

Binary Tree® Power365® Directory Sync

## **Advanced Mappings Guide**

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## Legend

 **CAUTION:** A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

 **IMPORTANT, NOTE, TIP, MOBILE, or VIDEO:** An information icon indicates supporting information.

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# Template Advanced Mappings

In addition to basic mappings, you can perform advanced mappings for target attributes using values and conditions within a template's Mapping settings. Advanced mappings provide the flexibility needed to meet complex scenarios.

**MAPPING**

For more information on mapping click here. [i](#)

MODE **BASIC** ADVANCED

TARGET ATTRIBUTE userPrincipalName

VALUE ReplaceDomain(userPrincipalName, Profile.TargetDomain)

CONDITION

The Value will be set on the target object when the above Condition is true

DEFAULT SAVE CANCEL

## What is a Value?

A value is a formula or single value which determines the value that is set on the target attribute of the mapping. A combination of functions, text, and/or operations can be used to construct a Value. Values are limited to 2000 characters in length.

Other important items to note:

- A target attribute can only exist once in the mapping table. When creating values ensure that you can cover the requirements for that attribute with one value.
- Some default values exist and are detailed later in this document. It is important that you have a complete understanding of these default values before making any changes to them. It is suggested to not make changes to the default values if you do not have experience with advanced mappings.

## What is a Condition?

A Condition works like an on/off switch. If the formula entered in the Condition box evaluates to true or the box is empty, the value in the Value box will be applied to the target attribute. If in any case the formula in the Condition box is false, the value will not be applied. An example of using a condition would be setting the Condition field to Action = "Create" when you want to set a Value only when creating a user.

# Text strings and special characters

When using Attributes with names containing special characters (matching any operator) they must be enclosed in square brackets ( [ and ] ), otherwise they will be interpreted as the corresponding operator, such as a minus sign rather than a dash.

Example:

```
[msDS-PhoneticFirstName]
```

Text strings must be enclosed in double quotation marks e.g. ("sample").

All values of Attributes and text strings are case sensitive.

Examples:

Evaluating "Test user" = "test user" will result in false.

Evaluating "Test user" = "Test user" will result in true.

## Data sources

Within the advanced mappings you can use attributes from the source or target environments. You can also use the settings defined within the stage data step (also referred to as a profile). The current action being performed on the object can also be used.

By **default**, if the name of an attribute is entered with no prefix then it is assumed that you would like to use the value of that attribute from the source environment.

To specify source or target environment the following prefix methods can be used

### Source

- Source or S followed by a period in front of the attribute name returns the value of source object.  
Examples: Source.DisplayName, S.DisplayName, or DisplayName

### Target

- Target or T followed by a period in front of the attribute name returns the value of target object.  
Examples: Target.DisplayName, T.DisplayName

### Settings in Templates or Stage Data Steps (also referred to as a Profile)

- Profile or P followed by a period in front of a setting name returns the value of a setting in templates or stage data steps.  
Example: Profile.DefaultPassword returns the default password value from the settings.

## Operators

Operators are used to manipulate or compare values. You can do basic Math, Value Comparisons, and conditional flow control with "if" and "case" statements. You can combine operations and compare with Boolean operators.

### Math

- Purpose: The following can be used to perform calculations of numeric values or combine string-based values.
- Syntax:
  - + : Add numbers or concatenate strings
  - : Subtract numbers
  - \* : Multiply numbers
  - / : Divide numbers
- Note: Spaces are needed between symbols and values.
- Example 1: S.FirstName + S.SN
- Example 2: S.GivenName + "." + S.LastName
- Example 3: 12 = 5 + 7

## Value Comparison

- Purpose: The following operators return True or False when comparing values.
- Syntax:
  - = : Are two values are equal?
  - > : Is the left value greater than the right value?
  - >= : Is the left value greater than or equal to the right value?
  - < : Is the left value is less than the right value?
  - <= : Is the left value less than or equal to the right value?
  - != : Is the left value not equal to the right value?
- Note: Spaces are needed between symbols and values.
- Example : if(length(S.GivenName) > 10, S.GivenName, S.sn)

## Boolean Combinations

- Purpose: Combinations of operations can be achieved with the following.
- Syntax:
  - And
  - Or
  - ! (not)
- Example: Action = "create" or (Action = "update" and Target.HasCreateStamp)

## Boolean Constants

- Purpose: Returns pure values for Boolean logic.
- Syntax:
  - True
  - False
  - Null (empty)
- Example: You want to set the target DisplayName to the source value only if it is Null
- if(T.DisplayName = Null, S.DisplayName, T.DisplayName)

## case

- Purpose: Branching logic flow statement, evaluates different statements based on a given conditions, evaluated in order.
- Syntax: case(condition, value, condition, value, ...)
- Example: You want to set the department attribute to a standard, but the source value does not match your new standard. Departments in the source may be "IT" and "FIN", but in the target they need to be "Info Tech" and "Finance". Use of the case statement below will set department to "Info Tech" when the source department equals "IT" and set the department to "Finance" when the source department equals "FIN".  
  
Target Attribute : Department  
Value : case(S.Department = "IT","Info Tech", S.Department = "FIN","Finance")  
Condition : Null

## if

- Purpose: Returns a specified value if given condition is true, otherwise returns a different specified value.
- Syntax: if(condition, value1, value2)  
returns value1 when condition evaluates to True, otherwise returns value2



- Example: You need to set your display name to include (MGR), but only if the title of the user contains (Manager). For non-managers, display name is simply first name and last name. The value expression below uses an If statement to check if the source attribute title contains the word "Manager". If it contains "Manager", it will append " (MGR)" to the end of the first and last names.

Target Attribute : DisplayName

Value : if(contains(s.title, "Manager"), s.firstName+s.lastName + " (MGR)", s.firstName + s.lastName)

Condition : Null

## Text Operations

Text Operations are functions used to manipulate or build text values. In some cases, such as the contains() and empty() operations, the text operation can be used to check for the presence of a given value.

### empty

- Purpose: This method checks if a value is empty. Returns True if the given expression evaluates to either Null or an empty string ("")
- Syntax: empty(value)
- Example: The following will set the Company attribute to "BlueFish Hotels" if the Source company field is empty string or Null.

Target Attribute : Company

Value : "BlueFish Hotels"

Condition : empty(S.Company)

### contains

- Purpose: This method checks if the given string value exists anywhere within the given string source. Returns True if value is found in source and False otherwise.
- Syntax: contains(source, value)
- NOTE: Does not work with list or multivalued attributes.
- Example: You want to set ExtensionAttribute10 to "No Sync", but only if the source Company field contains "BlueFish".

Target Attribute : ExtensionAttribute10

Value : "No Sync"

Condition : contains(S.Company, "BlueFish")

### ends

- Purpose: This method evaluates whether the given string value is a suffix of the given string source. Returns True if source ends with value and False otherwise.
- Syntax: ends(source, value)
- Example: You are rebranding and need to change values in the target based on values in the source attribute Company. The following example will set the target Company attribute to "BlueFish Motels" if the source Company field ends with "Hotels"

Target Attribute : Company  
Value : "BlueFish Motels"  
Condition : ends(S.Company, "Hotels")

## length

- Purpose: This method returns the length in characters of a given string value
- Syntax: length(value)
- Example: The standard for email alias is firstName.lastName unless that would exceed 10 characters. When it exceeds 10 characters only use the first initial and 8 characters from the last name. The following expression will check if the combination of source firstName and lastName is less than 10 characters in length. If so (length is less than 10) the value will be set to firstName.lastName. However, if the combination would contain more than 10 characters, the value will be set to firstInitial.lastName with the last name limited to the first 8 characters.

Target Attribute : Alias  
Value : if(length(s.firstName + s.lastName) < 10, s.firstname+"." + s.lastname, trunc(s.firstName, 1) + "." + trunc(s.lastName, 8))  
Condition : Null

## lower

- Purpose: This method is used to convert all characters of a given string value to remove capitalization. This can be helpful prior to comparisons as well as in other situations which require lowercase wording. The return value is a new string containing the lowercase string.
- Syntax: lower(value)
- Example: The customer wants the target DisplayName to be all in lowercase.

Target Attribute : DisplayName  
Value : lower(S.DisplayName)  
Condition : Null

## replace

- Purpose: This method swaps all instances of one target string within a search string with a replacement string. Returns a new string created from given input string source with all instances of string value exchanged for instances of string replacement. If string source does not contain any instances of string value, the result will be the same as source. Note, the resulting string may be longer or shorter than the source string.
- Syntax: replace(source, value, replacement)
- Example: The following expression will replace part of the old company name with the new one. The goal is to replace "RedFish" in the source Company attribute with "BlueFish" in the target. If the source is "RedFishHotels" the new value in the target will be "BlueFishHotels".

Target Attribute : Company  
Value : replace(S.Company, "RedFish", "BlueFish")  
Condition : Null

### starts

- Purpose: This method evaluates whether the given string value is a prefix of the given string source. Returns True if source begins with value and False otherwise.
- Syntax: starts(source, value)
- Example: The following will set CustomAttribute10 to "NA" if the source Location attribute begins with "United States"

Target Attribute : CustomAttribute10  
Value : "NA"  
Condition : starts(S.Location, "United States")

### trim

- Purpose: This method removes leading and trailing spaces from given string value. Note that this does not remove other whitespace characters besides space. The return value is a copy of the input string value with no leading or trailing spaces.
- Syntax: trim(value)
- Example: "BlueFishHotels" becomes "BlueFishHotels"

Target Attribute : Company  
Value : trim(S.Company)  
Condition : Null

### trunc

- Purpose: This method returns a string which contains only the given length number of characters starting from the beginning of the given string source. Note, if length is greater than the length of string source, the result will be identical to string source.
- Syntax: trunc(source, length)
- Example: You want to use firstName and lastName to build the sAMAccountName but are limited to 20 characters.

Target Attribute : sAMAccountName  
Value : trunc(S.givenName+S.sn, 20)  
Condition : Null

### upper

- Purpose: This method is used to convert the characters of a given string value to all capital letters. This can be helpful prior to comparisons as well as in other situations which require uppercase wording. The return value is a new string containing the uppercase string.
- Syntax: upper(value)
- Example: The customer wants the target DisplayName to be all in uppercase.
- Target Attribute : DisplayName

Value : upper(S.DisplayName)  
Condition : Null

## index

- Purpose: This method returns the location of the beginning of the first instance of given string value within given string source. The position begins counting from 1 for the first character. Returns -1 if no instance of string value is found in string source.
- Syntax: index(source, value)
- Example: You need to use the left part of the UPN as the DisplayName in a new environment. The following expression will find the location in the UPN string of the '@' and then take all characters to the left of that.

Target Attribute : DisplayName  
Value : trunc(S.userPrincipalName, index(S.userPrincipalName, "@") - 1)  
Condition : Null

## Prefix

- Purpose: The prefix function will add the prefix specified to the value specified ONLY if that value is NOT null or an empty string.
- Syntax: prefix(value,prefix)
- Example:

Target Attribute : used in combination with other functions to create a proxyaddress  
Value : prefix(Result("mail"), "SMTP:")  
Condition : Null

## Suffix

- Purpose: The Suffix function will add the suffix text specified to the value specified ONLY if that value is NOT null or an empty string. This can be used to append to a DisplayName
- Syntax: suffix(value, suffix)
- Example:

Target Attribute : DisplayName  
Value : suffix(S.DisplayName, "(MGR)")  
Condition : Null

## Right

- Purpose: The Right function will return characters from the end of the string.
- Syntax: `right(Source, Count)`
- Source - Value to operate on
- Count - Number of characters from the end of the string to return. If Count is longer than the string, the entire string is returned.
- Example: You want to return the last four characters from the source display name.

Target Attribute : DisplayName

Value : `right(S.DisplayName, 4)`

Condition : Null

## Left

- Purpose: The Left function will return characters from the beginning of the string.
- Syntax: `left(Source, Count)`
- Source - Value to operate on
- Count - Number of characters from the beginning of the string to return. If Count is longer than the string, the entire string is returned.
- Example: You want to return the first four characters from the source display name.

Target Attribute : DisplayName

Value : `left(S.DisplayName, 4)`

Condition : Null

## Substring

- Purpose: The Substring function will return a subset of characters from a string.
- Syntax: `substring(Source, StartIndex, Length)`
- Source - (Required) Value to operate on
- StartIndex - (Required) Zero based Start Index position (First character = 0)
- Length - (Optional) Number of characters from Start Index to return. If StartIndex + Length extends beyond the string, Length is ignored, and the rest of the string is returned instead.
- Example: You want to return the 4th through 9th characters from the source display name.

Target Attribute : DisplayName

Value : `substring(S.DisplayName, 3, 5)`

Condition : Null

## GetList

- Purpose: This method is used to construct a list of values for multi-value attributes.
- Syntax: GetList(Value1, Value2,...)
- Example: The following expression will set target “msExchExtensionCustomAttribute1” attribute with a list of values set to “Test1” and “Test2”.

Target Attribute : msExchExtensionCustomAttribute1

Value: GetList(“Test1”, Test2”)

- Example 2: The following expression combine “msExchExtensionCustomAttribute1” and “msExchExtensionCustomAttribute2” from the source and apply to target “msExchExtensionCustomAttribute1”

Target Attribute : msExchExtensionCustomAttribute1

Value: GetList(S.msExchExtensionCustomAttribute1, S.msExchExtensionCustomAttribute2)

## UpdateList

- Purpose: This method is used to update/replace an existing value in a multi-value attribute.
- Syntax: UpdateList(S.ListAttribute, "Value To Replace", "Replacement Value")
- Example 1: The following expression will replace the “Test1” value in the source msExchExtensionCustomAttribute1 attribute with “Test-Replaced” and set it in the target.

Source “msExchExtensionCustomAttribute1” = Test1, Test2, Test3

Target Attribute : msExchExtensionCustomAttribute1

Value: UpdateList(S.msExchExtensionCustomAttribute1, “Test1”, “Test-Replaced”)

- Example 2: The following expression will replace the “Test1” value in the source msExchExtensionCustomAttribute1 attribute with “Test-Replaced”, Remove “Test2” and set it in the target.

Source “msExchExtensionCustomAttribute1” = Test1, Test2, Test3

Target Attribute : msExchExtensionCustomAttribute1

Value: UpdateList(UpdateList(S.msExchExtensionCustomAttribute1, “Test1”, “Test-Replaced”),”Test2”,NULL)

## ToString

- Purpose: This method is used to convert multi-value attribute values into a string separated by a delimiter and set it on a single value attribute
- Syntax: ToString(Delimiter, Value)
- Example: The following expression will convert source “msExchExtensionCustomAttribute1” attribute into a string, separated by “,” and set it on “CustomAttribute1” attribute

Source “msExchExtensionCustomAttribute1” = Test1, Test2,Test3

Target Attribute: customAttribute1

Value: ToString(“,”,s.msExchExtensionCustomAttribute1)

# Template and Stage Data Step Settings

These functions are used to gather or set values based on settings within the selected template and the Stage Data step of a workflow. Some functions will simply return a value and others will return a computed value based on which setting was selected. For example, Profile.TargetDomain returns a computed value which is a domain in the format of redfishhotels.com where getdn(CN) returns a complete value adding the source CN to the Target OU within the Stage Data setting. These functions all begin with uppercase letters to differentiate them from other functions.

## Profile.TargetDomain

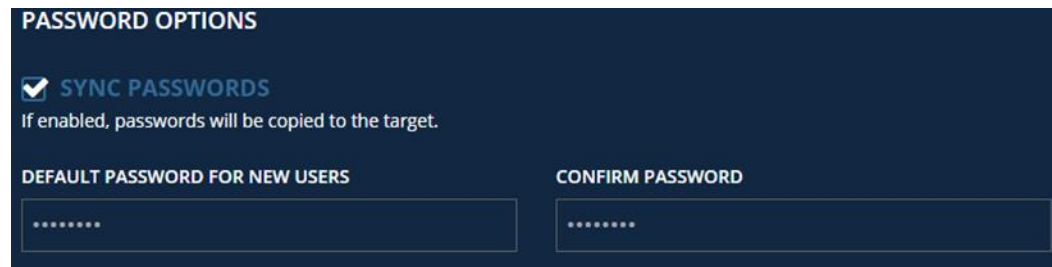
- Purpose: This profile setting will return the domain selected in the UI below during the configuration of the Stage Data step in a workflow. It will apply to the mapping template selected within the Stage Data Step.
- Syntax: Profile.TargetDomain or P.TargetDomain
- Location: The Stage Data Step of a workflow for Local and Cloud Environments



- Based on the above the use of Profile.TargetDomain or P.TargetDomain will result in a value of "TwoFishHotels.com"

## Profile.DefaultPassword

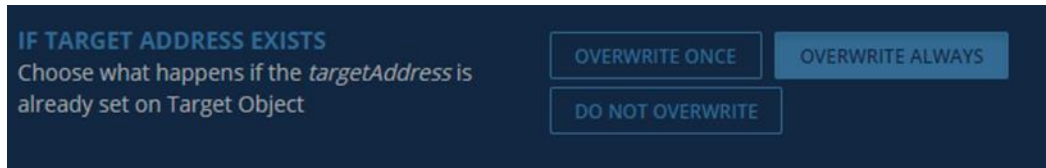
- Purpose: This profile setting refers to the Default password set in the template used within a Stage Data step of a workflow and is used to encode a password so that it can be applied to newly created objects in AD
- Syntax: Profile.DefaultPassword or P.DefaultPassword
- Location: The Template Settings for Local and Cloud environments



- Based on the above the use of Profile.DefaultPassword or P.DefaultPassword would return the value entered and masked by the \*'s. It will not be encoded, but rather be in plain text.

## AllowTargetAddress

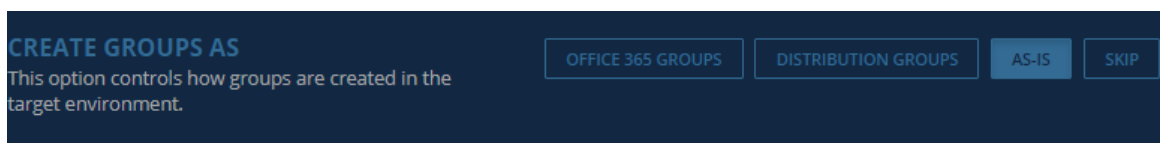
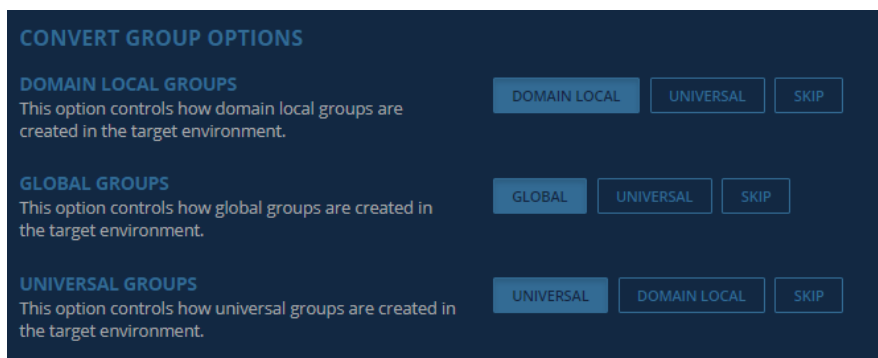
- Purpose: This function works like a profile setting where it returns the behavior defined within the template. Further details of this function can be found in the function section of this document.
- Syntax: AllowTargetAddress()
- Location: This profile setting refers to the setting selected by the user for targetAddress within the template.



- The allow target address function is used as a condition and should ONLY be used on the targetAddress attribute. The product will determine the correct course of action based on the selection in the settings. This setting can be ignored if you remove AllowTargetAddress() from the condition on the default mapping of the targetAddress.

## GetGroupType

- Purpose: Calculate target group type based on profile settings and the source or target object's group type
- Syntax: GetGroupType()
- Location: In the template under Objects – Groups. The possible setting values vary based on the target environment type.



- GetGroupType() will look at the setting to determine what group type to create in the target. If the target environment is a local Active Directory, it will determine if it should convert the group to another type, skip it, or create it as-is. If the target environment is Azure AD, it will look at the options allowed to determine how you would like the group created.

## GetDN

- Purpose: Calculate the target DN value using the given cn value and the value of the target DN
- Syntax: GetDN(cn)
- Location: The default domain



# Select your default OU for newly created objects.

This is the Organizational Unit where you plan to store any newly-created objects. ⓘ

OU=CW-Test,DC=redfishhotels,DC=com

SELECT OU

- Based on the above selection and a user with the source CN of john.smith, the DN of the user would be calculated as CN=john.smith,OU=CW-Test,DC=redfishhotels,DC=com

## GetUserAccountControl

- Purpose: Calculates UserAccountControl value based on profile settings. Applies to Local AD target only. If the source is a Cloud object, it will read the AccountDisabled Flag and set the object in AD to match the value.
- Syntax: GetUserAccountControl()
- Location: This setting can be in the template under Objects-Users

### USER OPTIONS

#### CREATE NEW USERS AS

This option controls how users are created in the target environment.

AS-IS

ENABLED

DISABLED

CONTACT

SKIP

- When using this function only 3 settings from about apply. Enabled, Disabled, and As-Is. The value of UserAccountControl will be set to 512, or 514 based on the values for enabled/disabled, or as it is existing in the source.

## General Functions

These functions are used to gather or set values based on other attributes. Some functions will simply return a value and others will return a computed value based on data found within the parameters or complex attribute data.

### Lookupvalue

- Purpose: Allow you to lookup a value and replace value with returned value leveraging Data Sets
- Example:
- `lookupvalue("TFH-OUS",S.Department,getdn(cn))`

## TFH-OUS

GENERAL											
DETAILS	<div style="border: 1px solid #ccc; padding: 5px;"><input type="text" value="Search values"/> <span style="float: right;">Q</span></div> <table border="1" style="width: 100%;"><thead><tr><th>Key Value ^</th><th>Return Value ↕</th></tr></thead><tbody><tr><td>Accounts Payable</td><td>OU=Accounts Payable,OU=Users,OU=P365DS Synced,DC=twofishhotels,DC=com</td></tr><tr><td>Human Resources</td><td>OU=Human Resources,OU=Users,OU=P365DS Synced,DC=twofishhotels,DC=com</td></tr><tr><td>Information Technologies</td><td>OU=Information Technologies,OU=Users,OU=P365DS Synced,DC=twofishhotels,DC=com</td></tr><tr><td>Sales</td><td>OU=Sales,OU=Users,OU=P365DS Synced,DC=twofishhotels,DC=com</td></tr></tbody></table> <div style="display: flex; justify-content: space-around; margin-top: 10px;"><span>NEW</span> <span>IMPORT</span> <span>EXPORT</span> <span>SELECT ALL</span> <span>REMOVE</span></div> <div style="text-align: right; margin-top: 10px;"><span>SAVE</span></div>	Key Value ^	Return Value ↕	Accounts Payable	OU=Accounts Payable,OU=Users,OU=P365DS Synced,DC=twofishhotels,DC=com	Human Resources	OU=Human Resources,OU=Users,OU=P365DS Synced,DC=twofishhotels,DC=com	Information Technologies	OU=Information Technologies,OU=Users,OU=P365DS Synced,DC=twofishhotels,DC=com	Sales	OU=Sales,OU=Users,OU=P365DS Synced,DC=twofishhotels,DC=com
Key Value ^	Return Value ↕										
Accounts Payable	OU=Accounts Payable,OU=Users,OU=P365DS Synced,DC=twofishhotels,DC=com										
Human Resources	OU=Human Resources,OU=Users,OU=P365DS Synced,DC=twofishhotels,DC=com										
Information Technologies	OU=Information Technologies,OU=Users,OU=P365DS Synced,DC=twofishhotels,DC=com										
Sales	OU=Sales,OU=Users,OU=P365DS Synced,DC=twofishhotels,DC=com										

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### encodePWD

- Purpose: Used to encode a string password so that it can be applied to newly created objects in Local AD. This method should not be used to set the password on a cloud object.
- Syntax: EncodePwd(password)
- Example:

Target Attribute : unicodePwd

Value : EncodePwd(Profile.DefaultPassword)

Condition : Action = "create"

### GetAccountDisabled

- Purpose: Calculates whether to create a target cloud object as enabled or disabled. This does not apply to local AD environments. If the source is a local AD object, the function will read the UserAccountControl and determine if the object should be enabled or disabled.
- Syntax: GetAccountDisabled()
- Example: This example is also a default mapping for cloud environments. It will set the account as enabled or disabled if we create the object, or update an object that was created by Power365 Directory Sync. The limit of only updating objects created by Power365 Directory Sync can be removed by removing everything in the condition field.

Target Attribute : AccountDisabled

Value : GetAccountDisabled()

Condition : Action = "create" or (Action = "update" and Target.HasCreateStamp)

### ReplaceDomain

- Purpose: Replaces the domain part of the given attribute with the value specified.

- Syntax: ReplaceDomain(attribute, value)
- Attribute can be any attribute that contains an @domain.... Value
- Value specified can be text or anything that represents a domain name.
- Example 1:
 

This example replaces the Domain value of the source userPrincipalName with the domain value selected in the Stage Data step of a workflow

Target Attribute : userPrincipalName

Value : ReplaceDomain(S.userPrincipalName, Profile.TargetDomain)

Condition : Null
- Example 2:
 

This example replaces the Domain value of the source Target address with the domain value selected in the Stage Data step of a workflow

Target Attribute : TargetAddress

Value : ReplaceDomain(S.TargetAddress, Profile.TargetDomain)

Condition : AllowTargetAddress()

## GetProxyAddresses

- Purpose: Create list of Proxy addresses removing any duplicates that are found.
- Syntax: GetProxyAddresses(SourceProxyAddresses,TargetProxyaddresses, address1,Address2,address3)
- Example: Local to Local environment merge Source and Target Proxyaddresses in Target Object
 

Target Attribute : Proxyaddresses

Value : GetProxyAddresses(S.proxyAddresses, T.proxyAddresses, prefix(Result("mail"), "SMTP:"), prefix(LegacyExchangeDN, "x500:"), prefix(Result("legacyExchangeDN"), "x500:"))

Condition :
- Example: Cloud to Cloud environment. SourceProxyAddresses is set to Null by default to avoid errors adding domains which are not accepted by Office 365.
 

Target Attribute : Proxyaddresses

Value : GetProxyAddresses(null, T.EmailAddresses, prefix(Result("WindowsEmailAddress"), "SMTP:"), prefix(LegacyExchangeDN, "x500:"))

Condition :

## GetLegacyExchangeDN

- Purpose: Generate a legacyExchangeDN value using the given exchange org and cn.
- Syntax: GetLegacyExchangeDN(exchangeOrg, cn)

- Example: Set the legacy exchange DN for a user in the target  
 Target Attribute : legacyExchangeDN  
 Value : GetLegacyExchangeDN(Target.ExchangeOrg, ObjectId)  
 Condition : Null

### GetObjectClass

- Purpose: Calculates the objectClass from profile settings and the source or target object's class
- Syntax: GetObjectClass()
- Example: Add (contact) to the end of DisplayName if the target object is a contact, if not a contact set same as the source.  
 Target Attribute : DisplayName  
 Value : if(GetObjectClass()="contact", S.DisplayName+" (Contact)", S.DisplayName)  
 Condition :

### GetTargetAddress

- Purpose: Calculates targetAddress, by using source primary SMTP, mail, or userPrincipalName
- Syntax: GetTargetAddress()
- Example: Set the target address for a user with the following attributes
- UPN Mail attribute first.m.last@domain.com
- Primary SMTP address first.last@domain.com
- UPN first.last@domain.com  
 Target Attribute : targetAddress  
 Value : GetTargetAddress()  
 Condition :  
 This will result in the value of SMTP being used.

### GetRecipientTypeDetails

- Purpose: Determines the correct value for RecipientTypeDetails or msExchRecipientTypeDetails
- Syntax: GetRecipientTypeDetails()

### Action

- Purpose: Action - returns action currently to be taken for this object ("create", "update", or "delete")
- Syntax: Action = "create"
- Example: Although action could be used within other functions such as case or if, its typical use will be for a condition. In this case we will set the UPN only on create

Target Attribute : userPrincipalName  
Value : userPrincipalName  
Condition : action = "Create"

## result

- Purpose: Returns the calculated mapped value of the given attributeName (must be a string)
- Syntax: result("attributeName")
- Example: Result is used to gather the value of a mapping which contains a function. This example gathers the results of what the function of the "mail" attribute will be the default value/function for the mail attribute is if(GetObjectClass)="group", ReplaceDomain(WindowsEmailAddress, Profile.TargetDomain), WindowsEmailAddress). The alternative for using result("mail") would be to use the entire function which is present in the mail attribute mapping. The result command allows you to link more complex functions.

Target Attribute : proxyAddresses  
Value :  
GetProxyAddresses(result("mail"), LegacyExchangeDN, result("legacyExchangeDN"))  
Condition : Null

## Target.HasCreateStamp

- Purpose : This value is an internal value which determines if Power365 Directory Sync created the object being synchronized. This value verifies the "created by Dirsync" text is present on the correct attribute for the target object type.
- Syntax : Target.HasCreateStamp
- Example: You want to set the UserAccountControl value for only objects created by Power365 Directory Sync.

Target Attribute : userAccountControl  
Value : GetUserAccountControl()  
Condition : Action = "create" or (Action = "update" and Target.HasCreateStamp)

## ConvertValue("base64STR", objectGUID)

- Purpose: This was introduced as part of Power365 DS B2B user capability. You can now take the GUID of a local objects and set it as a ImmutableID on a cloud object
- Syntax: ConvertValue("stringtype",objectGUID)
- The only string type currently available is base64STR
- Example: ConvertValue("base64STR", objectGUID)

# Default Advanced Mappings

The following are the target attributes which contain advanced mapping values by default. The defaults differ based on the source and target environment type.

**Note: Changing the default advanced mappings may result in unexpected behavior.**

## Local to Local

### distinguishedName

Target Attribute : distinguishedName

Value : GetDN(cn)

Condition : Null

Definition : This creates the DN for the target user. This is defined by the source CN and by reading the Target OU specified within the Stage Data step of a workflow.groupType

Target Attribute : groupType

Value : GetGroupType()

Condition : Action = "create"

Definition : This will set the group type on creation. The GetGroupType function looks up the setting in the Template selected to determine the target group type.

### legacyExchangeDN

Target Attribute : legacyExchangeDN

Value : GetLegacyExchangeDN(Target.ExchangeOrg, objectGuid)

Condition : Null

Definition : This default mapping will read the exchange org info from the target environment and create the LegacyDN using this value.

### objectClass

Target Attribute : objectClass

Value : GetObjectClass()

Condition : Action = "create"

Definition : This will read the objectclass of the target user being created based on settings in the template. Create users as, Create Groups as, etc.

### proxyAddresses

Target Attribute : proxyAddresses

Value : GetProxyAddresses(result("mail"), legacyExchangeDN, result("legacyExchangeDN"))

Condition : Null

### pwdLastSet

Target Attribute : pwdLastSet

Value : 0

Condition : Action = "create"

### targetAddress

Target Attribute : targetAddress  
Value : GetTargetAddress()  
Condition : AllowTargetAddress()

#### **unicodePwd**

Target Attribute : unicodePwd  
Value : EncodePwd(Profile.DefaultPassword)  
Condition : Action = "create"

#### **userAccountControl**

Target Attribute : userAccountControl  
Value : GetUserAccountControl()  
Condition : Action = "create" or (Action = "update" and Target.HasCreateStamp)

#### **userPrincipalName**

Target Attribute : userPrincipalName  
Value : ReplaceDomain(userPrincipalName, Profile.TargetDomain)  
Condition : Null

#### **mail**

Target Attribute : mail  
Value : if(GetObjectClass()=="group", ReplaceDomain(mail, Profile.TargetDomain), mail)  
Condition : Null

### **Cloud to Local**

#### **distinguishedName**

Target Attribute : distinguishedName  
Value : GetDN(cn)  
Condition : Null  
Definition : This creates the DN for the target user. This is defined by the source CN and by reading the Target OU specified within the Stage Data step of a workflow.

#### **groupType**

Target Attribute : groupType  
Value : GetGroupType()  
Condition : Action = "create"  
Definition : This will set the group type on creation. The GetGroupType function looks up the setting in the Template selected to determine the group type.

#### **legacyExchangeDN**

Target Attribute : legacyExchangeDN  
Value : GetLegacyExchangeDN(Target.ExchangeOrg, objectGuid)  
Condition : Null

### **msExchRecipientTypeDetails**

Target Attribute : RecipientTypeDetails  
Value : GetRecipientTypeDetails()  
Condition : Action = "create"

### **objectClass**

Target Attribute : objectClass  
Value : GetObjectClass()  
Condition : Action = "create"

### **proxyAddresses**

Target Attribute : proxyAddresses  
Value : GetProxyAddresses(result("mail"), legacyExchangeDN, result("legacyExchangeDN"))  
Condition : Null

### **unicodePwd**

Target Attribute : unicodePwd  
Value : EncodePwd(Profile.DefaultPassword)  
Condition : Action = "create"

### **userAccountControl**

Target Attribute : userAccountControl  
Value : GetUserAccountControl()  
Condition : Action = "create" or (Action = "update" and Target.HasCreateStamp)

### **userPrincipalName**

Target Attribute : userPrincipalName  
Value : ReplaceDomain(userPrincipalName, Profile.TargetDomain)  
Condition : Null

## **Cloud to Cloud**

### **objectClass**

Target Attribute : objectClass  
Value : GetObjectClass()  
Condition : Action = "create"

### **Password**

Target Attribute : Password  
Value : Profile.DefaultPassword  
Condition : Action = "create"

### **RecipientTypeDetails**

Target Attribute : RecipientTypeDetails  
Value : GetRecipientTypeDetails()  
Condition : Action = "create"



### **userPrincipalName**

Target Attribute : userPrincipalName  
Value : ReplaceDomain(userPrincipalName, Profile.TargetDomain)  
Condition : Null

### **WindowsEmailAddress**

Target Attribute : WindowsEmailAddress  
Value : if(GetObjectClass()="group", ReplaceDomain(WindowsEmailAddress, Profile.TargetDomain), WindowsEmailAddress)  
Condition : Action = "create"

### **EmailAddresses**

Target Attribute : EmailAddresses  
Value : GetProxyAddresses(result("WindowsEmailAddress"), LegacyExchangeDN, null))  
Condition : Null

## **Local to Cloud**

### **AccountDisabled**

Target Attribute : AccountDisabled  
Value : GetAccountDisabled()  
Condition : Action = "create" or (Action = "update" and Target.HasCreateStamp)

### **groupType**

Target Attribute : groupType  
Value : GetGroupType()  
Condition : Null  
Definition : This will set the group type on creation. The GetGroupType function looks up the setting in the Template selected to determine the group type.

### **objectClass**

Target Attribute : objectClass  
Value : GetObjectClass()  
Condition : Action = "create"

### **Password**

Target Attribute : Password  
Value : Profile.DefaultPassword  
Condition : Action = "create"

### **RecipientTypeDetails**

Target Attribute : RecipientTypeDetails  
Value : GetRecipientTypeDetails()  
Condition : Action = "create"

**userPrincipalName**

Target Attribute : userPrincipalName

Value : ReplaceDomain(userPrincipalName, Profile.TargetDomain)

Condition : Action = "create"

**WindowsEmailAddress**

Target Attribute : WindowsEmailAddress

Value : if(GetObjectClass()="group", ReplaceDomain(mail, Profile.TargetDomain), mail)

Condition : Action = "create"

**EmailAddresses**

Target Attribute : EmailAddresses

Value : GetProxyAddresses(result("WindowsEmailAddress"), LegacyExchangeDN, null))

Condition : Null