



What's Covered in this Course
Train Signal, Inc.
Coach Culbertson



What's on the hit parade for this one, Coach? Can we dance to it?

2. What is Active Directory?
3. The First Two Domain Controllers
4. Setting Up Remote Desktop on Your Personal Vista Client
5. Creating Organizational Units, User and Computer Accounts, and Groups
6. Sharing Stuff On Servers
7. Get Your Control Freak On!
8. How to Make Your Boss Mad and then Fix it Really Fast



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9. Make Your Life Easier with Computer Policies and Preferences

10. How to Push Software Onto a Lot of Machines Without Getting Up From Your Desk
11. What's My POP sword again?
12. Passing the Buck
13. Creating Backup Solutions BEFORE Stuff Blows Up



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14. Reducing Single Points of Failure

15. Monitoring , Auditing, and Defragging
16. Creating the Chicago Location
17. How To Give People Access to Stuff That's 790 Miles Away
18. Creating The Dallas Branch Office
19. Bringing an OU and Users Back from the Dead

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BEST COMPUTER TRAINING ON THE PLANET!

Building the Brain of the Globomantics Network
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This is how we begin

Your mission should you choose to accept it: build 2 Domain Controllers to start the Globomantics network at the New York headquarters. Here's your hardware and what we're going to build.

Computer Name: NY-DC1-2K8
IP: 192.168.5.2
3GHz 64-bit CPU
4GB RAM
2 – 120GB HDD's
Gigabit NIC

This Domain Controller will create the Domain globomantics.com

Internet T-1 connection

Network Switch

Computer Name: NY-DC2-2K8
IP: 192.168.5.3
3GHz 64-bit CPU
4GB RAM
2 – 120GB HDD's
Gigabit NIC

This Domain Controller will join the Domain globomantics.com

We're setting up two almost identical DC's for fault tolerance and better performance. If one crashes, we have another!

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Once we set up these two DC's, we'll have this:

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The Big Picture
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Welcome to Train Signal

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Video 4

Setting Up Remote Desktop on Your Personal Vista Client

Because you don't want to have to go into the Server Room every time you need to do something



Setting up Remote Desktop on Your Vista Client

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In this video:

- The DC's Are Up And Running...Now What?
- Why Remote Desktop Is Just Great

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The DC's Are Up And Running...Now What?

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Time to set up our Vista Client so we can access the servers remotely

Remote Desktop

Click an option, and then specify who can connect, if needed.

☐ Don't allow connections to this computer

☐ Allow connections from computers running any version of Remote Desktop (less secure)

☒ Allow connections only from computers running Remote Desktop with Network Level Authentication (more secure)

[Help me choose](#)

Select Users...

- You have a Vista machine that you'll be using for everyday tasks, and you can use Remote Desktop to administer Servers without having to be right at the machine.
- Because we selected the more secure option when we set up Remote Desktop on the Servers, we have to join the Vista client machine to the Globomantics Domain in order to access DC1 and DC2 from the client machine.

OK Cancel Apply

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The DC's Are Up And Running...Now What?—Part 2
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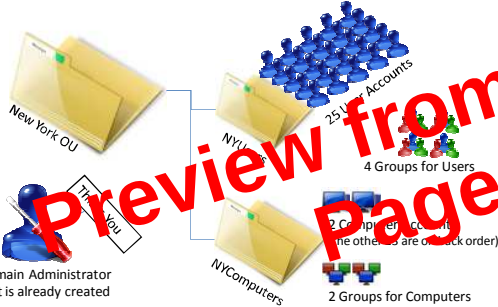
 Now that we can access DC1 remotely, we populate!

- “Populate” is a fancy word that means “put stuff into a space,” i.e. add in Objects to our Active Directory.
- We have the “Brain” of the Globomantics network, but it’s not particularly usable yet. We need to add in Organizational Units, User Accounts, Computer Accounts, and Groups.
- We’ll be accessing DC1 via Remote Desktop to add in all of our objects, and let replication add them to DC2.

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The DC's Are Up And Running...Now What?
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 The Beginning Globomantics AD Structure- Here's what we're going build



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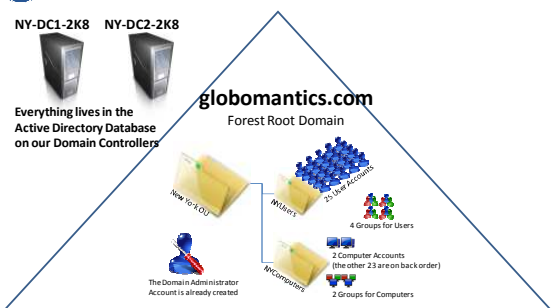
The DC's Are Up And Running...Now What?
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 And they all live together in one big shoe—I mean Domain

NY-DC1-2K8 NY-DC2-2K8

Everything lives in the Active Directory Database on our Domain Controllers

globomantics.com
Forest Root Domain





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Globomantics Group Structure
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And then..

- Based on the original Excel sheet Hank sent you, you'll add the appropriate users to the appropriate groups.
- Also, you'll add your Vista machine, CL1-NY-VIS, to the ITComputers Group, and CL2-NY-VIS to the StandardComputers Group for testing.



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Terms You Should Know
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Here's some IT vocabulary you need to know:

- User Account—An Active Directory Object that allows Users to access network resources.
- Computer Account—An Active Directory Object that allows AD to have a security relationship with a computer, and allows you to control what that computer does on the network.
- Organizational Unit—An Active Directory Object that provides a place for User Accounts, Computer Accounts, and Groups to live. Also provides control over what tools computer and users can and can't do.
- Group- An Active Directory Object that allows or denies access to network resources (like folders and printers) for Users and Computers.



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Terms You Should Know
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Here's some IT vocabulary you need to know:

- Batch Script—A text file containing commands that has a .bat as the suffix to the file name.
- Distinguished Name—The name of an Object as it appears in the Active Directory Database.

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Terms You Need To Know
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Here's the Critical Jargon from this video:

- **Member Server**—A Server that is not a Domain Controller but is joined to the domain and has a particular job/Role
- **Share Permissions**—Permissions that only apply at the Folder level and are inherited by all the files inside (unless NTFS permissions are applied!)
- **NTFS Permissions**—Permissions that apply to both Folders AND Files.
- **Partition**—A portion of a Hard Drive
- **SMB (Server Message Block)**—A Protocol used for Share Permissions on a Folder
- **Mapped Drive**—Usually a Shared Folder that has been assigned a Drive Letter so that it can be found easily.

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What We Covered
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After viewing this video, you should be able to:

- **Partition and format a Hard Drive on Server 2K8 via Disk Management**
- **Create Shared Folders and assign Share Permissions to Groups via the Share and Storage Management MMC.**
- **Describe the differences between Share and NTFS Permissions.**
- **Assign NTFS Permissions to Files and Folders**
- **Map Shared "Drives"**
- **Create and Assign Share Permissions to Printers**



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After viewing this video, you should be able to:

- Create a Software Installation GPO
- Describe the differences between using a Software Installation GPO on the Computer side and User side.
- Correctly select Assign, Publish, or Advanced options for the Software Installation GPO.
- Set the Group Policy Refresh Interval on the Default Domain Policy.
- Enable or Disable Background Policy Processing on the Default Domain Policy.



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Video 11

What's My P@ssw0rd again?

Domain Password Policies, Fine Grained Password Policies, and a Little Password Management Thrown In For Good Measure

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What's My P@ssw0rd again?
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In this video:

- The Default Domain Password Policy
- Letting Your Boss Use Whatever Password He/She Wants
- A Little Password Management Goes a Long Way

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A Little Password Management Goes a Long Way
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 **Everyone forgets passwords –be forgiving**

Executives 2 objects (Filter Activated)

Name	Type	Description
Executives	Security Group ...	
Mark Richard ...	User	

Right-click on Mark Richard ... and select **Properties**.

Resetting Passwords is really easy:

- In AD Users and computers, find the User Account that needs the password reset.
- Right Click and Select Reset Password.
- Change to something easy to communicate and then tell the user the new password.
- Best Practice: Go back into the User Account Properties and force the User to change their password on the next logon.

NEW –In a Server 2008 environment, when a password is reset, if a user has encrypted a document, the user can STILL access the document!

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Critical Vocabulary
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 **Walk the walk and talk the talk**

- **ADSI Edit** – A low level utility used for editing the Active Directory Database directly rather than using the GUI tools (i.e. Server Manager, etc.).
- **Fine Grained Password Policy** – A feature of Server 2008 that allows an override of the Domain Password Policy requirements.
- **PSO –Password Settings Object** – An Active Directory object created in ADSI Edit that allows for an alternative password policy to be applied to a user or a group.
- **Server 2008 Functional Level** – An operating mode which requires that all domain controllers in your network to be Server 2008 (required for Fine Grained Password Policy)

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What We Covered
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 **After viewing this video, you should be able to:**

- **Alter the Default Domain Policy Password Settings** to increase or decrease password requirements and settings.
- **Locate the Functional Level** for a Domain in AD Users and Computers.
- **Create a PSO (Password Settings Object)** by using ADSI Edit to override the Domain Password Policy Settings for specific users or groups.
- **Reset a User's password** and force the user to change their password on the next logon.



Reducing Single Points Of Failure
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In this video

- **A Little Future Planning to Prevent Major Problems**
- **What are Operations Masters?**
- **Restructuring the Globomantics DC's a Bit**
 - **Adding a Domain Controller with IFM**



A Little Future Planning to Prevent Major Problems
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So here we are...

- Right now, we only have 2 DC's, both of which are Global Catalogs. Everything seems fine and rolling right along, but there's a lurking menace that we don't know about just yet!

Computer Name: NY-DC1-2K8



Computer Name: NY-DC2-2K8

Network Switch

If DC1 goes down, we will have major problems due to the fact that we have all of our Operations Masters attached to it!



What are Operations Masters?
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One of those hidden little elements that can cause big trouble!

Operations Masters (used to be called FSMO's—Flexible Single Operations Masters) are specific jobs that a DC can do apart from all the regular day-to-day stuff (any DC can do stuff like authenticating/logging on, adding users, etc., these are special).

- ☐ **The Forest Level Operations Masters**
 - **Domain Naming**—Responsible for adding and removing Domains from inside your forest. Sits back and drinks coffee most of the time until you need to add or remove a Domain.
 - **Schema**—Handles all the database definitions. Also on coffee break until you or an application you install needs to change the Active Directory Schema.

These two can and should go on the same DC!



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After watching this video, you should be able to:

- Use the Task Manager to watch performance in real time.
- Use the Event Viewer to see what's going on in your machine.
- Use the Reliability Monitor to monitor changes in your DC over time.
- Use the Performance Monitor if you have nothing else better to do with your time.
- Use the Data Collection Sets to track Active Directory and Domain Controller performance.
- Enable Auditing Policies for in the Default Domain Controller GPO for Object and Account Access



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After watching this video, you should be able to:

- View the Results of your Auditing Policies in Event Viewer.
- Use NTDSUTIL to defragment your database and check for integrity and consistency of the AD Database as a whole.

We have set up the New York office AD infrastructure and made plan for disaster recovery. In the next video we're going to expand to Chicago, and set up a child domain for the Chicago office by creating some more DC's!



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Video 16

Creating the Chicago Location

Adding a Child Domain, Creating Sites and Subnets, and Configuring Replication with the Mother Ship

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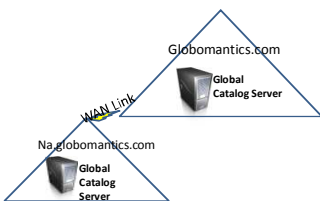
Making Sure Your Users Can Log In Anywhere in Your Enterprise
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 We got us a Global Catalog to check out!

- Hank is going to be bouncing back and forth between locations, and you need to make sure that he and anyone else who's visiting either office can log in.

As long as there's a Global Catalog at a Site, your users can log in with an "email address" style login, like JOwens@globomantics.com.

If there's not a Global Catalog, you'll need to enable Universal Group Caching on the Site. (It's a check box—super easy!)



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Critical Vocabulary
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 Important Words

- **Security Group**—Group Object in Active Directory that allows you to provide access to resources on the network.
- **Distribution Group**—Group Object in Active Directory that acts as an email distribution list.
- **Global Group**—A Group usable in any trusted Domain in your Forest. Users can only come from the home Domain. Can be a member of a Universal Group.
- **Universal Group**—A Group usable in any trusted Domain in your Forest. Users can only come from ANY Domain. Can be a member of a Domain Local Group.
- **Domain Local**—A Group usable only in the Domain it lives in. Users can only be from the Domain it lives in, but Universal Groups can be Members of the Domain Local.

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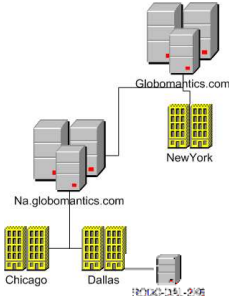
What We Covered
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 After viewing this video, you should be able to:

- Distinguish between Global, Universal, and Domain Local Groups.
- Distinguish between Security and Distribution Groups.
- Utilize AGUDLP to provide access to resources across Domains.
- Ensure that Users can log in to another Domain by either providing a Global Catalog at a Site or using the Universal Site Caching setting on a Site.

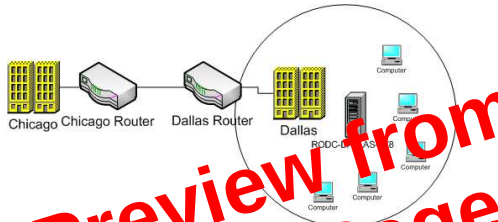
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So here's what we've built so far...
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 New York, Chicago, Dallas...What's next? Tokyo?



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Zooming in on Dallas
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Users from New York (like Hank) can still log in with their email-style logon name more commonly known as a UPN (User Principle Name) with the presence of a Global Catalog OR by enabling Universal Group Caching and putting Users that you want into a Universal Group.

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Critical Vocabulary
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 More words! More words!

- **RODC**—Read Only Domain Controller—a Domain Controller that only caches User Account information for only a small amount of users for a particular location.
- **Server Core**—A version of Server 2008 that only has a command line interface and lesser operating requirements that supports only 9 Server Roles
- **UPN**—User Principle Name—An email-style login name that can be used to login across Domains when a Global Catalog is present at the Site OR when the User is part of a Universal Group and Universal Group Caching is enabled on a Site.

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Seizing Operations Masters for Quick Restoration of Functionality
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 **How to seize an Operations Master Role When The Machine Doesn't Exist Anymore**

- **The GUI:**
 - Try to move an Operations Master from the GUI like you would normally.
- **NTDSUTIL:**
 - You can also use NTDSUTIL to seize an Operations Master role with the following operation:
 1. Go into NTDSUTIL like normal, and don't forget to type **activate instance NTDS** as your first command.
 2. Type roles to move into the Roles context.
 3. Type help to get a list of the commands.
 - To seize the Infrastructure Master, type seize infrastructure master

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Possible Solutions for Restoring Domain Controllers
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 **It all depends...**

- If the hardware and the Server 2008 Operating System is okay but Active Directory has been trashed, you can just do a System State Restore from the last backup.
- If your hardware is trashed, build a new Server 2008, install Windows Server Backup, and do a Recovery of the last Full Backup of NY-DC3. (Requires the Backup to be on a DVD or NAS)
- Last, if you don't have access to a set of backup files (same name!!), since NY-DC3 is more of an auxiliary machine, you can
 - Delete the NY-DC3 Computer Account from the Domain Controller.
 - Build a brand new Server 2008 machine, install AD, and run DCPromo.
 - Let replication do the job of restoring the Active Directory database.
 - Move the Infrastructure Master back to the new DC-3.

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Critical Vocabulary
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 **Hey, wait a minute....**

- **Toast**—What a Domain Controller smells like when it blows up. Okay, in reality, it smells like burning plastic and metal, but you get the point.
- **That's all.** No new real words this time that you haven't already seen.



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After viewing this video, you should be able to:

- Seize an Operations Master and thereby transfer the functionality to a live Domain Controller.
- Identify a methodology to restore a Domain Controller to functional status.



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Video 21

Get Your Old Domain Controllers Up To Date

Upgrading a Server 2003 Machine to Server 2008



Get Your Old Domain Controllers Up To Date
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In this video:

- Hank just bought a company...in Tokyo!
- Advantages of the Server 2008 Domain Functional Level
- The Upgrade Process


70-640 Exam Prep Tips
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Prep

- I recommend:



MCTS Self-Paced Training Kit (Exam 70-640): Configuring Windows Server 2008 Active Directory from Microsoft Press

- Take the Transcender Practice Exam Several Times—Look up the stuff that you miss in this Video Course or in the Microsoft Press Book.
- Review this course at least twice
- Get some Virtual Machines and push buttons!


70-640 Exam Prep Tips
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On the day of the test...

- Do not stay up all night studying—get good sleep!
- When you go in to the test center, leave your cell phone and anything else in your car.
- Bring in only 2 forms of ID and your car key. You must have 2 forms of ID!!!
- Before taking the test, stop and breathe. Relax.
- During the test, don't forget to breathe.
- Mark Questions for Review the first time through. If you have to think too long about any one of them, you can go back at the end of the test and answer them later.


70-640 Exam Prep Tips
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The Biggest Tip I Can Give You--

- **Know the material.**



Global Name Zones: The WINS Killer (Kind of)
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Can we replace WINS? Sometimes...

- WINS is an older technology that allows you to use NetBIOS for Name Resolution.
- Most WINS server technology is being replaced by DNS for speed, reliability, and security.
- Global Name Zones are a NEW feature of Server 2008 for Single Label Name Resolution.
- Use it for easy access intranet websites, and a potential replacement for WINS if you have older network-aware software applications still running that require WINS (Especially if you're rolling over to IPv6!)
- WINS is still available on Server 2008 as a Feature (not a Role) if you need it.



Global Name Zones: The WINS Killer (Kind of)
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To create a Global Name Zone:

- On your Primary DNS Server, run this command to prepare your DNS for Global Names:
`dnscmd /config /enableglobalnamesupport 1`
- Then create a new Forward Lookup Zone called Global Name
- Add CNAME Records for any Web Site or machine you want to have Single Label Resolution on.

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Critical Vocabulary
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Oh boy, here we go...
