

Offline Domain Join Credential Cache

Quick Start 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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Offline Domain Join -Trust Requirements

In order to successfully facilitate the new Cached Credentials job (which supports the Offline Domain Join feature) a one-way external trust must be configured from the source domain to the target domain (source trusts target).

Cached Credentials will validate and cache the login of a target user account prior to a workstation cutover so that they may successfully login to the target forest after cutover without the need to be on the network for the first login which for remote users is typically a challenge. In order to facilitate the caching of target user accounts the workstations being migrated must be allowed to use the target user accounts for authentication which is why the dependency of a one-way trust is required.

With the addition of the one-way trust we can establish a selective authentication model to limit and restrict the access of target objects to explicitly chosen target accounts and source resources by source forest administrators.

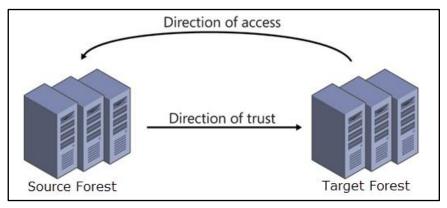


Figure 1 – Source Forest with a 1-way trust to the Target AD Forest

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Offline Domain Join - Trust Options

When setting up a forest trust you have the options of limiting the direction of the trust (incoming vs outgoing), 1way or 2-way as well the scope of authentication. With an Active Directory Trust, you can perform Forest-wide authentication or Selective Authentication.

Forest-wide Authentication

With Forest-wide authentication users from the trusted forest can automatically authenticate for all resources in the local forest.

Selective Authentication (Recommended Method)

When using the Selective Authentication model, users from the trusted forest are not automatically granted the permission to authenticate to resources in the local forest and must be explicitly giving the permission to authenticate. This is the preferred method for handling trust relationships between two different organizations or where you want to limit the access you grant the trusted forest.

For Offline Domain Join purposes we can use selective authentication to limit the access of the target accounts that have the ability to perform the cache credential steps as well as limit the computer objects where these accounts have the ability to authenticate from which greatly limits the security implications of establishing a trust during an ongoing Active Directory Migration since the source domain is in complete control of where target authentication is allowed to be performed in the local forest.

New Trust Wizard				
Outgoing Trust Authentication Level-Local Domain Users in the specified domain can be authenticated to use all of the resources in the local domain or only those resources that you specify.				
Select the scope of authentication for users from the rockypinehotels.com domain.				
O Domain-wide authentication Windows will automatically authenticate users from the specified domain for all resources in the local domain. This option is preferred when both domains belong to the same organization.				
Selective authentication Windows will not automatically authenticate users from the specified domain for any resources in the local domain. After you finish this wizard, grant individual access to each server that you want to make available to users in the specified domain. This option is preferred if the domains belong to different organizations.				
< Back Next > Cancel				

Figure 2 – Authentication Models for Outgoing Trust Relationships

Configuring an Active Directory Trust

Before we can start setting up selective authentication permissions, we first need to get a one-way trust established so target domain accounts can be cached on source workstations prior to cutover via Offline Domain Join. Below is a guide process to establishing a one-way trust between two organizations with selective authentication being used to limit target forest access.

DNS and Firewall Port Requirements

This guide assumes you have already met all required DNS, Firewall and Network Connectivity Requirements for establishing a trust as most of these would already be in place in order to perform a successful Active Directory Migration:

Item	Description
Network Connectivity	Ensure there is network connectivity established between Forest A and Forest B
Firewall Ports	Ensure these ports are unblocked between two forests, at network level :
	53 TCP/UDP DNS
	88 TCP/UDP Kerberos
	389 TCP/UDP LDAP
	636 TCP LDAP (SSL)
	445 TCP SMB
	135 TCP RPC Endpoint Mapper
	1024-65535/TCP RPC for LSA, SAM, Netlogon (*)
Name Resolution	Name Resolution should work between Forest A and Forest B. For that use conditional forwarder or stub zone.
Access	Membership of Enterprise Admin group is required. Alternatively, the Domain Admin of Forest Root Domain (or equivalent access through delegation) can create Forest Trust.

Trust Creation

1. From a Source Forest Domain Controller, launch **Server Manager**, using the Tools drop down menu select **Active Directory Domain and Trusts**.

a		Server Manager							
`	Server N	1anager • Dashboard	<u>·</u>	©		Manage	Tools	View	Help
						/ Administr / Domains a			
🔛 Dashboard		WELCOME TO SERVER MANAGER				/ Module fo			ell
Local Server				Active	Directory	Sites and	Services		
All Servers		1 Configure this loss	Loonu	Active	Directory	Users and	Computer	s	

Offline Domain Join Credential Cache - Quick Start Guide Configuring an Active Directory Trust 2. In Active Directory Domain and Trusts, right click and choose Properties.

943P		 		
File Action View Help				
Active Directory Domains and Trust	Name		Туре	
BlueRanchFarms.com	🗓 BlueRanchF	Manage Raise Domain F	unctional Leve	I
		Properties		

- 3. On the domain properties sheet, click on the **Trusts** tab.
- 4. Click on New Trust, on the Welcome to the Trust Wizard click Next.

Domain Name	Trust Type	Transitive	Properties
			Remove
New Trust			

5. On the Trust Name page, enter the name of the forest you want to establish the trust with, click Next.

New Trust Wizard	×				
Trust Name You can create a trust by using a NetBIOS or DNS name.					
Type the name of the domain, forest, or realm for this trust. If you type the name of a fore must type a DNS name.	st, you				
Example NetBIOS name: supplier01-int Example DNS name: supplier01-internal.microsoft.com					
Name:					
rockypinehotels.com					
< <u>B</u> ack <u>N</u> ext > C	Cancel				

6. On the Trust Type page click on External trust, click Next.



7. On the Direction of Trust page choose **One-way: outgoing**, click **Next**.

New Trust Wizard	x
Direction of Trust You can create one-way or two-way trusts.	
 Select the direction for this trust. Two-way Users in this domain can be authenticated in the specified domain, realm, or forest, and users in the specified domain, realm, or forest can be authenticated in this domain. One-way: incoming Users in this domain can be authenticated in the specified domain, realm, or forest. One-way: outgoing Users in the specified domain, realm, or forest can be authenticated in this domain. 	
< Back Next > Cancel	el

8. On the Sides of Trust page, in order to set the trust up for both domains you will need the administrative privileges or know the administrator account and password for both domains. In this example I will choose **This Domain Only**, click **Next**.

New Trust Wizard	x
Sides of Trust If you have appropriate permissions in both domains, you can create both sides of the trust relationship.	
To begin using a trust, both sides of the trust relationship must be created. For example if you create a one-way incoming trust in the local domain, a one-way outgoing trust must also be created in the specified domain before authentication traffic will begin flowing across the trust.	в,
Create the trust for the following:	
This domain only This option creates the trust relationship in the local domain.	
 Both this domain and the specified domain This option creates trust relationships in both the local and the specified domains. You must have trust creation privileges in the specified domain. 	
< Back Next > Ca	incel

9. On the Outgoing Trust Authentication Level page, choose **Selective authentication**, click **Next**.

New Trust Wizard				
Outgoing Trust Authentication Level—Local Domain Users in the specified domain can be authenticated to use all of the resources in the local domain or only those resources that you specify.				
Select the scope of authentication for users from the rockypinehotels.com domain.				
O Domain-wide authentication Windows will automatically authenticate users from the specified domain for all resources in the local domain. This option is preferred when both domains belong to the same organization.				
Selective authentication Windows will not automatically authenticate users from the specified domain for any resources in the local domain. After you finish this wizard, grant individual access to each server that you want to make available to users in the specified domain. This option is preferred if the domains belong to different organizations.				
< Back Next > Cancel				

10. On the Trust Password page, enter a password that the administrators from both forests have agreed upon as the trust password, click **Next**.

8

New Trust Wizard				
Trust Password Passwords are used by Active Directory Domain Controllers to confirm trust relationships.				
Type a password for this trust. The same password must be used when creating this trust relationship in the specified domain. After the trust is created, the trust password is periodically updated for security purposes.				
Trust password:				
••••••				
Confirm trust password:				
••••••				
< Back Next > Cancel				

- 11. On the Trust Selections Complete page click Next.
- 12. On the Trust Creation Complete page click Next.
- 13. On the Confirm Outgoing Trust page and the Confirm Incoming Trust page click **Next**. You will not be able to confirm the trust until the target side has been completed or if you are creating both relationships at the same time.
- 14. On the Completing the New Trust Wizard page click Finish.
- 15. On the Domain Properties page, click Apply.

BlueRan	es ? X		
General Trusts Managed Domains trusted by this don		usts):	
Domain Name RockyPineHotels.com	Trust Type External	Transitive No	Properties Remove

- 16. Once the Forest Trust has been created you must have an administrator for the Target Forest complete the same process but for a **one-way: incoming** trust using the Password agreed upon when setting up the source side trust relationship.
- 17. Once both sides have been setup you can then **Validate** the relationship from the Source Forest Active Directory Domain and Trusts **Properties** view for the outgoing trust.

R	ockyPineHotels.com Properties ? x					
General Authentication						
This D <u>o</u> main:	BlueRanchFams.com					
Other Do <u>m</u> ain:	RockyPineHotels.com					
Trust type:	External					
Ac	Active Directory Domain Services					
The trust has been validated. It is in place and active.						
	ОК					
To confirm and, if click Validate.	necessary, reset this trust relationship,					

Configuring Authentication Permissions

With our Active Directory Trust configured and validated we can now move to setting up selective permissions for Cache Credentials to work with Offline Domain Join.

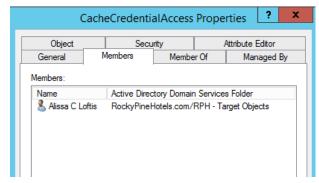
Configure Access Group

In order to limit the target accounts that have access to use cached credentials we will use a Domain Local group in the Source Environment to add in the target account members to control which target users accounts will have the ability to authenticate to source workstations.

1. In Active Directory Users and Computers Create a Domain Local Group.

	New Ob	oject - G	roup			L
Create in: Blu	eRanchFar	rms.com/Bu	uiltin			
roup name:						
					1	
CacheCredentialAccess						
· ·	2000).					
CacheCredentialAccess	2000):]	
roup name (pre-Windows CacheCredentialAccess	2000):]	
roup name (pre-Windows CacheCredentialAccess Group scope	2000):	Group t]	
roup name (pre-Windows CacheCredentialAccess Group scope	2000):	• Secu	rity]	
roup name (pre-Windows CacheCredentialAccess Group scope	2000):	• Secu]	

2. Open the group and add in the target user accounts for all migrating source users. In the below example I am adding the target account for Alissa Loftis who is a migrating user from the Source Forest.



- Once everyone's Target user accounts have been added to the source local group, we will then want to assign the right to authenticate for that domain local group on any OU containing workstations being migrated.
- 4. Once you find the OUs you need to assign the permissions to you want to right click the OU and choose **Properties**.

File Action View	Help
🗢 🄿 🙍 🐺 🤞	1 🗙 🖬 🖬 🔢 👔
 Active Directory Use Saved Queries BlueRanchFarms 	rs and Com Name PRF-EX13 Com RF-P365
BRF-Device	Delegate Control
📔 Builtin 🎬 Comput	Move Find
þ 🛅 Contact þ 💼 Domain	New +
▷ Correign! ▷ Correign! ▷ Correign! ▷ Correign!	All Tasks View
⊳ 📫 LostAnc ⊳ 📫 Manage ⊳ 📬 Microso	Cut Delete
▷ I Microso ▷ Program ▷ I System	Rename
▷ System ▷ UFP-Tes ▷ Users	Refresh Export List
▷ Microso ▷ NTDS O	Properties
D TPM De	Help

5. Click on the **Security** tab and choose **Advanced**.

BRF-Devices P	roperties	?
General Managed By Object Security	COM+ Attribut	te Editor
Group or user names:		
SELF		^
& Authenticated Users		
& SYSTEM		
& NETWORK SERVICE		
& Organization Management (BRF\Org	anization Manage	ment)
& Delegated Setup (BRF\Delegated S	etup)	~
	Add	Remove
Permissions for SELF	Allow	Deny
Full control		
Read		
Write		
Create all child objects		
Delete all child objects		
For special permissions or advanced settin Advanced.	ngs, click	Advanced

6. On the Advanced Security Setting screen click on Add.

Owner:	Domain Admins (BRF\Domai	n Admins) Change			
Permissions	Auditing Effective A	ccess			
For additiona	al information, double-click a per	mission entry. To modify a	permission entry, select th	e entry and click Edit (if availa	ble).
Permission e	ntries:				
Type	Principal	Access	Inherited from	Applies to	^
🍇 Allow	Account Operators (BRF\Acc	Create/delete InetOrg	None	This object only	
& Allow	Account Operators (BRF\Acc	Create/delete Comput	None	This object only	
& Allow	Account Operators (BRF\Acc	Create/delete Group o	None	This object only	
& Allow	Print Operators (BRF\Print O	Create/delete Printer o	None	This object only	
🍇 Allow	Account Operators (BRF\Acc	Create/delete User obj	None	This object only	
🍇 Allow	Domain Admins (BRF\Domai	Full control	None	This object only	
🍇 Allow	ENTERPRISE DOMAIN CONT	Special	None	This object only	
🍇 Allow	Authenticated Users	Special	None	This object only	
🚨 Allow	SYSTEM	Full control	None	This object only	
용 Allow	Exchange Windows Permissi	Change password	DC=BlueRanchFarms,	Descendant User objects	~

7. Click **Select a Principal** and find the domain local group you created previously, ensure the type is set to **Allow** and the Applies to is set to **Descendant Computer Objects.** Once the permissions have loaded you want to find and check off the permission **Allowed to authenticate**. You may have to screen down the list of available permissions to find it. Click **Ok**, once completed.

r.		Permission Entry for BRF-Devices	
Principal:	CacheCredentialAccess (BRF\CacheCred	lentialAccess) Select a principal	
Туре:	Allow	¥	
Applies to:	Descendant Computer objects	~	
L	Permission	Entry for BRF-Devices	_ □
	CalDAA ODJECIS		
	sDFSR-LocalSettings objects	Create rFC1006Stack objects	
	sDFSR-LocalSettings objects	Delete rFC1006Stack objects	
Create m	sDS-App-Configuration objects	Create Shared Folder objects	
Delete m	sDS-App-Configuration objects	Delete Shared Folder objects	
Create m	sDS-AppData objects	Create tP4Stack objects	
Delete m	sDS-AppData objects	Delete tP4Stack objects	
Create m	sDS-GroupManagedServiceAccount objects	Create transportStack objects	
Delete m	sDS-GroupManagedServiceAccount objects	Delete transportStack objects	
Create m	sExchActiveSyncDevices objects	Create x25Stack objects	
Delete m	sExchActiveSyncDevices objects	Delete x25Stack objects	
Create m	sExchMDB objects	Allowed to authenticate	
Delete m	sExchMDB objects	Change password	

- 8. Back on the Advanced Security Settings screen, click **Apply** and close both menus.
- 9. Repeat this process for any OU that you have migrating workstations to ensure each workstation is allowing the domain local group the ability to authenticate so we can pre cache their credentials prior to cutover.
- 10. Once all the steps have been completed you should be able to successfully run the Cache Credentials action without error. If you are getting the below error for a workstation, ensure that the domain local group has been assigned the permission to authenticate to it.

Migration for Active Directory Cacl	ne Credential	<u></u>		×		
Ente	er Cutover Credentials					
	username and password be o prepare your computer for			new	Enter Cutover Credentials	×
					LogonUser: The computer you are signing into is protected by an authentication firewall. The specified account is not allowed to authenticate to the computer	
Account DC	MAIN\USER or user@doma	in)			ОК]
Password						
This request will automatically expire in: 00:04:5	8 Submit		Cancel			

Post Migration Cleanup

Once migrations have completed you can safely tear down the trust relationship and remove any assigned permissions for the domain local group.

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