Locking Down a Lotus Domino Server

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December 7, 2000

Introduction

In the following paper I will be discussing the basics of locking down your Lotus Domino R5 server. I'll disc access control lists, templates and server databases, internet ports used, and settings on the server configurati document that control access.

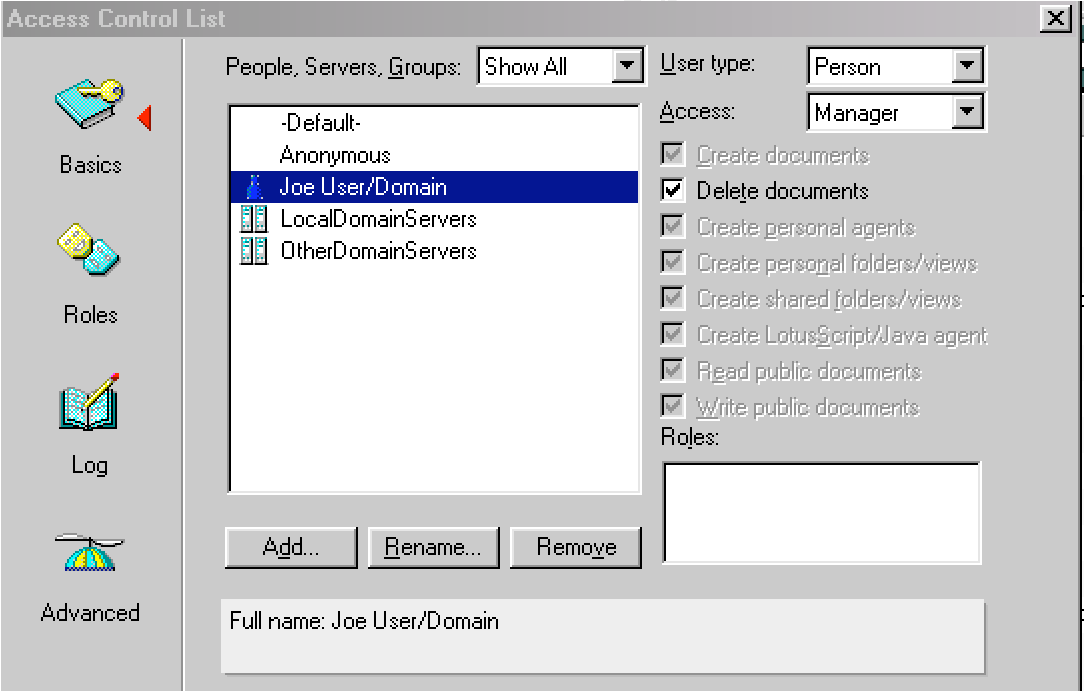
What is Lotus Domino?

Lotus Domino (www.lotus.com) is the industry leading group collaboration and messaging platform used by over 60 million users around the world. Lotus Notes/Domino has been around since the 1980's and its user ba continues to grow at a very brisk pace. Notes/Domino's extreme power comes from its flexibility, programmability, and diverse platform support. However, an incomplete understanding of the architecture of Domino network can leave very severe holes into your network.

What is an Access Control List?

The Access Control List (or ACL) is what determines who can gain access to a file on the Domino server. ACL's are set on template files and each database on the server.

Here's an example:



Access Control List

People, Servers, Groups: Show All

- -Default-
- Anonymous
- Joe User/Domain
- LocalDomainServers
- OtherDomainServers

User type: Person

Access: Manager

- ☑ Create documents
- ☑ Delete documents
- ☑ Create personal agents
- ☑ Create personal folders/views
- ☑ Create shared folders/views
- ☑ Create LotusScript/Java agent
- ☑ Read public documents
- ☑ Write public documents

Roles:

Full name: Joe User/Domain

The defaults on the template files on a freshly installed Domino server usually have the -Default- access set t Manager or Designer. On newer versions of Domino (Release 5.05 and up), Lotus has started setting them to 'No Access' which is much more secure.

It's important to check the ACL on templates to make sure they contain two users:

[-Default-] with a setting of 'No Access'.

[Anonymous] set to type 'Person' and 'No Access'

The '[--]' users on template files will be automatically set when new databases are created based on that template. The **Default** is the default access to the database. The proper setup on databases is that you will ha Groups setup with your users in them and then you put the group in the ACL and set the -Default- access to ' Access' to ensure the most security. If you have Default set to anything else, then anyone would be able to op the file.

The **Anonymous** user is really only used when you allow your Domino databases to be accessed from a web browser via the HTTP service built into Domino. The **Anonymous** user when set to 'No Access' tells Domin pop up a user login screen on the browser and the users are required to enter in their Notes user name and internet password to gain access. An important point to note is that in a mixed Notes client/Web browser environment, each user will have two passwords; their Notes User.ID password and a separate internet password that is set on their person record in the Domino Master Address Book. More information can be fo in the Domino 5 Administration Help file (http://notes.net/notesua.nsf/a08df36b2299a8bc8525665d006dce40/69f5e7de5964365e8525673e00491995?(nDocument)

Important Templates and Databases to secure.
When Domino is installed, templates and default databases are installed in the "data" directory. Here is a brie list of the files and template that need to have the Default access removed:

Admin4.ntf / Admin4.nsf (Administration events on your server)
Catalog.ntf / Catalog.nsf (Catalog of all databases on the system)
Certlog.ntf / Certlog.nsf (Tracks user & server certifications)
Csrv50.ntf
Da50.ntf (Directory Assistance file)
DecsAdm.ntf / DecsAdm.nsf
DirCat5.ntf
DolAdmin.ntf / DolAdmin.nsf (Domino Offline Service Administration)
DomLog.ntf / DomLog.nsf (web accesses are logged here)
Events4.ntf / Events4.nsf (server monitoring)
Log.ntf / Log.nsf (all server events are listed here)
PubNames.ntf / Names.nsf (Master list of servers, users and groups. The keys to the kingdom.)
Resrc50.ntf / Resource.nsf
StatRep50.ntf / Statrep.nsf (Server statistics reporting)
Webadmin.ntf / Webadmin.nsf

One thing to remember when updating the ACLs on these files: the server usually has these files open whene it's running. First, you will have to shut down your server. From a Notes client installed on a workstation, m a drive to the server and open the files locally to change the ACLs. This is well worth the down time to corre Access to any of these files by unauthorized users can provide very detailed information about your Domino server and give them a roadmap into your infrastructure.

TCP Ports used by Domino.
Domino offers full internet standards support for all the main protocols and services. Domino supports:

SMTP for mail delivery – tcp port 25

NNTP for newgroups – tcp port 119
IMAP & POP3 for mail services – tcp ports 143 and 110 respectively
LDAP for directory services – tcp port 389
HTTP for browsers – tcp port 80
Notes Remote Protocol NRPC for Notes clients connecting to a server – tcp port 1352.
IIOP – tcp port 63148

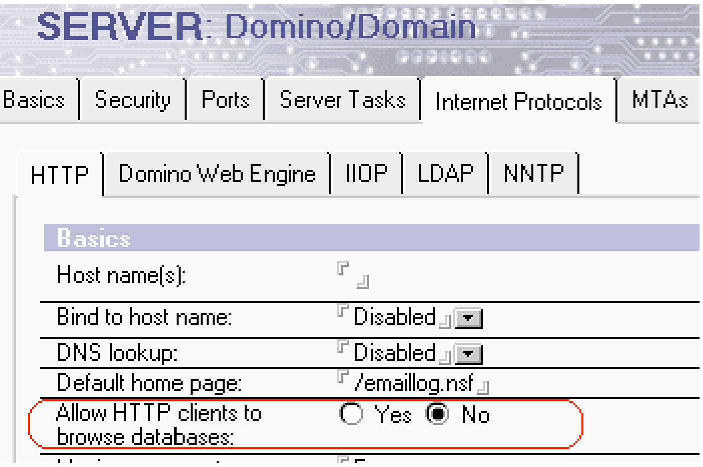
Domino also has full SSL support on all the protocols above. As with any server that is on the public internet a private intranet, only run the services that you actually need. For example, if you don't need LDAP or NNT don't load them on your server, as they are just one more doorknob for a would-be-cracker to check.

Security Settings on the Server Configuration Document.
Most of the configuration settings on a Domino server are stored in the server document in the Public Addres Book on the server. The key settings to check are circled in red below:

The "Allow anonymous Notes connections" setting prevents unauthorized Notes clients from accessing the server.

The "Only allow server access to users listed in this Directory" setting ensures that only users with valid entr in the directory can access server resources.

ALWAYS create a "Deny Access" group for holding former employees or clients who may have possession a once valid user.id file. Then put this group name in the "Not access server" field so that they will be locke out.



Basics

Host name(s):
Bind to host name: Disabled
DNS lookup: Disabled
Default home page: /emaillog.nsf
Allow HTTP clients to browse databases: ○ Yes ● No

On the Internet Protocols/HTTP tab, make sure to set "Allow HTTP clients to browse databases" to "No" so that non-authorized users cannot see the file names of the databases on your server.

There are other security measures that can be implemented in the Server Configuration document, but that would require its own whitepaper as they involve settings for lotuscript/javascript, java applets, etc.

This concludes my paper on the basics of locking down a Lotus Domino server. I hope you use the information I have provided to secure your Domino network or at least make you review your settings again. The references below discuss these and other issues in much more detail than I do and deserve your review.

References:

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