to migrate a domain account profile to a local account.

With the growth of Office 365 and cloud-based services, more and more people are finding they no longer need to run their own domain, and want to migrate their computers back to a workgroup. User Profile Wizard makes the migration very easy.

Using the GUI

To migrate a domain account profile to a local user account, select the profile that you want to migrate on the “Select a User Profile” page.

Click Next.
On the “User Account Information” page, select the local computer name from the drop-down list.

When you have selected the local computer name, the **Join Workgroup** check box will become active. If you tick **Join Workgroup**, User Profile Wizard will automatically remove the computer from the domain and join it to a workgroup.

The default Windows workgroup name is WORKGROUP. If you have the Corporate or Professional Edition of User Profile Wizard, you can specify a different workgroup.
name by editing the `<Workgroup>` value in Profwiz.config. (See the Profwiz.config Reference chapter below.)

Finally, enter the name of the local account that you want to use the profile. The user account must already exist.

That’s it! Click **Next** and User Profile Wizard will do the rest - migrating the domain account profile to the local account and unjoining from the domain, if that is what you chose.
Automating Domain to Local Migrations

The Deployment Kit supports automating User Profile Wizard for domain to local migrations. Please also refer to the Getting Started chapter if you skipped it to get here.

At Step 3, tick the Join Workgroup box if you want to unjoin your computers from the existing domain and add them to a workgroup. The Deployment Kit will then “grey out” the domain options and User Profile Wizard will be configured to migrate profiles to local accounts.

As previously mentioned, the default Windows workgroup name is WORKGROUP. You can specify a different workgroup name by editing the <Workgroup> value in Profwiz.config. (See the Profwiz.config Reference chapter below.)

If you want to migrate profiles to local accounts but not unjoin from the existing domain, leave the “Enter the name of the new domain” box blank and just click Next. The Deployment Kit will warn you about what you are doing.
The Deployment Kit automatically adjusts what options are shown based on the choices you make. Because you have chosen to migrate profiles to local accounts, the domain-only options are hidden. This means that when you click **Next** you are taken to Step 6.

At Step 6 you must enter the name of the existing domain. (There is no option to say “no” to the question “Are you migrating from an existing Windows domain?”)

In all other ways, the options are the same as those available when you are migrating a computer to a new domain.
Migrating to Azure AD

User Profile Wizard enables you to migrate user profiles to Azure AD accounts, but additional configuration steps are required.

Azure Object IDs and the ForensiTAzureID.xml file

In order to migrate a user profile to an Azure AD user account, User Profile Wizard needs to know the Object ID of the user account. The Object ID can be found on your Azure AD portal (https://portal.azure.com/) and can also be queried using the PowerShell AzureAD module.

It is impractical to have to install the PowerShell AzureAD module on each machine you want to migrate, so User Profile Wizard uses a file to look up the Object ID of the Azure AD user account you want to migrate the user profile to. By default this file is called ForensiTAzureID.xml. (Corporate and Professional Editions customers can change the name of the file.)
Generating a ForensiTAzureID.xml file

To generate the ForensiTAzureID.xml file that User Profile Wizard will need to migrate profiles to your new Azure AD accounts, you need to run the `Save-AzureADUser.ps1` PowerShell script.

`Save-AzureADUser.ps1` is installed with the Corporate and Professional Editions of User Profile Wizard and can be downloaded from [https://github.com/ForensiT/PowerShell](https://github.com/ForensiT/PowerShell).

Open the “User Profile Wizard Command Line” from the Start Menu->F->ForensiT User Profile Wizard, and run `Save-AzureADUser.ps1`.

**Note:** The `Save-AzureADUser.ps1` script uses the PowerShell AzureAD module to query Azure AD to get a list of user Object IDs. If the PowerShell AzureAD module is not installed, the script will attempt to install it. To install the AzureAD module, the script needs to be run with Admin permissions.¹

¹ Obviously `Save-AzureADUser.ps1` is a script! If you have not enabled PowerShell scripting, you need to do so by entering `set-executionpolicy remotesigned` in an Admin PowerShell console.
When you run the script, you will be prompted to authenticate to your Azure AD.

Once you have done that, the script will create the ForensiTAzureID.xml file in the “Deployment Files” folder.

If you open the ForensiTAzureID.xml file in Notepad, you will see a list of entries containing the Object ID, Display Name, and User Principle name of your Azure AD users, like this:

```xml
<?xml version="1.0" encoding="utf-8">
<?xml-stylesheet type='text/xsl' href='style.xsl'?>
<ForensiTAzureID ObjectID='1ebcfff5-fd20-4eb3-9a8c-f97bff045039' Name='jackrabbitslims.onmicrosoft.com' DisplayName='Jack Rabbit Slims'>
  <User>
    <UserPrincipalName>marilyn@jackrabbitslims.onmicrosoft.com</UserPrincipalName>
    <ObjectId>b5bf1089-e738-4fa5-ab77-470c16423d7c</ObjectId>
    <DisplayName>Marilyn Monroe</DisplayName>
  </User>
  <User>
    <UserPrincipalName>Mamie@jackrabbitslims.onmicrosoft.com</UserPrincipalName>
    <ObjectId>5454018d-6005-444d-9c34-b1196ff0b5f4</ObjectId>
    <DisplayName>Mamie van Doren</DisplayName>
  </User>
</ForensiTAzureID>
```
Configuring User Profile Wizard to migrate profiles to Azure AD

Configuring User Profile Wizard to migrate profiles to Azure AD is simply a case of checking the Azure AD box at Step 3 of the Deployment Kit, and entering the name of your Azure AD domain:

You will also need to specify the location of your ForensiTAzureID.xml file. (See previous section.) By default, User Profile Wizard will look for the ForensiTAzureID.xml file in the same directory as Profwiz.exe.

If you are migrating from an existing on-premises domain, make sure that you check the Join Workgroup checkbox, so User Profile Wizard will remove the workstations from the existing domain.
If you are migrating profiles to Azure AD user accounts, obviously the name of the new user account cannot be the same as the name of the existing user account. As a result, unless you only want to migrate one profile at a time, you need to specify a user lookup file when running the Deployment kit.

**Note.** Just to be clear: the user lookup file maps the user’s *existing* account name to their new Azure AD User Principle Name. So if a user is currently signing into their machine as “Marilyn”, and their new Azure AD User Principle Name is marilyn@jackrabbitslims.onmicrosoft.com, the entry in the lookup file would be

Marilyn,marilyn@jackrabbitslims.onmicrosoft.com

The user lookup file is not the same file as the ForensiTAzureID.xml file. User Profile Wizard will get the user’s new Azure AD User Principle Name from the user lookup file, and then look up the User Principle Name in the ForensiTAzureID.xml file to get the Object ID of the Azure AD user.

The Deployment Kit makes the following changes to your Profwiz.config file:

```xml
<Parameters>
  <!-- ForensiT User Profile Wizard run options -->
  <!-- Note: options set here are overridden by parameters passed on the command line -->
  <Domain>Jack Rabbit Slims</Domain>
  <AzureObjectIDFile>C:\Users\Public\Documents\ForensiTAzureID.xml</AzureObjectIDFile>
</Parameters>
```
Migrating to an Azure AD Account

Migrating a profile to an Azure AD account is the same as migrating to an on-premises domain account.

When you get to the “User Account Information” page, User Profile Wizard will fill in the “Enter the domain” box with the Azure AD name from the Profwiz.config file. The **Azure AD** box will be checked.

If you have specified a user lookup file, and you have only selected one profile to migrate, User Profile Wizard will populate the “Enter the account name” box. If you have specified more than one profile to migrate, “Enter the account name” will be set to “Using lookup file”.

---

**User Profile Wizard**

**User Account Information**
Specify the domain and account name for the user you would like to use the profile.

Enter the domain, or select the local computer name:

- **Jack Rabbit Slins**
- **Azure AD**
- **Join Domain**
- **Join Workgroup**

Enter the account name:

- **Azure AD**
  - Enter your work or school account email address

---
Joining to Azure AD

Microsoft do not offer any programmatic way to join a device to Azure AD. There are therefore, only two ways to do it.

Firstly, you can join a computer to Azure AD “manually” using the “Connect” option in “Access work or school” in “Settings”.

![Access work or school](image)

You can use User Profile Wizard to migrate profiles to Azure AD accounts before or after you join the machine to your Azure AD organization. Remember however, that the user will not be able to sign-in and use their profile until the machine has been joined.

The second way to join a machine to Azure AD is to use a Provisioning Package. It is by creating a Provisioning Package that you can automate the migration of a device to Azure AD with User Profile Wizard.

Creating a Provisioning Package

To create a Provisioning Package, you need to use Microsoft’s Windows Configuration Designer. Windows Configuration Designer is installed as part of the Windows Assessment and Deployment Kit (ADK) for Windows 10, is also available as an app in the Microsoft Store.

We will not repeat Microsoft’s instructions for creating a Provisioning Package here; please refer to Microsoft’s own documentation. However, it is not difficult to do. Windows Configuration Designer gives you a large number of settings that you can
configure, but if you are only interested in joining to Azure AD, you can use the simpler interface.

The key setting is under “Account Management” where you specify that you want to enroll machines in Azure AD, and you generate the bulk AAD token that is needed to do that. When you get the bulk token, you will be prompted to authenticate to your Azure AD.

When you have finished running the Windows Configuration Designer, you will have a .ppkg file that you will be able to use to join your machines to Azure AD.
Automating Azure AD Migrations

By using a .ppkg Provisioning Package file, we can now automate the migration of workstations to Azure AD. All we need to do is to run a follow-on PowerShell script to call the Install-ProvisioningPackage cmdlet to install our .ppkg file.

We set the Follow on script in the Deployment Kit at Step 12.

We are now good to go. User Profile Wizard will reference the ForensiTAzureID.xml file to get the Object IDs of the Azure AD user accounts, and it will call a PowerShell script to install your Provisioning Package to join the machine to your Azure AD.
Additional Notes on using a Provisioning Package

1. If you are migrating from an existing on-premises domain, you **must** configure User Profile Wizard to **Join Workgroup** (see above). If you don’t, the Provisioning Package will not take effect.

2. The execution of PowerShell scripts must be enabled.

3. Running the Install-ProvisioningPackage cmdlet will automatically reboot the machine. You don’t need User Profile Wizard to reboot the machine as well, so edit your migration script to add the `/NOREBOOT` switch

   $profwiz = Start-Process -FilePath "$TargetFolder\Profwiz.exe" -ArgumentList "/NOREBOOT" -Wait -PassThru

4. In our own testing we have noticed that the Provisioning Package takes some time to take effect after the machine has rebooted. One consequence of this is that you may not be able to sign-in with an Azure AD account immediately after the machine reboots because the “Other user”/ “Sign in to: Your work or school account” option is not shown until provisioning is complete.
You can tell whether the Provisioning Package worked by checking “Access work or school” in “Settings.”
.config Reference

This Chapter details the settings in the Profwiz.config file

<!-- ForensiT User Profile Wizard run options -->
<!-- Note: options set here are overridden by parameters passed on the command line -->

<Domain></Domain>
This is the name of the new domain the machine is joining. This can either be an on-premises domain, or an Azure AD tenant.

<Azure></Azure>
Set to True if you are joining an Azure AD domain.

<AzureObjectIDFile></AzureObjectIDFile>
Path to a xml file that has the ObjectIDs of the Azure AD user accounts.

<AdsPath></AdsPath>
The AdsPath of the Active Directory container where the computer account will be created. If this is blank the computer account will be created in the default “Computers” container.

<ForceJoin>False</ForceJoin>
Force the machine to join <Domain> even if it is already joined to a domain of the same name.

<NoJoin>False</NoJoin>
Do not join the machine to the domain.

<NoDefault>False</NoDefault>
Do not set the new domain account as the default workstation logon

<Delete>False</Delete>
Delete the local account when migration is completed

<Disable>False</Disable>
Disable the local account when migration is completed

<UnJoin>False</UnJoin>
Unjoin the machine from a domain and join it to a workgroup.

<Workgroup></Workgroup>
The name of the workgroup to join. If no name is specified, the default Windows WORKGROUP is used.
<!-- Credentials -->

<DomainAdmin></DomainAdmin>
The name of an account with the necessary permissions to add the machine to</Domain>

<DomainPwd></DomainPwd>
The <DomainAdmin> account password, either in plain text or encrypted by a <Key>. Passwords are automatically encrypted by the Deployment Kit.

<LocalAdmin></LocalAdmin>
The name of a local administrator account. User Profile Wizard must be run with Administrator privileges.

<LocalPwd></LocalPwd>
The <LocalAdmin> account password, either in plain text or encrypted by a <Key>. Passwords are automatically encrypted by the Deployment Kit.

<SetsIDHistory>False</SetsIDHistory>
Maintain the SID history.

<OldDomainAdmin></OldDomainAdmin>
The name of an account with Domain Administrator permissions on <OldDomain>

<OldDomainPwd></OldDomainPwd>
The <OldDomainAdmin> account password, either in plain text or encrypted by a <Key>. Passwords are automatically encrypted by the Deployment Kit.

<Key></Key>
The key to decrypt encrypted <DomainPwd> and <LocalPwd> passwords. This is automatically set by the Deployment Kit when it encrypts passwords.

To generate an encrypted password manually type Profwiz /KEY at the command line without any other parameters.

<!-- Corporate Edition Settings -->

<Silent>False</Silent>
Do not show any error messages

<NoMigrate>False</NoMigrate>
Run User Profile Wizard but do not migrate any profiles. You can use this option just to join a machine to a domain, or just to run a follow-on script.

<NoReboot>False</NoReboot>
Do not reboot the machine after it has been migrated

<RemoveAdmins>False</RemoveAdmins>
Remove users' local administrator rights when the machine joins the domain

<MachineLookupFile></MachineLookupFile>
Path to a “look up” file to map old computer names to new computer names.
A look-up file is just a plain comma-separated text file. Computer names are listed in a look-up file as follows:

```
Computer1, New_Computer Name1
Computer 2, New_Computer Name2
```

```
<Log></Log>
```
Path to the log file where User Profile Wizard will write the output from the migration process.

```
<RunAs></RunAs>
```
The path of a “follow-on” script or executable file to run after the migration. By default, the script runs after the machine has been joined to the new domain (but before the machine reboots) using the `<LocalAdmin>` credentials. However this behaviour can be altered using the `<RunScriptPerUser>` and `<RunAsSystem>` values below.

```
<Hash></Hash>
```
The security hash of the script or executable file specified by `<RunAs>`. This is automatically generated by the Deployment Kit. To generate a hash manually type Profwiz /KEY at the command line without any other parameters.

```
<RunScriptPerUser>False</RunScriptPerUser>
```
This tells User Profile Wizard to run the follow-on script after each profile is migrated, rather than after the machine has been joined to the new domain.

```
<RunAsSystem>False</RunAsSystem>
```
By default, User Profile Wizard will run the follow-on script in the security context of the `<LocalAdmin>` account. However, by setting `<RunAsSystem>` to True, the script will run in the security context of the SYSTEM account.

```
<All>False</All>
```
Migrate all profiles on the workstation

```
<OldDomain></OldDomain>
```
The name of the old Source domain. User Profile Wizard will migrate account profiles from this domain. If `<OldDomain>` is blank, User Profile Wizard will migrate local account profiles.

You can specify more than one Source domain. The list of domains needs to be `colon delimited`, so like this: `<OldDomain>OLD1:OLD2:OLD3</OldDomain>`
<UserLookupFile></UserLookupFile>
Path to a “look up” file to map old user account names to new user account names.

<Exclude>ASPNET,Administrator</Exclude>
A list of user account names whose profiles will not be migrated to the new domain.

<!-- Advanced Settings -->

<SkipOnExistingProfile>False</SkipOnExistingProfile>
In some cases, you may need to migrate user profiles on a machine that has already been joined to a new domain. In such cases a user may already have a new domain account profile which will be lost if they are assigned their old profile. <SkipOnExistingProfile> tells User Profile Wizard not to migrate the user’s old profile if this is the case.

<SkipOnDisabledAccount>False</SkipOnDisabledAccount>
Tells User Profile Wizard not to migrate a profile if the user’s account is disabled in the new domain.

<NoGUI>False</NoGUI>
Force User Profile Wizard to run in command line (CLI) mode

<FailOnMachineNameNotFound>False</FailOnMachineNameNotFound>
If set to ‘True’ User Profile Wizard will only migrate a workstation if it is listed in the

<MachineLookupFile>

<RenameProfileFolder>False</RenameProfileFolder>
Renames the user’s profile folder (typically C:\Users\username) to their new domain account name.

<ProtocolPriority></ProtocolPriority>
By default, User Profile Wizard uses Windows’ NetBIOS based APIs to join a machine to a domain. You can override this behaviour by setting the <ProtocolPriority> value to ‘LDAP’. If you do this you must set a <AdsPath> value.

Forcing User Profile Wizard to use LDAP can be useful in a number of circumstances. For example, if there are NetBIOS name resolution issues on your network, using LDAP means that DNS name resolution will be used instead. Using LDAP can also be useful when renaming computer accounts. Using NetBIOS, the computer account object is first created in Active Directory with the existing computer name and then it is renamed – a two stage process. Using LDAP gives a finer degree of control, allowing the computer account object to be created with the new name in one step.

<DC></DC>
Specify the Domain Controller you want to use to join workstations to a domain. This setting is dependent on <ProtocolPriority> being set to LDAP.
In some circumstances you may want to specify which Domain Controller User Profile Wizard uses when joining a machine to a domain. Essentially there are two types of operations involved when User Profile Wizard talks to a Domain Controller – read and write. For read operations we leave it to Windows to get the name of the nearest DC. For write operations, however, you can specify the DC that you want User Profile Wizard to use. The value must be a DNS server name prefixed with two back slashes. Note that specifying the DC is dependent on using LDAP, which in turn means that you have to set a <AdsPath> value:

<ProtocolPriority>LDAP</ProtocolPriority>
<DC>\britannic2.britannic.forensit.com</DC>

When using a <DC> value it is normal to see two different DCs reported in the log file.

<CopyProfile>False</CopyProfile>
Create a copy of the original profile and assign the copy to the new domain account.

You should think carefully before setting the <CopyProfile> value to 'True'. There is usually no need to create a copy of the original profile. By default, User Profile Wizard works by configuring the existing profile so that it can be used by the user's new domain account: no data is moved, copied or deleted – this makes the process intrinsically safe, as well as very fast. By creating a copy of the profile you will make the migration process much slower.

However, there are circumstances where you may need to create copy profiles. For example, on shared workstations which are not already joined to a domain, users may all logon with one account. If you want to move the machine into Active Directory, you can create a copy of the profile for each user account so that each user can logon with their own username, but still retain their familiar desktop.

<!-- Outlook Settings -->
<ZeroConfigExchange>False</ZeroConfigExchange>
If True, enables Microsoft's ZeroConfigExchange for automatically configuring Outlook.

<!-- VPN Settings -->
<VPN>True</VPN>
Enable VPN mode. See Migrating over a VPN.

<DefaultUserPwd/>
The default user password that will be cached. See Migrating over a VPN.
Push migrations and the Command Line Console

In this chapter we discuss running User Profile Wizard from the command line, looking particularly at push migrations.

Push or Pull?

User Profile Wizard gives you the option to “push” migrations to remote workstations from a central administrator or “console” machine— which is very cool. But is a push migration a better solution than a “pull” migration, which is where a workstation initiates a migration by running a migration script?

Overall pull migrations offer better scalability. Generally, it is more efficient for a machine to initiate the migration itself. Using this methodology User Profile Wizard has proved to be extremely effective over hundreds of thousands of migrations.

Using scripting is also very flexible. You can customize a script to handle difficult or unusual migration scenarios in ways that cannot be achieved with a push migration.

Push migrations are obviously dependent on the workstation that is to be migrated being on the network at the time you want to migrate it. Additionally, there is probably greater administrator oversight required – even if the push migration is automated.

Sometimes, however, you do not have any choice. If your organization does not have an existing domain, or you don’t have access to some form of Electronic Distribution Software (ESD) like SCCM (SMS), Marimba or Tivoli to launch the migration, you probably will be looking for a push solution that doesn’t involve you visiting every desk.
Migrating a remote machine

To migrate a remote machine from the command line, we just have to use the /COMPUTER switch.

What’s going to happen here is that User Profile Wizard will use the settings in the Profwiz.config file we created in the Automating Enterprise Migrations chapter to migrate the workstation WORKSTATION1 to the new domain. (Note: \A1\ is set to “true.”)
Using the command line

Parameters passed on the command line override the settings in the Profwiz.config file. This is useful if we just want to quickly change a parameter for a particular machine, or group of machines. For example, we may want to change the container where the computer account is created. We can change this with the /RENAME parameter:

![Command Line Example]

When we do this, all the other migration settings are still read from the Profwiz.config file.

All the command line parameters are listed in the Command Line Reference chapter later in this guide.
Automating Push Migrations

In the section above we saw how to push a migration to a single machine. But what if you need to push a migration to a lot of machines?

**Profbat** is a utility that can automate the migration of computers listed in a file. You can download Profbat here:

http://www.forensit.com/support-downloads.html

To use Profbat all you need to do is copy the Profbat.exe file to your “Deployment Files” folder, go to the “User Profile Wizard Command Line” from the “Start” menu and type Profbat.

Profbat will read the list of computers to be migrated from the file specified by the `<MachineLookupFile>` value in the Profwiz.config file. The file specified is used to rename machines, of course. If you don’t want to rename a machine the machine lookup file entry needs to be something like this:

Old_name,Old_name

You should set the `<All>` attribute value in the Profwiz.config file to ‘True’

Profbat takes the log file path in the Profwiz.config file and appends the name of the machine being migrated to create a log file for each machine. So, for example, if you have the line

```xml
<Log>C:\Migration\Logs\Migrate.log</Log>
```

Profbat will create a series of log files named

C:\Migration\Logs\Migrate_machine1.log
C:\Migration\Logs\Migrate_machine2.log
C:\Migration\Logs\Migrate_machine3.log

...etc...

Optionally you can set some options for Profbat in Profwiz.config file. The following attributes can be added under ```XML
<ProfBatProcessLimit>8</ProfBatProcessLimit>
```.

This specifies the number of machines Profbat will attempt to migrate at once. The default is 16.
<ProfBatRetryLimit>3</ProfBatRetryLimit>

This specifies the number of times Profbat will attempt to migrate a machine if the migration fails – for example, if the machine is not on the network. If this is not set, Profbat will keep trying indefinitely.

<ProfBatRetryDelay>2</ProfBatRetryDelay>

This specifies the number of minutes Profbat will wait before trying to migrate a machine again. The default is 1 minute.
Command Line Reference

This Chapter details User Profile Wizard’s Command Line Parameters.

Command Line Parameters

Type `./Profwiz /?` at a command prompt and you will see the following screen:

In this section we will describe each command line parameter in turn.

/COMPUTER computername (Optional)
The name of the computer you want to migrate.

If you do not specify a computer name the local computer will be migrated.
/DOMAIN domainname (Optional)
The name of the domain of the user account that will be given access to a profile.
If you do not specify a domain name, User Profile Wizard will look for ACCOUNT on the local machine.

/RENAME computername (Optional)
Rename the computer, or add computer to a specific AD container.
You can use the /RENAME switch in two situations. Firstly, as part of your migration to a Windows domain you may simply want to rename your workstations. Secondly, you may not want your Workstations to be in the default "Computers" container in Active Directory when they join the domain.

If you are renaming a machine you must specify the full ADSPath of the new computer name after the switch. For example, if you want to rename a computer and add it to the "Workstations" container you would type the following:

/RENAME CN=Workstation1,OU=Workstations,DC=uk,DC=forensit,DC=com

If you just a want to add the machine to the container, use the container AdsPath:

/RENAME OU=Workstations,DC=uk,DC=forensit,DC=com

/UNJOIN workgroupname (Optional)
Unjoin the computer from a domain and add it to a workgroup. If the workgroup name is not specified, the computer will be added to the default WORKGROUP workgroup.

/TARGETACCOUNT accountname
The name of the account that will be given access to an existing profile.

/SOURCEACCOUNT accountname (Optional)
The account whose profile will be migrated.
This can be a domain account whose profile is stored locally. To specify a domain account use the format Domain\User.

/SOURCEPROFILE profilefoldername (Optional)
As an alternative to specifying a /SOURCEACCOUNT name, you specify the name of the profile folder that you want to migrate. You should only do this if the original user account SID cannot be resolved to an account name – for example, if the original on-
premises domain is no longer accessible. You should just use the profile folder name, so if you want to migrate the C:\Users\Jayla profile, you would use

/SOURCEPROFILE Jayla

The Migrate-BySid.ps1 script uses this parameter.

/DOMAINADMIN domainadmin (Optional)
The name of an account with the necessary permissions to add the machine to the DOMAIN.

/DOMAINPWD password (Optional)
The DOMAINADMIN account password, either in plain text or encrypted by a KEY.

/LOCALADMIN localadmin (Optional)
The name of a local administrator account.

User Profile Wizard must be run with Administrator privileges. Using the LOCALADMIN parameter you can specify a local administrator account to run User Profile Wizard.

Because by default domain administrators have local administrator privileges, if the machine is already a member of a domain, you can specify a domain administrator account from the current domain as follows:

/LOCALADMIN OLD_DOMAIN\Administrator

/LOCALPWD password (Optional)
The LOCALADMIN account password, either in plain text or encrypted by a KEY.

/KEY key (Optional)
The key to decrypt encrypted DOMAINPWD and LOCALPWD passwords.

To generate an encrypted password use /KEY without any other parameters.

Having plain text passwords in your script files is not good security practice. To help you avoid this, User Profile Wizard gives you the option of encrypting your DOMAINADMIN and LOCALADMIN passwords. To do this, run the wizard with just the /KEY switch, for example:

UPW:>/Profwiz /KEY

This will bring up the “Generate an Encrypted Password” wizard (see below.)
Enter the plain text password in the “Enter the password” text box. If you want the User Profile Wizard to run a script or program after the migration is complete, you can enter the path in the text box. For more information see “/HASH” below. Finally, enter a “key” word that User Profile Wizard will use to encrypt and decrypt the password – this should be completely unrelated to the password to stop anyone guessing what the password might be. Click “Next”.

The encrypted password is generated in the “encrypted password” window on the next page, and a secure hash of any script or file you want to run is generated in the “file hash” window.

If you are encrypting both a DOMAINADMIN and a LOCALADMIN password, you must use the same key.

/JOIN (Optional)
Join the local machine to the domain even if the profile migration fails.
/NOJOIN (Optional)
Do not join the local machine to the domain.

/NOMIGRATE (Optional)
If you are performing an enterprise-wide domain migration, you may have some machines that you want to join to your new domain which don’t have any profiles you want to migrate. By using the /NOMIGRATE switch you can script the User Profile Wizard to migrate these machines without needing to call on any other tools.

/NODEFAULT (Optional)
Do not set the domain account as the default logon

/DELETE (Optional)
Delete the local account when migration is completed
If LOCALACCOUNT is a user account local to the machine, you can use /DELETE to delete it.

/DISABLE (Optional)
Disable the local account when migration is completed
If LOCALACCOUNT is a user account local to the machine, you can use /DISABLE to disable it.

/SILENT (Optional)
Do not show any error messages

/NOREBOOT (Optional)
Do not automatically reboot the machine after migration.

/REBOOTDELAY seconds (Optional)
Set the number of seconds User Profile Wizard waits before rebooting the machine after it is migrated. During this time a warning is displayed advising the user that their machine needs to reboot. This setting does not apply to remote migrations.

/LOG logfile (Optional)
Write results to a log file.
This is highly recommended. Should you ever need to contact ForensiT Support regarding a migration issue, we will always ask you for your log file.

If you use the /LOG switch without specifying a logfile, a log file will be created in your “My Documents” folder.
/RUNAS (Optional)
If you are performing an enterprise-wide domain migration, there may well be configuration changes you want to make to your workstations which have nothing to do with migrating user profiles or joining the machine to the new domain. It is also almost certain that any configuration changes you do want to make will require local administrator permissions. The User Profile Wizard has a secure mechanism for passing the local administrator account and password via the /LOCALADMIN, /LOCALPWD and /KEY parameters. By using the /RUNAS parameter you get User Profile Wizard to securely run any PowerShell script or executable file for you in the security context of a local administrator account.

/HASH (Optional)
Just passing a script or executable to the User Profile Wizard to run is not secure. Scripts might be edited, or executable files replaced by a malicious user wishing to run their own code on a workstation. To stop this happening, you should use the /HASH parameter to pass a security hash of the file you want to run.

The security hash guarantees that only the file you specify gets run - unchanged. If a script is altered at all – even by a single character – the User Profile Wizard will not run it.

To generate a security hash, run the User Profile Wizard with just the /KEY parameter and specify the script or executable you want to run. (See above.)
Frequently Asked Questions

This chapter gives answers some commonly asked questions.

What does User Profile Wizard do?
User Profile Wizard migrates your current user profile to your new domain account so that you can keep all your existing data and settings.

What’s a profile?
A profile is where Windows keeps all your personal data and settings. Your profile is where your "Documents", "Pictures" and "Music" files are stored, and where your Internet favorites and cookies are kept. Windows keeps track of your personal settings in your profile, like your desktop wallpaper and the lists of documents you've recently opened. Most of the changes you make to personalize your applications are also kept in your profile, as well as files like dictionaries and playlists.

Why migrate profiles when moving to a Windows domain?
As far as Windows is concerned, when you logon to your machine using your domain logon you are a completely different person. Because Windows thinks you're a different person, it sets up a new profile for you and you lose all your personal settings. Not only that, unless your new domain account has Administrator rights on your machine, you lose access to all your data as well. What the User Profile Wizard enables you to do is migrate your original profile with your new domain logon so that you can carry on using your old settings. This is a major benefit to your users. Installing a Windows Domain infrastructure is a major undertaking but, believe it or not, your end users won't be as excited about it as you! All they want to do is get on with their jobs. Using the User Profile Wizard will significantly reduce disruption to your business.

Why not just copy the data from the old profile?
Well, you could. But that is going to be a time consuming, labour intensive, not say costly operation. What data do you copy? Even if you copy all your files, what about the
configuration information that Windows stores in the registry? Using the User Profile Wizard is just much easier and much less disruptive.

**Which version should I buy?**

Which version of User Profile Wizard you need depends on how you want to do the migration.

If you want to automate the migration you will need the Corporate Edition. The Corporate Edition of User Profile Wizard is licensed per seat, that is, for each computer you migrate.

User Profile Wizard Professional is licensed per technician and allows you to migrate an unlimited number of machines. However, it does not have the automation features of the Corporate Edition, limiting you to migrating one computer at a time via the GUI. There is a feature comparison here: [http://www.forensit.com/comparison.html](http://www.forensit.com/comparison.html)

**Will I have to visit every machine on my network to run the Wizard?**

Absolutely not. The User Profile Wizard has two distinct modes of operation. You can run the Wizard in graphical mode like all the other Wizards you're familiar with in Windows, but you can also run the User Profile Wizard from a command line. This means that the User Profile Wizard can be run from a PowerShell or VB script, or from a batch file. With the User Profile Wizard Deployment Kit you can build a scalable, enterprise solution, utilizing a single deployment file, to migrate tens of thousands of workstations. Automating User Profile Wizard is only possible if you have the Corporate.

**What version of Windows does the User Profile Wizard run on?**

The User Profile Wizard runs on Windows 7, Windows 8 and 8.1, and Windows 10.

**Can I use the free Personal Edition in a commercial environment?**

Yes. You are welcome to use the free Personal Edition of User Profile Wizard in your business if it meets your needs. The Personal Edition does not have all the features of the Corporate and Professional Editions, of course.
FREQUENTLY ASKED QUESTIONS

What if I have a problem?

Customers who have purchased the Corporate or Professional Editions should email support@ForensiT.com. Support for the free version of User Profile Wizard is available via the ForensiT Support Forum at http://forum.forensit.com/

What isn’t migrated?

User Profile Wizard cannot migrate encrypted data. This includes encrypted files, but also Internet and Outlook passwords which will need to be re-entered after the migration. This also means that although the personal certificates will be migrated, any private keys will not be.

What about group membership?

When migrating to a domain, the User Profile Wizard automatically adds the new account that will use the profile to the same groups as the local account whose profile you want migrate. This is to help in the migration to the domain. So for example, if your local machine account is a member of the "Power Users" group, the User Profile Wizard will add your domain account to the "Power Users" group. If you are sharing profiles between local accounts, group membership is not affected.

How does User Profile Wizard handle roaming profiles?

User Profile Wizard works with the local copy of any domain profile. If users on the old domain have roaming profiles, a copy of their profile will be held locally on their machine. User Profile Wizard will configure this existing local profile so that it can be used by their new domain account. After the user has logged on with their new domain account (in fact when they first log off) Windows will synchronize the local copy with the domain copy on new domain in the normal way.
Troubleshooting

This chapter discusses some problems occasionally seen when running User Profile Wizard.

Finding Domain Controller Fails/ “The RPC server is unavailable”

SYMPTOMS
When you run the User Profile Wizard, the Wizard reports that is cannot find the domain controller for the domain, or the migration fails because “The RPC server is unavailable”.

RESOLUTION
There is probably a DNS configuration problem. You need rectify the problem so that the Wizard can correctly resolve the new Domain Controller name.

CAUSE
It sometimes happens that a new domain is added to a network without the existing domain (or domains) being reconfigured. Commonly, if there is an existing DNS server, there is no “Forwarders” entry pointing to the DNS server for the new domain.

On Windows Server you can add a new Forwarder entry for the new domain as follows.

1. Run dnsmgmt. (DNS from the "Administrative Tools" menu.)

2. Select the existing DNS server.

3. Double-click "Forwarders" in the right-hand pane.
TROUBLESHOOTING

Configuring domains to maintain SID history

Additional configuration is required of both the source and target domains to allow SID history to be maintained across the user’s old and new domain accounts. These additional configuration requirements are related to the auditing of the operation to update the SIDHistory attribute on the user account object.

A group policy to enable Audit account management must be created on both the source and target domains. The group policy is set under “Computer Configuration/Policies/Windows Settings/Security Settings/Local Policies/Audit Policy”

The policy must be defined for both success and failure:
Troubleshooting

If, after making these policy setting changes, you continue to get an error stating “The operation requires that destination domain auditing be enabled” or “The operation requires that source domain auditing be enabled”, open an elevated command prompt on the appropriate DC and type `gpupdate /force` to apply the GP.

As well as creating the Audit account management group policy, you will also need to create a new “Domain local” group on the source domain. The group must have the name of the source domain appended with ‘$$$$’ Here the NetBIOS name of the source domain is ‘ARISTONB’, so the group is called ‘ARISTONB$$$’:

![New Object - Group](image)

Finally, if you receive an error stating that “The handle is invalid” when migrating an account with sIDHistory, run `regedit` on the source domain PDC and open the “HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\LSA” registry key. Create a new DWORD (32-bit) Value called `TcpipClientSupport` and set the value to 1. The DC will need to be restarted for the setting to take effect.
“The security database on the server does not have computer account for this workstation trust relationship”

SYMPTOMS
This error shows up when you try and logon after a machine has been migrated to a new domain.

RESOLUTION
If it is possible, the best solution is to disable the Group Policy setting the DNS suffix in the old domain before the migration; the policy will stay in place until changed.

You can create a Group Policy in the new domain to set the correct DNS suffix, but this may take more than one reboot to take effect.

CAUSE
Generally, this problem occurs where customers set the workstation Primary DNS suffix via a Group Policy: if the Group Policy is not reset for the new domain the error will occur.

The DNS suffix should be set correctly by User Profile Wizard at the end of the migration; it may then be reset again by the (incorrect) Group Policy later. You can check the Primary DNS Suffix by going to System Properties -> “Computer Name” tab -> “Change…” and then “More…” after seeing the error.
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End User License Agreement

END-USER LICENSE AGREEMENT

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