



A Flurry of Arrows for the Domino Admin Quiver

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Cormac McCarthy - Domino People Ltd

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Or come up to me and say hello this week.



Who is this Presentation for?

- Domino Admins (Junior, Senior, Very Senior -though this is not "this is the story of Domino Administration" from start to finish).

What will presented today?

- "A Flurry of Arrows for the Domino Admin Quiver"
- A series of "fast paced" Domino Admin tips("50" tips (in 88 slides) in total but many are multiple tips classified as one).
- They're tips that in my experience many Domino Admins were not aware or was hazy in their memory. (we are all getting on a bit)
- If you're quite experienced you may know many if not most of these, but I hope you will learn something.
- Disclaimer. Everything here is given in good faith. Apply any changes sensibly and test everything. 14.5 is not out yet is information here is based on my knowledge of EAP.



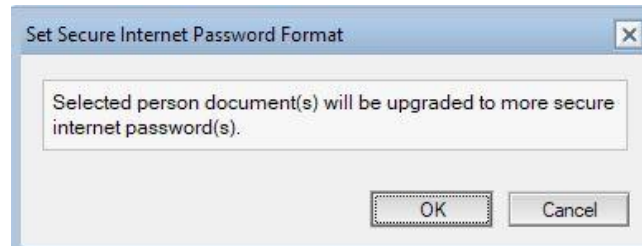
#1 Secure Access to Internet Passwords

- If any users were created with the “Add Person” button in a version of the Domino Directory prior to Domino14 - i.e. not registered with a Domino ID- They may be susceptible to a weak cryptography vulnerability - https://support.hcl-software.com/csm?id=kb_article&sysparm_article=KB0107585

Likely for a small subset of customers and an even smaller subset of their users.

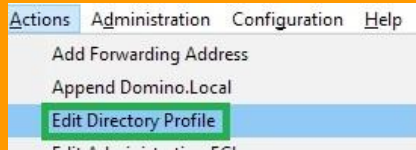
- Easy solution - upgrade the Domino Directory to version 14, or get a template update for older versions directly from HCL - https://support.hcl-software.com/csm?id=kb_article&sysparm_article=KB0109026

- **And don't forget to “Upgrade to a More Secure Internet Password” for all users who may have been affected afterwards.** There is no disadvantage to doing this. It doesn't change the actual internet passwords, just makes how they are stored more securely. From the Admin Client->People & Group->People->Select who you want and then Actions->Upgrade to a More Secure Internet Password.



#1 Secure Access to Internet Passwords

- Update your directory profile. Admin Client->Configuration-Server->All Server Documents. Actions->Edit Directory Profile.



Then it's Security Tab->Use more secure Internet Passwords "Yes -Password verification compatible with Notes/Domino release 8.0.1 or greater"



#1 Secure Access to Internet Passwords

- While you are considering Internet Passwords (if you are not already considering other methods to authenticate anyway) - you may consider looking at an Extended ACL on the Domino Directory to restrict who can edit internet passwords, i.e. the person themselves, and certain helpdesk staff and/or Administrators.
- To do that you need to:
 - Enable enforce consistent ACL across all replicas
 - Then follow these straight forward instructions -
https://help.hcl-software.com/domino/12.0.0/admin/secu_using_xacls_to_secure_internet_passwords.html
- Domino now uses many secure types of modern authentication which at this point you should really consider:
 - Passkeys - https://help.hcl-software.com/domino/14.5.0/admin/conf_dominopasskeyauth.html
 - TOTP - https://help.hcl-software.com/domino/12.0.2/admin/wn_totp.html
 - OIDC -
https://help.hcl-software.com/domino/14.0.0/admin/secu_use_oidc_to_configure_federated_identity_auth.c.html?scLang=en

#2 Internet lockouts - use them

- Password lockout in Domino has been available for a long time on Internet authentication requests.
- Simple to implement - Configuration Document->Security->Enforce Internet Password Lockout->Yes
- Since R.12 you can also lockout based on IP in the same place.
- You can tweak how you want the settings to work: Count user name failures also as IP address failures, maximum tries allowed, lockout expiration, Maximum tries interval.
- Internet Lockout database is created on startup OR after the first time its needed (as long as inetlockout.ntf exists).
- From the inetlockout.nsf you can see locked out users and login failures.

Internet Lockout

Enforce Internet Password Lockout: Yes

Also enforce lockout based on IP address

Count user name failures also as IP address failures

Log Settings: Lockouts Failures

Default Maximum Tries Allowed: 5

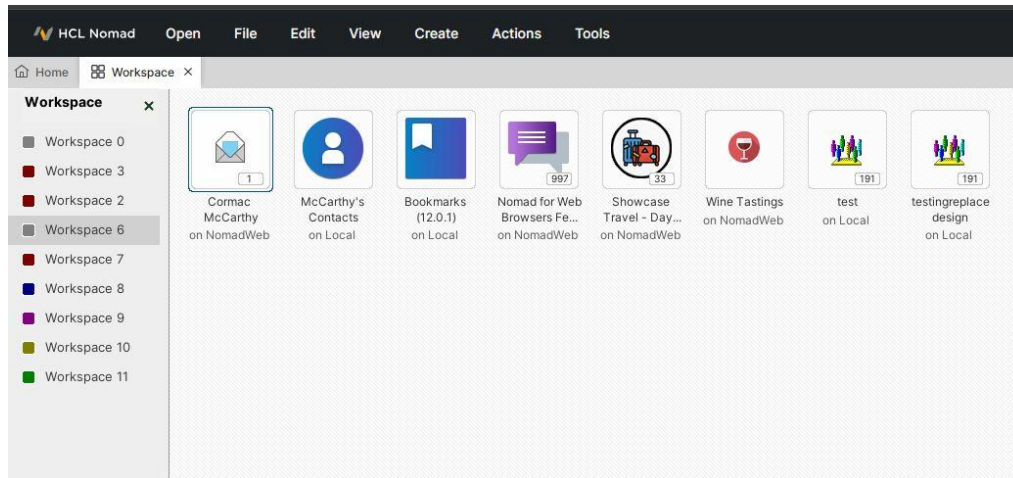
Default Lockout Expiration: 0 Minutes

Default Maximum Tries Interval: 1 Days

Failed Attempts	First Failure Time	Last Failure Time
1	24/03/2023 18:54:31	24/03/2023 18:54:31
1	31/05/2022 16:16:48	31/05/2022 16:16:48
3	05/07/2022 10:20:34	16/07/2022 20:05:23
4	28/01/2020 21:51:35	28/01/2020 22:11:23
4	01/11/2022 15:15:44	01/11/2022 15:52:36

#3 Nomad for Web Browsers needs to resolve Domino server names

- Notes (basic)client in a browser. It's a magic black box for web browsers that tunnels NRPC over WSS to a Nomad server.
- All you need is a CCB licence. Particularly for the non reverse proxy setup with Nomad for Domino - it's Install and go. Once you have a valid cert it's - "Load Nomad"



#3 Nomad for Web Browsers needs to resolve Domino server names

- Nomad for Web Browsers does not use connection documents to connect to other Domino Servers.
- In many environments connections will just work without the Domino admin doing anything.
- This is because by default Nomad will use Fully qualified Internet host name (in the server document) of the server it's trying to connect to. If it can resolve the name to an IP and port 1352 is open, great it all works.
- If not and a user clicks a workspace icon for a server Nomad cannot connect to you'll see this in the log:

Nomad: nwsp:wss:error Error: getaddrinfo ENOTFOUND

Nomad: at GetAddrInfoReqWrap.onlookup [as oncomplete] (node:dns:84:26)

#3 Nomad for Web Browsers needs to resolve Domino server names

- Few workarounds
- Make sure the names in full qualified internet host name in the server document are resolvable , ideally by DNS or worst case with a local hosts file entry (On the Domino Nomad Web server host -for each server that can't be resolved).
- Nomad also allows you to set servers in the nomad-config.yml file (see https://help.hcl-software.com/nomad/1.0_admin/config_options.html) by adding lines in this format:

```
servers:  
  CN=domino/O=EXAMPLE:  
  127.0.0.1:1352
```

- (but to be honest I don't think that's much better/different to a hosts file entry, it's not dynamic - resolvable DNS names makes more sense).

#4 Key file name with Cert Manager

- Cert manager (CertMgr) is a Domino task that came in in Domino 12.
- Moves are from the old (relatively chunky) way of managing internet certs with command line openssl, kyrtool and key file names (which has been in place since SHA-2 certs were first supported in Domino).
- GUI based. Gives automatic access to free certs such as with Let's Encrypt. It's great. Use it.
- There is one item I have seen missed on Customer sites.....
- Key file name in Internet site documents is not being used correctly, or more accurately as well as it could be.

#4 Key file name with Cert Manager

- With Cert Manager if you have more than one cert (or even more than one SAN in one cert) and more than one Internet site document on a server, you can enter the common name of the cert you want Cert Manager to pick up in Key file name.
- Before Cert Manager

Web Site

Basics | Configuration | Domino Web Engine | Security | Comm

TCP Authentication

Anonymous: Yes No

Name & password: Yes No
TOTP option available if Ses

Redirect TCP to TLS: Yes No

TLS Authentication

Anonymous: Yes No

Name & password: Yes No

Client certificate: Yes No

Bearer token (JWT): Yes No

Passkey (WebAuthn): *Passkey option available if Sessio*

TLS Options

Key file name: keyfile_businesssubdomain.kyr

- With Cert Manager

Web Site

Basics | Configuration | Domino Web Engine | Security |

TCP Authentication

Anonymous: Yes No

Name & password: Yes No
TOTP option availabl

Redirect TCP to TLS: Yes No

TLS Authentication

Anonymous: Yes No

Name & password: Yes No

Client certificate: Yes No

Bearer token (JWT): Yes No

Passkey (WebAuthn): *Passkey option available*

TLS Options

Key file name: business.engage.ug

#5 nserver -c to a text file list of commands

- nserver -c is (or server -c in linux). Is a powerful way to simplify piped commands via program documents. e.g. you can run "nserver -c "restart server" " from a program document or indeed any Domino command can be piped.

Basics	
Program name:	nserver
Command line:	-c "restart server"

- But did you know you can pipe commands to a text file like this.

Basics	
Program name:	nserver
Command line:	-c "< d:\scripts\textfilecommands\textfileinatabadirectory.txt"

- All the commands in the text file run at the same time(i.e. Multiple threads). It's potentially powerful (and as a result dangerous) so be careful! You can also run this via command line while the server is offline.

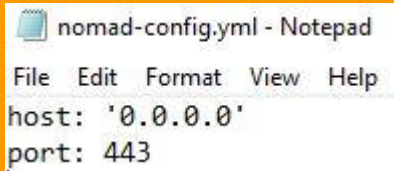
```
textfileinadatadirectory - Notepad
File Edit Format View Help
Load compact -i -c thisdatabase.nsf
load updall -C lotofbigunusedviews.nsf
tell amgr quit
load updall -C anotherdatabase.nsf
load fixup corrupt.nsf
tell traveler Cleanup
load convert mail\mailfile1.nsf * mail14.ntf
load convert mail\mailfile2.nsf * mail14.ntf
load convert mail\mailfile3.nsf * mail14.nsf
load convert mail\mailfile456.nsf * mail14.nsf
```

#6 What is the universal truth?

- By default Nomad web runs under port 9443.
- This allows you to run HTTP separately on the same server. (However this isn't really a use case I have seen too often)
- To state the obvious here - this means ":9443" appears in the URL. `nomad.myhclsandbox.com:9443`
- If there is one universal truth is that users don't like typing or remembering port numbers in URLs.
- So a standard port number may be desirable.
- There's a straightforward solution to this....

#6 What is the universal truth?

- Create a nomad-config.yml file
- That sounds more complicated than it is.
- Create a file in the likes of notepad and save with the following info as nomad-config.yml (i.e. make sure it doesn't get saved with a .txt extension) . You can enter the actual host IP if you want or just 0.0.0.0



```
nomad-config.yml - Notepad
File Edit Format View Help
host: '0.0.0.0'
port: 443
```

- In Windows - from here just restart Nomad task in Domino.
- In Linux you also need to potentially run a setcap command as per

https://support.hcl-software.com/csm?id=kb_article&sysparm_article=KB0103997

#7 Outbound SMTP Round Robin and Failover

- My experience of outbound SMTP connections from Domino is that there is (generally speaking) no failover
- It's usually either one host set in either the configuration document or a connection document connecting to one host.
- Domino allows you to easily connect to multiple SMTP hosts with Failover or Round Robin. It is a good idea to implement this.
- Round Robin here means - spread the load i.e. at every connection increment to the next host on the list regardless of whether the last connection worked or not.
- Failover here means - try the first host on the list every time, if not available try the next host in the list followed by the next etc.

#7 Outbound SMTP Round Robin and Failover

- Set up **Failover** in either a configuration document or connection document by adding two or more IP addresses/hostnames separated by a **semicolon** with square brackets at the start and end and in between each IP address or hostname.

Destination server:	SMTP_Failover ▾
Destination domain:	Outbound ▾
SMTP relay host:	[[192.168.1.10];[192.168.1.11];[mailgateway.hostname.com];[192.168.1.51]] ▾

- Set up **Round Robin** in either a configuration document or connection document by adding two or more IP addresses/hostnames separated by a **comma** with square brackets at the start and end and in between each IP address or hostname.

Destination server:	SMTP_RoundRobin ▾
Destination domain:	Outbound ▾
SMTP relay host:	[[192.168.1.10],[192.168.1.11],[mailgateway.hostname.com],[192.168.1.51]] ▾

#8 Disk tool for testing disks in Windows

- When migrating to cloud it can be a challenge to "copy" on premise configuration to cloud.
- Particularly for disk configuration on servers.
- "Non- Domino" Admins can assume "these disks will be fine for Domino" without knowing anything about the application requirements in your Domino environment.
- In many (if not most) use cases you may not need to worry here, default SSD setups will generally be fine. In fact will likely work great. Often better than an old on premise SAN setups with all Domino disks in one shared LUN.
- However - particularly if for example - you've Domino databases running over 1 million documents with multiple all document views and/or indexes that update in realtime - poor disk latency can potentially be an issue.
- Disk Latency is the ACTUAL time taken to carry out a single input/output on disk.

#8 Disk tool for testing disks in Windows

- I've found the most constructive starting point you can be is to be a prescriptive as possible. I.e. Disk C on this host needs to be able to perform with a disk latency of under 3ms.
- Azure admins will give you a lot of information on disks, particularly on the likes of MAX IOPS, and bursting but...
- The main issue I've seen is that Azure isn't particularly transparent on what disk latency you can expect. So you go back to someone telling you "it should be fine" or "we run SQL workloads and don't have issues."
- I trust people - but I also like to be able to verify what is being said. So testing is good.
- While UAT is great, it's usually just a functional test. Load testing with users in UAT is a challenge. synthetic tests are not real life tests they can give you good indicators of potential real life performance on disks, I've used it partially for latency testing.

#8 Disk tool for testing disks in Windows

- For Windows (and Azure in particular) a tool I've used is diskspd tool
<https://learn.microsoft.com/en-us/azure/azure-local/manage/diskspd-overview?view=azloc-24112>
- In an example application with particularly aggressive latency requirements - I ran a sample load with this setup against all disks

```
Command Line: diskspd -c10m -d30 -r -w40 -t4 -o32 -b4k -Sh -L c:\DiskSpd\testfile.dat
```

- Here's a sample of what this gives you for each disk:

Total IO thread	bytes	I/Os	MiB/s	I/O per s	AvgLat	LatStdDev	file
0	246190080	60105	7.83	2003.22	15.968	20.776	c:\DiskSpd\testfile.dat (10MiB)
1	219525120	53595	6.98	1786.25	17.907	21.531	c:\DiskSpd\testfile.dat (10MiB)
2	247468032	60417	7.87	2013.62	15.885	20.759	c:\DiskSpd\testfile.dat (10MiB)
3	248844288	60753	7.91	2024.82	15.798	20.750	c:\DiskSpd\testfile.dat (10MiB)
total:	962027520	234870	30.58	7827.92	16.345	20.957	

#8 Disk tool for testing disks in Windows

- It does also give you indicators of average performance and nearly as importantly worse performance

```
total:
%-ile | Read (ms) | Write (ms) | Total (ms)
-----|-----|-----|-----
min    | 0.034    | 1.037    | 0.034
25th   | 0.317    | 3.478    | 0.416
50th   | 0.501    | 5.027    | 3.524
75th   | 41.544   | 43.991   | 42.250
90th   | 44.460   | 46.767   | 45.713
95th   | 50.911   | 53.609   | 52.020
99th   | 59.778   | 61.788   | 60.764
3-nines | 61.085   | 65.299   | 63.932
4-nines | 98.420   | 98.682   | 98.682
5-nines | 99.793   | 100.229  | 100.060
6-nines | 99.807   | 100.229  | 100.229
7-nines | 99.807   | 100.229  | 100.229
8-nines | 99.807   | 100.229  | 100.229
9-nines | 99.807   | 100.229  | 100.229
max    | 99.807   | 100.229  | 100.229
```

- We can easily then summarize a table giving indicators how close (or in this case - far) the current disk setup is to requested requirements.

Disk	Prescribed Latency	Actual latency (average)	Actual Latency 10 per cent of IO/s
C	Less than 3 ms	16.345ms	45.713ms
E	Less than 1ms	6.954ms	33.464ms
F	Less than 1ms	10.023ms	42.951ms
G	Less than 1ms	9.997ms	42.188ms
H	Less than 1ms	6.96ms	31.448ms
J	Less than 1ms	9.991ms	42.658ms

#9 Use BackupVSS

- Many of you have probably heard of Domino Backups.
- It's a native Domino backup of files with a tonne of handy options. It's intuitive easy to use and if you are looking at changing backup solutions, or are moving to new vendors/infrastructure it's worth looking at. Or indeed if you're a smaller site looking for free backups.
- One item I haven't seen being used as much that is MORE of a no brainer in terms of usage is BackupVSS. I'm not really sure it's understood.
- I can't understate what an amazing feature this is. It's the type of innovation we didn't see in Domino for years pre HCL. It turns Domino into a native VSS writer in Windows. If your organisation has VEEAM you should use it.
- All you need to do on a Windows 2019(or later) server running Domino 12.0.2(or later) is "load backupVSS" This registers Domino as a VSS writer on the OS. Now you just add that task to servertasks= so it runs at startup.
- And then at a high level - get you snapshot Software (eg VEEAM) to look at your server hosts, and you can configure, native, application aware snapshots. (saving backup times, disk costs, and is generally much more efficient)

#10 You don't need to advertise all your Domino server information to the internet.

- If you are running SMTP use this *SMTPNoVersionInRcvdHdr=1* in your notes.ini. In fact put in Configuration Document, Notes.ini Settings tab so no one can accidentally delete it. (removes X-MIME server details)

- Remove MIME header information:

Configuration document->MIME tab->Advanced tab->Advanced outbound mail options tab.

Notes items to be removed from header:

\$MIMETrack
\$Mailer
FailureReason
SMTPDSN
DeliveryReason
DeliveryStatus
Received



#10 You don't need to advertise all your Domino server information to the internet.

- Also consider adding something at *SMTPGreeting=* e.g. *SMTPGreeting=hostname SMTP Server Ready at %S*
- Do the same for HTTP too:
DominoNoBanner=1
HTTPDisableServerHeader=1

Or any internet service as per here

https://support.hcl-software.com/csm?id=kb_article&sysparm_article=KB0088717

#11 You can view and edit the notes.ini from the Domino Console

- The Domino Console is one of the most unique and best things about Domino.
- One item that is often missed is that you can edit the notes.ini of a server from the Domino Console.
- To query the notes.ini of a server you can run:

```
"show config *"  
(or "sh co *")
```

This outputs every setting in the notes.ini ordered alphabetically in the Domino Console.

- Or you can be more specific and search for example:

```
"show config servertasks*"
```

to show all lines starting with "servertasks" in the notes.ini

- To set any notes.ini config you simply run:

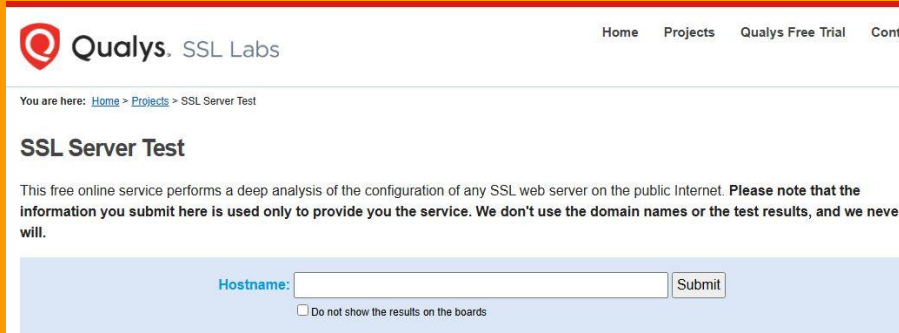
```
"set config setting" for example "set config servertasksat1=catalog"
```

#12 Free external tools to scan your web server

- Scenario : very lengthy, verbose, penetration test pops into your inbox for comment on a Domino web server..
- You're confident you've addressed the specific issue(s) but how do you check your settings have updated properly?
- Firstly if your Domino server is behind a reverse proxy the findings possibly relate to the reverse proxy.
- But there are a couple of free tools that really help get you quick findings on your web server.....

#12 Free external tools to scan your web server

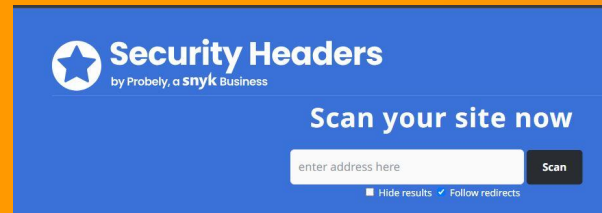
- Firstly Qualys SSL labs - "ssl test" <https://www.ssllabs.com/ssltest/>



The screenshot shows the Qualys SSL Labs website. The header includes the Qualys logo and navigation links for Home, Projects, Qualys Free Trial, and Contact. Below the header, the breadcrumb trail reads "You are here: Home > Projects > SSL Server Test". The main heading is "SSL Server Test". A paragraph of text states: "This free online service performs a deep analysis of the configuration of any SSL web server on the public Internet. Please note that the information you submit here is used only to provide you the service. We don't use the domain names or the test results, and we never will." Below this text is a form with a "Hostname:" label, a text input field, and a "Submit" button. A checkbox labeled "Do not show the results on the boards" is located below the input field.

- This checks the TLS connection to your Domino server and give it an overall grade including details on how it can be improved.
- (remember to tick the box to "do not show the results on the boards" if your conscious about sharing information)

- The next is <https://securityheaders.com> which gives you details on what response headers your web server responds with
- (similarly generally I'd suggest ticking "hide results" before searching)



The screenshot shows the Security Headers website. The header features the Security Headers logo (a star in a circle) and the text "Security Headers by Probelly, a snyk Business". Below the header is a large blue button that says "Scan your site now". Underneath this button is a form with a text input field labeled "enter address here" and a "Scan" button. At the bottom of the form, there are two checkboxes: "Hide results" (checked) and "Follow redirects".

#13 From 14.5 - out of date APNS will not break your Traveler Server

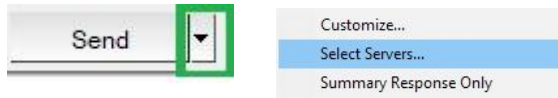
- Traveler is great. It just works.
- Up to now Traveler has had internal APNS certificates that allow messages to route to Apple devices.
- If that internal APNS cert expired and you restart Traveler (which would happen once a year if you didn't upgrade Traveler) messages to Apple devices would stop working. You'd need an emergency upgrade to resolve.
- From 14.5 Traveler will move from certificate based authentication for APNS to token based authentication. This effectively means Traveler will not rely on certificate files being updated for APNS to work.

#13 From 14.5 - out of date APNS will not break your Traveler Server

- Updates to Traveler are sometimes not particularly talking about so one for 14.5 is worth noting as it is significant.
- It's also worthwhile pointing out that from a security (and functionality) point of view updating **EVERY** internet service you have **REGULARLY**.

#14 Domino Console to *

- This is one of the features of Domino I've shown techies from other backgrounds, that rarely fails to impress.
- You can query, the server, individual tasks and set settings on servers and get responses.
- One powerful feature that Admins don't think about using is sending commands to multiple servers at the same time.



- In the circumstances warranted it, you **might** want to do something like route * with this feature.
- There are many circumstances where you **might not** want to do something like “quit” with this feature.

#15 Upgrade NAB design prompt

- When upgrading servers, the admin server in the environment will get a prompt to upgrade design, post upgrade. This doesn't work for every environment (in particular containers) and sometimes there may be reasons why you need to force an upgrade of the design to a non-admin server, or why you don't want to have to reply to the prompt in the console itself.
- There's two notes.ini settings to control this behaviour:

SERVER_UPGRADE_NO_DIRECTORY_UPGRADE_PROMPT=1

(Update the design and automatically return "yes" for the question "do you want to upgrade")

SERVER_UPGRADE_NO_DIRECTORY_REDESIGN=1

(Don't update the design and automatically return "no" for the question "do you want to upgrade")

#15 Upgrade NAB design prompt

- Also be aware that the indications from EAP is that there will be an option to overwrite this in AutoUpdate in 14.5.

Directory design:

Update Domino Directory design ▼

Overriding Design update disabled in notes.ini (SERVER_UPGRADE_NO_DIRECTORY_REDESIGN=1)

#16 You can get updates on technotes from HCL to your mail

- Go to this URL - https://support.hcl-software.com/csm?id=actsub_notif_pref (sign in if you're not already signed in)
- Navigate to Products->Select your Product (i.e. Notes/Domino)-> then set individual Subscriptions

The screenshot shows the HCL support portal interface. The 'Products' menu is highlighted with a green box. The 'Notes-Domino' product is also highlighted with a green box. The 'Subscriptions' page is displayed, showing a list of products with their subscription status. The 'Subscriptions' and 'Notes-Domino' elements are highlighted with green boxes.

Product	Subscription Status
Client Application Access	<input checked="" type="checkbox"/> Subscribed
Domino	<input checked="" type="checkbox"/> Subscribed
Domino Administrator	<input checked="" type="checkbox"/> Subscribed
Domino AppDev Pack	<input checked="" type="checkbox"/> Subscribed
Domino Applications on Cloud	<input checked="" type="checkbox"/> Subscribed

#16 You can get updates on technotes from HCL to your mail

- Then under Preferences, you can choose to receive an email on different types of content, in languages of your choice.

Subscriptions **Preferences**

Document types	Email
Support Articles	<input checked="" type="checkbox"/>
Security Bulletins	<input checked="" type="checkbox"/>
Defect Articles	<input checked="" type="checkbox"/>
Release Articles	<input checked="" type="checkbox"/>

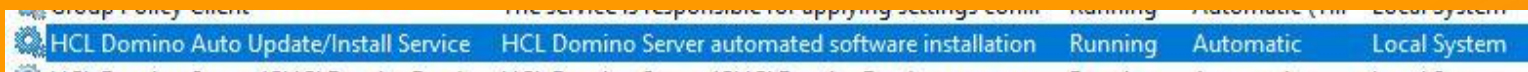
Languages

English	<input checked="" type="checkbox"/>
French	<input type="checkbox"/>
German	<input type="checkbox"/>
Italian	<input type="checkbox"/>
Japanese	<input type="checkbox"/>
Korean	<input type="checkbox"/>
Portuguese	<input type="checkbox"/>
Simplified Chinese	<input type="checkbox"/>
Spanish	<input type="checkbox"/>
Traditional Chinese	<input type="checkbox"/>

- I would advise if you do this, to filter these in your mailbox with something (I use mailrules for these to go to folders)

#17 Auto update/Auto install

- Pre-Domino 14.5 - you have Download and Distribute. (get the software, send the software to your servers). Documented and easy to set up.
- At Domino 14.5 it is available on the assumption that you have the following:
 - Windows/Linux
 - Disk Space available (2GB Binary/Program Directory, 5 GB Data directory)
 - Non-partitioned
 - Domino needs to be running as a service (systemd in Linux)
 - Another service needs to also be running called HCL Auto Update/Install Service



Group	Only Client	Description	Running	Automatic	Local System
		HCL Domino Auto Update/Install Service	Running	Automatic	Local System
		HCL Domino Server automated software installation	Running	Automatic	Local System

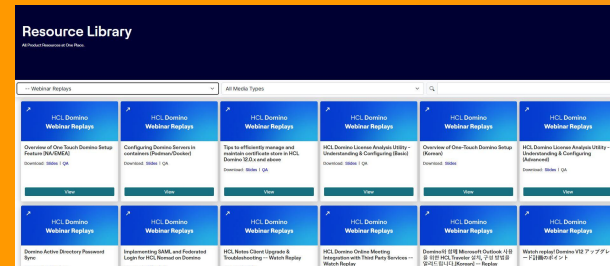
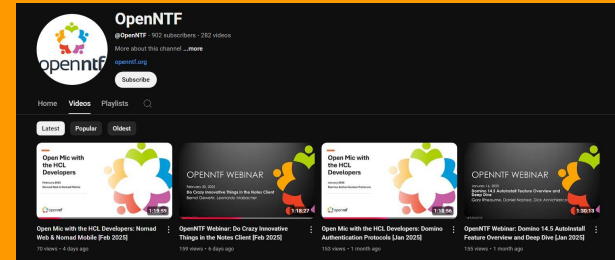
- Creates a small Catch 22 problem. Auto Update/Install Service comes with 14.5. So it can only be used to reinstall 14.5 after already installing or it can be used for any fix pack, or full install version AFTER 14.5.

#17 Auto update/Auto install (this one needs an update)

- However the real message to take here is once you do have the prerequisites in place, using autoinstall is **ridiculously quick** to update your server, for a full version (not a fix pack) in beta - it took me three minutes to download, distribute, install and for the server to come back up.
- There are multiple different scheduling options etc

#18 Free Webinars

- Openntf do both deep dive and ask the developer sessions, you can catch up on past ones here <https://www.youtube.com/@OpenNTF/videos> To see upcoming webinars go to <https://openntf.org/webinars>
- Panagenda do regular webinars and have a series running at the moment <https://www.panagenda.com/explore-hcls-latest-innovations-best-practices-new-features-and-expert-guidance/>
- HCL Software U <https://hclsoftwareu.hcltechsw.com/media-library?filter=eyJYXRIZ29yeSI6MTQ1LCJzdWJjYXRIZ29yeSI6MTQ2LCJ0eXBlljoiMCI6bnNlYXJjaCI6IiIsImxhbmd1YWdlIjoizW4tR0liLCJzaXplIjo0MCwic3RhcnciOiJjB9>



#19 Free Resources

- Discord channel for openntf -<https://openntf.org/discord>
- Blog aggregators - <https://planetlotus.org/> and <https://collaborationtoday.info/>
- Digital Solutions Community Forum <https://developer.ds.hcl-software.com/>
- Panagenda : Many free tools including Marvel Client Essentials (Installed with Domino) . Marvel Client Upgrade (up to 25 users), document properties.
- Ontime Freenium - Group Calendar 25/30 users - <https://ontimesuite.com/features/freemium/>
- Domino People - free trial Discover for Domino. <https://dominopeople.ie/discover/request-trial-licence/>
- NotesHound - (technically a set of tools for designers - but it's useful).
<https://e.pcloud.link/publink/show?code=kZtNNYZ3iirUVJUfr7iVmipVrznVHTIHayV#folder=5983227276&tpl=publicfolderlist>
- Openntf - as the name suggests - open templates.

#20 Replace design from the Domino Console

- Likely already aware of “load convert” to upgrade mailfile design from the console on en masse.
- It is also possible for any type of design with load convert -d
https://help.hcl-software.com/domino/11.0.1/admin/admn_usingloadconverttoconvertnonmaildatabases_t.html

```
load convert -d databasename * newtemplatename
```

- Advantages:
 - No network latency (as opposed to between your client and the server)
 - Can be scheduled (via program document)
 - Scalable - i.e. can manage many design updates. (wildcard of whole directories work)
 - Notes client isn't tied up while making the change
 - Master template doesn't need to be set in properties (though this could be considered a disadvantage)

#21 Configuration documents for sets of servers.

- For many environments that I have seen, configuration documents are only per server. (i.e. only one configuration document per server).
- Where there are clusters or servers of a similar type, from a consistency point of view, just having one configuration document per server doesn't necessarily make sense.
- You can apply settings to both all servers and sets of servers (groups).



Configuration Settings

Basics | Security | Client Upgrade | LDAP | Router/SMTP

Basics

Use these settings as the default settings for all servers: Yes

Group or Server name: HTTP_Servers

Group or Server name: HubCluster



Configuration Settings

Basics | Security | Client Upgrade | Router/SMTP | MIME | NO

Basics

Group or Server name: SMTP_Servers

#21 Configuration documents for sets of servers.

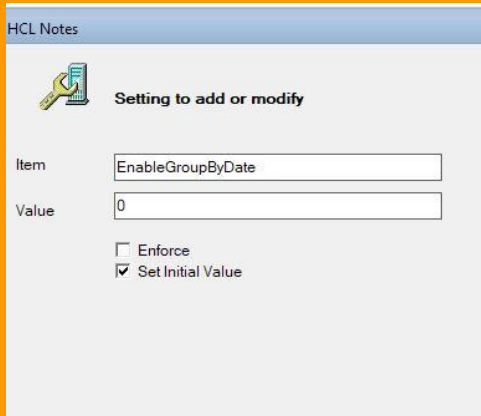
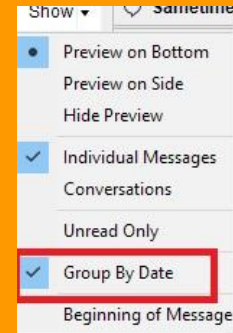
- Advantages:
 - Easier to maintain consistency. i.e. apply these notes.ini settings to all HTTP servers, or all SMTP servers etc.
 - Less Admin and maintenance overall.
 - You can still have specific settings applied to the server directly.
- Potentially powerful so apply with due care and attention. Don't do anything silly. Someone accidentally applying transaction logs to a directory that doesn't exist on all servers for example, would not be a good idea. Neither would overlapping servers in groups with different configuration settings.

#22 EasyXML

- There are many ways of getting Domino data to be consumed “somewhere else”
- Keep/RestAPI is a great way.
- One Quick way of looking at data, is via HTTP and applying ?ReadViewEntries to URL that has a view in it. i.e. something like [https://webserver.domain.com/names.nsf/\\$defaultview?ReadViewEntries](https://webserver.domain.com/names.nsf/$defaultview?ReadViewEntries)
- The gives you an XML output of that view. It's not going fulfill all needs, but might get you out of a hole as a quick interim solution.
- There are also multiple options to add extra arguments (including to output in JSON output for example) https://help.hcl-software.com/dom_designer/14.5.0/basic/H_ABOUT_URL_COMMANDS_FOR_OPENING_SERVERS_DATA_BASES_AND_VIEWS.html

#23 Turn off group by date

- Group by date is turned on by default
- Completely subjective opinion but I think it's awful
- I'd suggest for most environments, turning off by default and giving the option to turn on makes sense
- To disable apply **EnableGroupByDate=0** via Desktop policy



#24 You probably have too many connection documents

- Many environments have too many connection documents. Why is this a problem?
- Well, it uses up resources (unnecessarily), and can easily cause issues with replication, particularly in larger environments.
- This can be a bigger problem than Admins realise. The instinct can often be, add bidirectional connection documents between servers even if in clusters, "just in case". But this is poor design.
- As long as name resolution works. You don't need connection documents for "Notes mail" in the same Notes Named Network (i.e. NRPC traffic).
- For replication - if you have clusters (again as long as name resolution works) as long as the local cluster.ncf is correct, you should only need to connect to the cluster name in a connection document

Source server:	SpokeServer/Org	Destination server:	HubCluster
Source domain:	Domain	Destination domain:	Domain

#24 You probably have too many connection documents

- I've seen real world examples of 64 connection documents connecting on 5-10 minute intervals, between two clusters of four servers. That's eight servers with 64 connection documents.
- With our help this was gracefully reduced to 4 connection documents without any loss of redundancy or inter connectivity.
- Effectively divided the number of connections and work for replication by 16.
- Now consider if you've 88 servers rather than 8 and consider how much extra unnecessary traffic there could potentially be.

#24 You probably have too many connection documents

- This is not a suggestion that you go into your Domino Directory tomorrow and delete multiple connection documents.
- Map out what your topology actually looks like today. If it looks too "noisy" it probably could do with trimming down.
- Map out your ideal topology. Map out some interim steps (phased steps) and a fallback plan. If possible peer review your design.
- Implement change in a planned way, with one change at a time and test connectivity still works as expected.
- If you don't have the confidence to implement such a large scale change - review with a company that specializes in that type of thing.

#25 On Disk Structure

File Format ▾
R12 (55:0)
R12 (55:0)
R12 (55:0)

- In my experience the upgrade of ODS is often either skipped or long fingered.
- It gives you more efficient storage of your .nsfs, with faster access. It's a makedominogofaster=1 setting. There are very few use cases for not updating.
- Some new behaviour you mightn't realise is that from Domino 12.0.2 if there are no need to apply the Create_R*Databases=1 setting - if you run a copy style compact or create a new database it will upgrade to the latest available ODS by default.
- So essentially the pragmatic advice from 12.0.2 is to remove all references to Create_R*_Databases from your server notes.ini. It's not longer a progressive setting.

#25 On Disk Structure

- System files are often overlooked. i.e. Admin will run a compact style compact via a program document over a weekend, but system files are held open and never upgraded.
- My advice for system files when upgrading or when you've the server offline - rename your log file (as long as log.ntf is there a new one will be created) and compact your system files manually while the service is offline.

Windows example from a command prompt

```
c:\hcl\domino\ncompact -c d:\hcl\domino\data\names.nsf
```

Linux example from a terminal

```
/opt/hcl/domino/bin/compact -c /local/notesdata/ddm.nsf
```

- ODS is also a consideration on Client side. However from 12.0.2 Client side files in the data directory are upgraded by default. (only way to disable is to set NSF_AlwaysUpdateODS=0 - but don't do that)

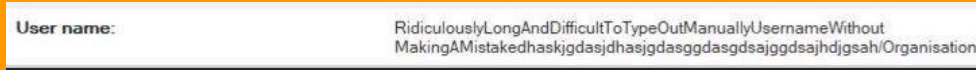
#26 Domino Console “pasting”

- Common Scenario/ Problem (that Domino Admins don't necessarily even talk about)

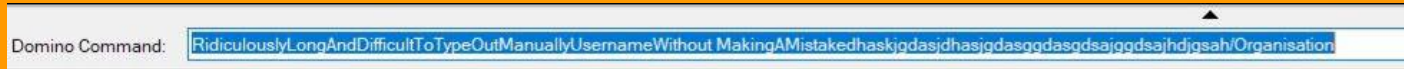
- You start writing a Domino Console Command



- You go off to find some text to copy (Username in this example, but it's often a database path and filename).



- You go back to the Domino Console and paste after the command you've already typed out and....



- The paste has definitely pasted. But it's overwritten your command too.

#26 Domino Console “pasting”

- There's a very easy solution. Use **Shift and Insert** instead of Ctrl and V when pasting into the Domino Console!!!!

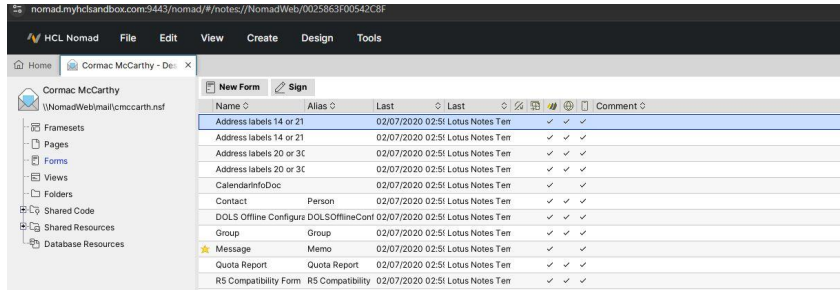
Command: `tell traveler reset * "RidiculouslyLongAndDifficultToTypeOutManuallyUsernameWithout MakingAMistakehdhaskjgdasjdhasjgdasqgdasqdsajqgdsajhdjgsah/Organisation"`

#27 Calendar Connector, Rooms and Resources and Schedule Manager on Apps servers

- Most common pet peeve of mine - rooms and resources, schedule manager and calendar connector running on apps server.
- If you've application only servers you VERY likely don't need them and they're using up resources.
- Remove CalConn, RnRMgr and Sched them from servertasks= in your notes.ini (and remember to check after every upgrade).
- Similarly if your in doubt about any task being in use - turn on activity analysis and find out is it being used.

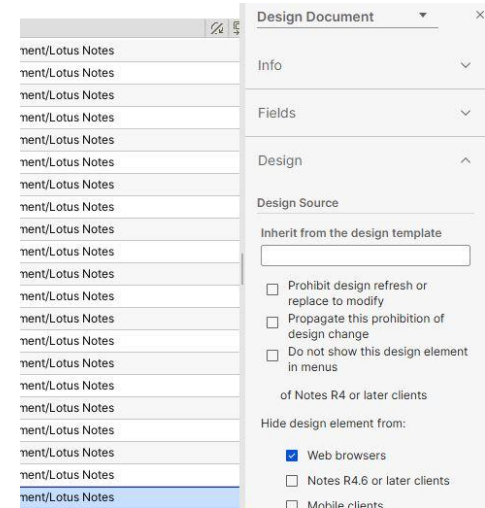
#28 Designer in Nomad for Web Browsers

- Did you know that since Nomad Web 1.0.10 there is a Designer client?
- You can open any database in Nomad Web (that you have Designer access to).



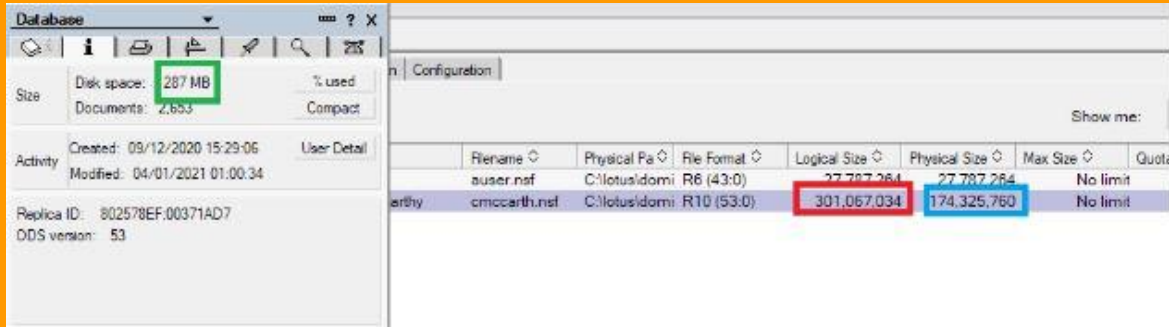
- Limited use cases, but it is neat and tidy - the properties window appear on the right

- **Nomad Designer:**
 - The following design elements cannot be created or edited.
 - Java Agents
 - Web Services
 - Java Libraries
 - Applets
 - Data Connections
 - Composite Applications
 - Navigators



#29 Quotas on Logical and Physical

- The scenario here is if you have DAOS enabled and the organisation uses quotas on mail....
- If you want quotas to apply to the **logical size** of a mailfile - then set your transaction logs “Quota enforcement” field to **Check space used in file when adding a note**.
- If you want quotas to apply to the **physical size** of a mailfile - then set your transaction logs “Quota Enforcement” to **Check File Size when extending the file**.
- However - be careful to educate helpdesks (and yourself) on what this means. It does not mean the column in the Administration client for Physical size applies! It's the one in database properties.



The screenshot shows a database administration window with a 'Size' section on the left and a table of mailfile properties on the right. In the 'Size' section, 'Disk space: 287 MB' is highlighted with a green box. The table on the right has columns for Filename, Physical Pa, File Format, Logical Size, Physical Size, Max Size, and Quota. Two rows are visible: 'auser.nsf' and 'cmccarth.nsf'. In the 'auser.nsf' row, the 'Logical Size' (27,787,264) is highlighted with a red box and the 'Physical Size' (27,787,264) is highlighted with a blue box. In the 'cmccarth.nsf' row, the 'Logical Size' (301,067,034) is highlighted with a red box and the 'Physical Size' (174,325,760) is highlighted with a blue box.

Filename	Physical Pa	File Format	Logical Size	Physical Size	Max Size	Quota
auser.nsf	C:\lotus\domi	R6 (43:0)	27,787,264	27,787,264	No limit	
cmccarth.nsf	C:\lotus\domi	R10 (53:0)	301,067,034	174,325,760	No limit	

In the **red** box is the logical size.

In the **blue** box is the physical size minus DAOS.

In the **green** box is the ACTUAL physical size with DAOS included. This is the one quotas apply to when “Check File Size when extending the File” is set.

#29 Quotas on Logical and Physical

- Also note since Domino 12 quotas replicate by default (unless you apply `DISABLE_REPL_QUOTA=1`)

#30 New DAOS tune estimator tool

- There's a new estimator tool for DAOS. It's available as a standalone tool in the "My HCLSoftware Portal."
- Why is this newsworthy - well it's much better than the old one, it's significantly quicker to run and it is not just for estimating what would happen if you turned on DAOS.
- You can now point it at your existing DAOS installation and it will tell you how best to tune your DAOS setup.
- It's technically a feature of 14.5 EAP1, but can be run as a standalone app against any Domino 12.0.1 server or higher. Reference for how to run it is here - https://help.hcl-software.com/domino/14.5.0/admin/admn_daostune_cmd_line_args.html

#31 Network Latency on Traveler

- As long as you update it regularly - Traveler is one of those services that “just works”
- If there are issues with Traveler it is almost always environmental.
- One such environmental issue is network latency.
- To check if there is a latency issue, from the Domino console issue a “tell traveler systemdump”

Check <data directory>\IBM_TECHNICAL_SUPPORT\traveler\logs\dumps\ (the Domino console tells you where the dump files are once the command is completed anyway)

Search for pingTime - anything above 55 ms is a problem.

ServerName=CN=ReginalServer/O=Org/C=Country, Status=0, pingTime=102ms

#32 Use public key checking and enable port encryption

- There's two Domino security settings you should always turned on.
- Sever Document ->Security tab set either "Enforce key checking for Notes users and Domino servers" or "Enforce key checking for Notes users and Domino servers listed in trusted directories only"
- If you don't, anyone (with the right knowledge) can create an organisation with the same name as production and register working IDs.
- As with any change - apply gracefully - turn on "log key mismatches" first. Correct all valid misused IDs and then enforce the setting.

#32 Use public key checking and enable port encryption

- Also Domino comes with seamless native transport encryption available out of box i.e. not need for third party TLS for Notes client connections.
- You just need to tick a box. So tick that box for every port on every Domino Server



Can also edit the notes.ini as follows:

Enable Encryption (compression disabled)
TCP/IP=TCP,0,15,0,,45056

Enable Compression and Encryption
TCP/IP=TCP,0,15,0,,45088

Same notes.ini settings can be applied to Notes client, but slightly redundant if applied consistently to all Domino Servers.

#32 Use public key checking and enable port encryption

- There are further options in 14.5 to mandate port encryption via the Domino Directory
https://help.hcl-software.com/domino/14.5.0/admin/mandated_port_encryption.html

#33 14.5 Notes client - search workspace

- Underrated feature of 14.5 Notes client - particularly for admins with 5 million icons on your workspace - you can now search your workspace!



- It gives you the number of results, the number of results on the page and highlights where the icon(s) is(are) on your workspace



- It sounds simple but it is a complete difference-maker.

#34 Controlling the outbound SMTP address

- By default users can set their own internet address on outbound mail.
- This can be problematic. Assuming the client sends through a Domino server, you can control this by applying **RouterTranslateSpecial=1** in the notes.ini of the Domino routing server.
- This setting looks up the person document of the sender and applies the internet address from there. For most organisations this like would make sense as default behaviour.



The screenshot shows a configuration window with tabs for Basics, Servers, Ports, Mail, Internet Browser, Replication, Advanced..., and Adm. The 'Mail' tab is active. The 'Location name' is 'Online'. The 'Location type' is 'Local Area Network'. The 'Internet mail address' field is highlighted with a red box and contains the text 'weirdoutboundaddress@dominopeople.ie'. The 'Proxy configuration' field is empty. The 'Default display name' is set to 'Primary names'.

#35 ID Vault errors with no ID Vault

- ID Vault has become an assumed setting in Domino. For many new services it is assumed you have it turned on.
- Since Domino 11, there's a quirk in behaviour for any new Configuration documents created for servers that affects some services that technically don't need ID Vault (HTTP/Traveler)

Internet Password Verification

- Check internet password in directory
- Check internet password in vault
- Check vault first, then directory

- If you don't have ID Vault and you create a new configuration document, this will be the default for Internet Password Verification - services like HTTP/Traveler will still work but you'll get errors (many errors if you've many users authenticating)

ID failed to authenticate in vault

ID for *USERNAME* ID failed to authenticate in vault *SERVERNAME*. *SERVERNAME* made request. User not found in the ID vault."

- Lesson here - is either use ID Vault or change the setting to Check Internet password in directory.

#36 Notes/Domino 14 - important changes to be aware of

- **HCL Notes 14 Client** - is 64 bit only. Any plugins that are 32 bit only will not work.
- The installer "looks after" removing 32 bit client if you're going from 32 bit to 64 bit. (though in general good practice to uninstall anyway and install fresh)
- No basic client installer but the notes.ini setting usebasicnotes=1 still works.
- **HCL Domino 14 Server** - improved security - Domino should be run in Windows as a non-admin account https://help.hcl-software.com/domino/14.0.0/admin/enabling_domino_nonadmin_user.html
- Recommended to use "NT Authority\LocalService" to run the Domino service BUT ensure this account has access to the binary directory, the data directory and any directory that your Domino server needs access to (transaction logs, daos directory, view_rebuild_dir, Full text indexes etc).
- You can still run Domino as an Admin user if you (really) want to.

#37 Managing PFX files with Domino

- PFX files - (Personal Information Exchange) file. Industry Standard Password protected file that stores a certificate (with the full key chain) for TLS connections from internet services.
- Very common scenario is an organisation registers a wildcard cert i.e. *.domain.com and shares the file for all applications with this PFX file.
- Can Domino use it? Yes.
- Pre-Domino 12/Cert Manager- You need to complete three operations with openssl. (Openssl is a third party tool you can install on your workstation <https://openssl-library.org/source/>)
- In a command prompt navigate to the "bin" directory for OpenSSL. So "cd C:\OpenSSL-Win64\bin" (or something like c:\program files\OpenSSL-Win64\bin)

#37 Managing PFX files with Domino

- Export the encrypted private key from the pfx file. (you'll be prompted for the password of the pfx file, and to nominate a passphrase for the key):

```
openssl pkcs12 -in c:\extract\secure.pfx -nocerts -out c:\extract\encrypted.key
```

- Decrypt the key you've just extracted:

```
openssl rsa -in c:\extract\encrypted.key -out c:\extract\server.key
```

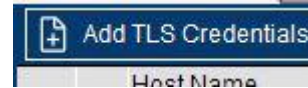
- Extract the actual cert:

```
openssl pkcs12 -in c:\extract\secure.pfx -clcerts -nokeys -out c:\extract\site.crt
```

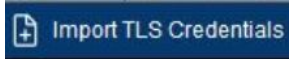
- For there you can follow the standard pre-cert manager steps for managing sha-2 certs.
https://support.hcl-software.com/csm?id=kb_article&sysparm_article=KB0073175

#37 Managing PFX files with Domino

- With Cert manager - you just import the file into certstore.nsf



- Fill in the hostname field, select the servers it's needed for and change the cert provider to "Manual" and click this button



- You just need to -browse to the pfx file, enter the password (and again an export password) , click "OK". (choose to make it exportable by default I'd suggest)

- You may see this warning:

Status:

Warnings

- Last cert in chain is NOT self signed - No root found

- You can import the root and intermediary certs to remove, but the cert should work fine even with this warning.

A screenshot of the "Import TLS Credentials" dialog box. The dialog has a title bar with "Import TLS Credentials" and a close button. It contains several sections: "Action:" with two radio buttons, "Format:" with three radio buttons, "File name:" with a text box containing "C:\TEST\wildcard.pfx", "Current password:" with an empty text box, "New password:" with an empty text box, "Verify password:" with an empty text box, and "Password quality:" with a dropdown menu. At the bottom are "OK" and "Cancel" buttons. A note "Specify a strong password below!" is located between the "Current password" and "New password" fields.

#38 Replication or save conflicts View

- Replication or save conflicts can be problematic. For Admins an obvious place to be careful with these is the Domino Directory. At a minimum you should be aware of when these are occurring. If you don't already have a view for these you should create one.
- In a Domino application:

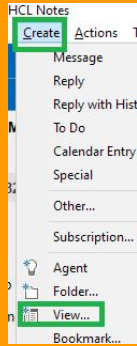
Click Create -> View

Change the view name to something appropriate.

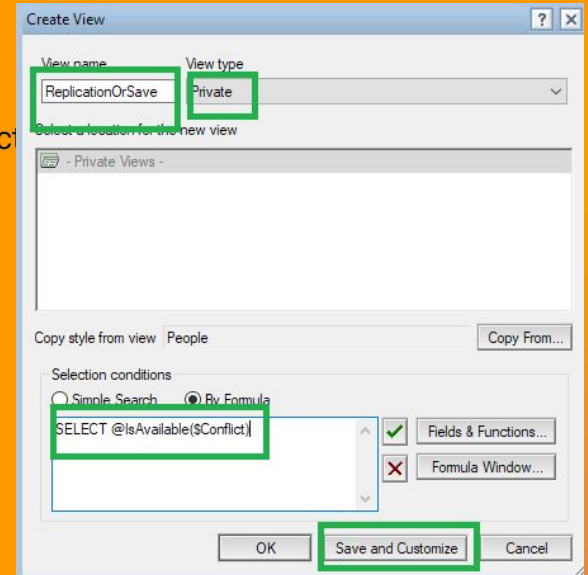
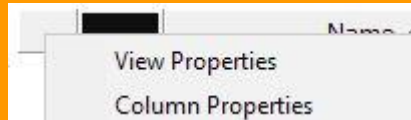
Change the "View type" to "Private" from the drop down menu.

Change the "Selection conditions" box to SELECT @IsAvailable(\$Conflict)

Click "Save and Customize".

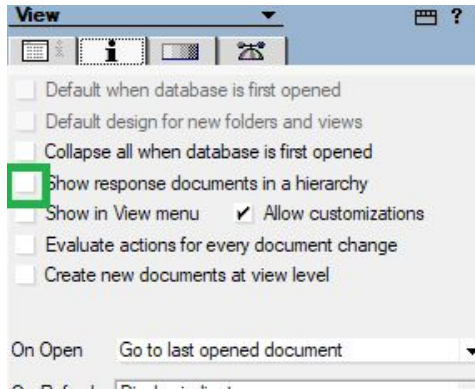


-Right Click on the view as it appears and select "View Properties".

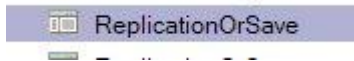


#38 Replication or save conflicts View

- Click on the second tab, and untick the box “Show response documents in a hierarchy”.



- Click the “Esc” key twice and when prompted click “Save”.
- You’ll now have a new private view that will show you all Replication or Save conflicts:



#39 Underused Feature - Symmetric Cluster

- This was released in Domino 10 and for some reason many customers are still not using it. https://help.hcl-software.com/domino/11.0.1/admin/sym_cluster.html
- Smart, configurable set of tasks that runs on every node in a cluster. They have the potential to detect and repair damaged databases or missing databases, .nlo objects within a cluster.
- Prerequisites are relatively intuitive:
 - All Servers must be on at least Domino 10, with pubnames.ntf 10.
 - All Servers must have "enough disk space"
 - Databases must be at least ODS 52.
 - If DAOS is turned on it must be turned on on all nodes.
 - Folders and filenames should be the same name on all servers. ("Repair list missing" - will tell you if you've issues.)
 - Locally encrypted database won't work.
 - Databases where clustered replication is explicitly disabled won't work.
 - Databases that are accessed through database or directory links won't work.
 - Don't include files in root (as they contain system databases that recover slightly differently).

#39 Underused Feature - Symmetric Cluster

- Apply the feature iteratively (i.e. gently - don't turn on all the bells and whistles at the start).
- To configure what should be repaired, go to Basics tab of cluster configuration document.
- The following can be configured from there:
 - Maintain Symmetry. (All folders or specified folders).
 - Automatic repair. (Fix missing files, List missing files in the log, or Disabled).
 - Scan interval. (In minutes to check for missing databases).
 - Damaged files. (Either Fix damaged files or Disabled).
 - Remove damaged files after. (number of days - default is 20 days).



#39 Underused Feature - Symmetric Cluster

- To actually turn on:
 - Set this notes.ini D10_ENABLE_REPAIR=1
 - Start these two tasks - AutoRepair and RprCleanup (add to servertasks= line in the server notes.ini)
- There are multiple query options to do with the repair command as per here - https://help.hcl-software.com/domino/11.0.1/admin/sym_cluster_repair.html
- There are also many tuning options as per here - https://help.hcl-software.com/domino/11.0.1/admin/sym_cluster_tune.html

Field
Number of repair threads
Check donor availability
Retry failed repairs after
Maximum number of retries
Repair performance
Repair logging level

#40 Nomad for Web Browsers Offline

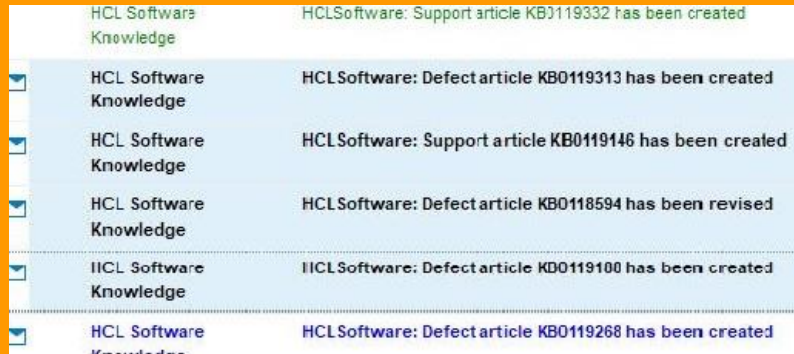
- From Nomad Web 1.0.10 onwards https://help.hcl-software.com/nomad/1.0_web/nomadweb_offline_mode.html
- If a user loses connectivity they can still work on local databases, including a local mail.box.



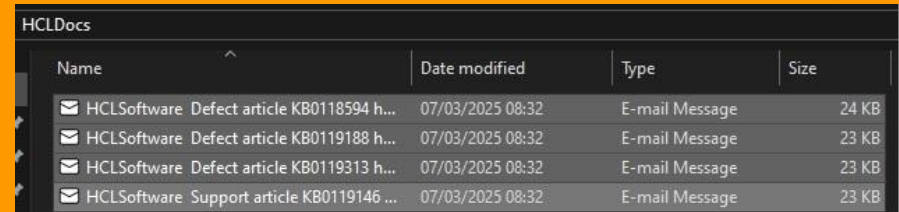
- Users can also launch Nomad client while have no connectivity.

#41 Couple of Export Options on documents.

- Since HCL Notes 11 you can export as PDF. Open the document and then File->Export->Save as PDF.
- If the document layout doesn't "read well" - you can set `AutoAdjustTableWidthWhenPrinting=1` in the `notes.ini`.
- Did you know you can drag and drop documents from a mailfile to a directory in Windows they will save as `.eml` files. (readable/importable mails in "other" mail clients).



HCL Software Knowledge	HCLSoftware: Support article KB0119332 has been created
HCL Software Knowledge	HCLSoftware: Defect article KB0119313 has been created
HCL Software Knowledge	HCLSoftware: Support article KB0119146 has been created
HCL Software Knowledge	HCLSoftware: Defect article KB0118594 has been revised
HCL Software Knowledge	HCLSoftware: Defect article KB0119100 has been created
HCL Software Knowledge	HCLSoftware: Defect article KB0119268 has been created



Name	Date modified	Type	Size
📧 HCLSoftware Defect article KB0118594 h...	07/03/2025 08:32	E-mail Message	24 KB
📧 HCLSoftware Defect article KB0119188 h...	07/03/2025 08:32	E-mail Message	23 KB
📧 HCLSoftware Defect article KB0119313 h...	07/03/2025 08:32	E-mail Message	23 KB
📧 HCLSoftware Support article KB0119146 ...	07/03/2025 08:32	E-mail Message	23 KB

#42 Running the design task manually

- In most environments, the design task either runs as it's listed at one of the `servertasksat*` or it doesn't
- You can also either run it manually or via program documents with options to give you more control. From 14.5

Usage: Load DESIGN [source] [target] [options]...

[source]: Server name containing the templates. Default is LOCAL.

[target]: Server name of databases to refresh. Default is LOCAL.

[options]:

-d name Directory name (relative to data directory) to refresh.

-f name File name of database to refresh.

-i name Database, folder or a file name containing a list of pathnames, each of which may be a database or a folder to refresh design(s).

-t name Only refresh design of databases with this design template name.

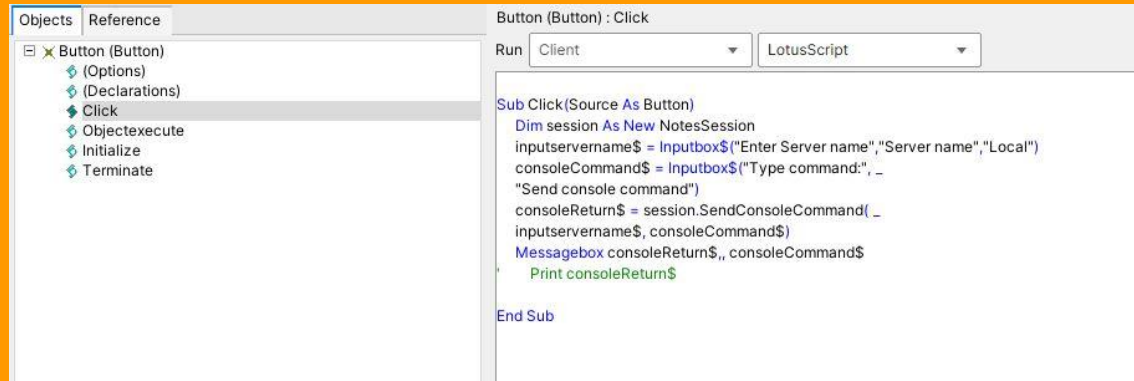
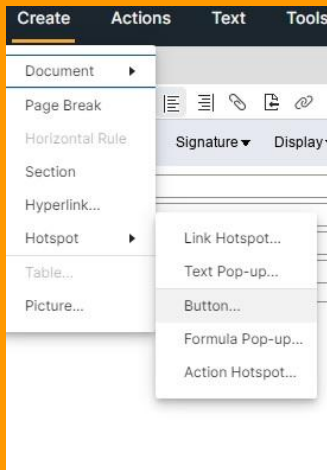
-sd Refresh design of System Databases in `dominosystemdbs.ind`.

-adm Refresh design only if current server is Administration Server of database.

-mt name Mail design update log to the Internet Address name.

#43 Domino Console from Nomad for Web Browsers

- Simple and old one, but a good reference to have, particularly if you have limited access to a Notes client.
- As long as your ID has Domino Console access you can get to it in any Notes client **even in Nomad Web**.
- Create->Hotspot button, fill it out as below.



#43 Domino Console from Nomad Web

Server name

Enter Server name

OK

Cancel

Server directory: C:\Lotus\Domino\data
Partition: C:\Lotus\Domino\data
Elapsed time: 11:42:18
Transactions/minute: Last minute: 132; Last hour: 107; Peak: 1267
Peak # of sessions: 38 at 10/03/2025 10:05:42
Transactions: 57290 Max. concurrent: -1
ThreadPool Threads: 100 (TCPIP Port)
Member of cluster: DominoPeople Cluster
Availability Index: 100 (state: AVAILABLE)
Mail Tracking: Not Enabled
Mail Journaling: Enabled, Local Destination
Number of Mailboxes: 2
Pending mail: 0 Dead mail: 0
Waiting Tasks: 0
DAOS: Enabled
Transactional Logging: Enabled
Fault Recovery: Enabled
Smart Server: Enabled
Activity Logging: Enabled
Server Controller: Enabled
Diagnostic Directory: C:\Lotus\Domino\data\IBM_TECHNICAL_SUPPORT
Console Logging: Enabled (10240K)
Console Log File: C:\Lotus\Domino\data\IBM_TECHNICAL_SUPPORT\console.log
Server ID protection: Disabled

OK

Send console command

Type command:

OK

Cancel

Actual text to copy and paste:

Sub Click(Source As Button)

Dim session As New NotesSession

inputservername\$ = Inputbox("Enter Server name","Server name","Local")

consoleCommand\$ = Inputbox("Type command:", _
"Send console command")

consoleReturn\$ = session.SendConsoleCommand(_
inputservername\$, consoleCommand\$)

MessageBox consoleReturn\$,, consoleCommand\$

Print consoleReturn\$

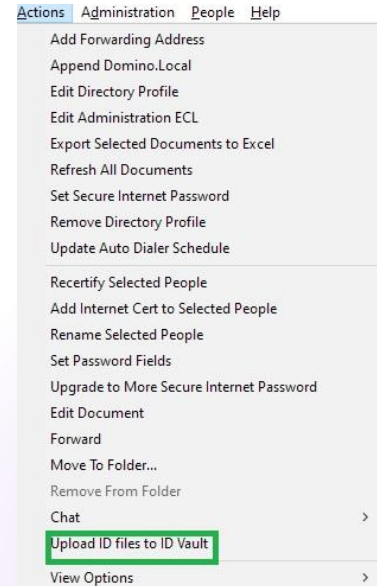
End Sub

#44 Try the Early Access Program

- HCL do good early access programs. (Particularly from R.12 onwards).
- The best beta programs remove barriers to access for major releases are COMPLETELY OPEN. As long as you have a licence you can participate.
- “I understand what HCL gets here but what do I get?”
 - Get direct access to the developers and product managers. (they do listen, even if they don't always do what you want).
 - Best chance of shaping the direction of the products.
 - Worst case you get to learn how to use the new features before they come out.
- There's programs for many other services. I'm involved in a greenhoused beta for Nomad for Web Browsers - very active. Updates every few weeks. (Contact Brian Arnold)

#45 ID Vault stuff you might not know

- ID Vault has been around for quite some time. It has become close to a default service in Domino. (where some services can't be implemented without ID Vault being turned on).
- However from my experience knowledge from Admins around it, hasn't really changed since it was first implemented.
- There's a couple of important additions I don't often see used:
 - Manually uploading a single user ID - Admin Client -Actions-Upload IDs to ID Vault
https://help.hcl-software.com/domino/12.0.0/admin/conf_uploadingsingleidvauladmin.html



#45 ID Vault stuff you might not know

- You can also upload multiple IDs via a csv file
https://help.hcl-software.com/domino/12.0.0/admin/conf_uploadingmultipleidwithcsv.html

#46 Take another look at HTMO (I did)

- My personal preference is that I don't like using Outlook.
- But I also know the reality that many users do.
- Notes/Domino has had many iterations of attempted connectivity to Outlook.
 - Domino Access for Microsoft Outlook (I have no words)
 - IMAP (okish if you don't want a calendar)
 - IMSMO. Originally quite clunky with a DB2 backend on top of "fat" traveler, no delegation and many things that just didn't work.
 - Whispers of promises of Open Client Access
- Or the alternative -an expensive migration to other platforms.

#46 Take another look at HTMO (I did)

- I have (too much) experience of all and generally didn't find them the best.
- It put me off even considering the next shiny new option for integration with Outlook.
- However recently I had reason to relook at HTMO (HCL Traveler for Microsoft Outlook) for a customer and it's....
- Better than I thought. Certainly it's many iterations ahead of the original IMSMO
- There isn't a separate FATTER Version of Traveler. If you already have Traveler you can leverage that and just enable the required REST services on top. You don't need separate DB2 or SQL backends (unless you already have them for HA).
- It just works and doesn't take a degree in something obscure to set up. Also delegation works. Well done HCL. Take another look if you haven't.

#47 Domino to Exchange mail routing

- In this day and age many Domino admins will have experience mail coexistence scenarios. Particularly between Domino and either Exchange or Microsoft 365.
- While migrations between the two is still relatively complex and there's never really one size fits all..
- **Interoperability** (what a word!) between the two has never been better - we've multiple options for freebusy lookups (e.g. ExConn Task from 12.0.2 allows freetime lookups from Domino to M365, also multiple options with OnTime, as well as ADSync).
- One thing from sites I've seen is that mail routing can be set up clunkier than it has to be. With either "onmicrosoft.com" or "subdomain.domain.com" being used.
- Routing from Domino to Exchange with the same internet domain can be very simple.
- Scenario. Co-existence is required where some users are in Domino, Some users are in Exchange using the same domain. Solution. Domino routing.

#47 Domino to Exchange mail routing

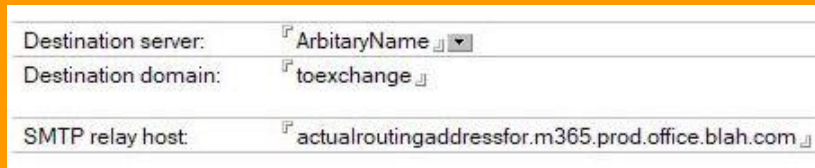
- Continue to route inbound mails for the domain (domain.com) to Domino. (via DNS to Mail Gateway etc)
- Set up a Foreign SMTP Domain, the only two fields you need to fill in are in the Mail Tab, “Internet Domain” and “Domain name”



The screenshot shows the Domino Administration Console for a domain named "EXCHANGE". The "Routing" tab is selected. Under "Messages Addressed to:", the "Internet Domain" is set to "EXCHANGE". Under "Should be Routed to:", the "Domain name" is set to "toexchange".

Domain EXCHANGE	
Basics Restrictions Routing Comments Administration	
Messages Addressed to:	
Internet Domain:	EXCHANGE
Should be Routed to:	
Domain name:	toexchange

- Set up a SMTP connection document. (and receive connector in Exchange/M365). Here Destination Domain matches “Domain name” from above



The screenshot shows the configuration for an SMTP connection document. The "Destination server" is set to "ArbitraryName", the "Destination domain" is set to "toexchange", and the "SMTP relay host" is set to "actualroutingaddressfor.m365.prod.office.blah.com".

Destination server:	ArbitraryName
Destination domain:	toexchange
SMTP relay host:	actualroutingaddressfor.m365.prod.office.blah.com

#47 Domino to Exchange mail routing

- Now - you can forward just using the Forwarding SMTP Address. Exchange/M365 will receive the mail as joe.bloggs@domain.com

Mail	
Mail system:	Other Internet Mail ▾
Domain:	HOME ▾
Forwarding address:	joe.bloggs@domain.com@EXCHANGE ▾
Internet address:	▾

- You don't have to do it this way, but using an actual internet subdomain is (in my opinion) clunkier and unnecessary. Temporary domains or subdomains end up in user contacts (potentially forever). Forwarding rules on "the other side" will require a subdomain.

#48 DAOSRepair

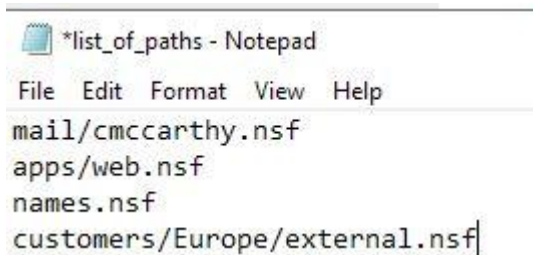
- DAOS is another service in Domino that sits in the background and generally Admins tend to not make too many changes once implemented.
- Since Domino 14 there is a very handy command to run in the case where DAOS had done a resync and can't find a Domino object. You can run a command for Domino to look for the object on other cluster nodes with

```
tell daosmgr repair objects
```
- Repair will “look after” all the encryption (decrypting from another server ID and re-encrypting with the correct one).
- You can also repair single objects with tell “daosmgr repair *objectname.nlo*.”
- Full information is here - https://help.hcl-software.com/domino/14.0.0/admin/repairing_missing_daos_objects.html

#49 Replicate with .ind files

- From Domino 12 you can replicate from the console to a .ind file
- That means you can create a text file (with the extension .ind file) put in the data directory of the source server and list paths to replicate with and run the following from the Domino server

Rep *targetservername* list_of_paths.ind



```
*list_of_paths - Notepad
File Edit Format View Help
mail/cmccarthy.nsf
apps/web.nsf
names.nsf
customers/Europe/external.nsf|
```

#50 Partial Replication for lower bandwidth

- From Notes 12 - you can enable a notes.ini setting, that enforces partial replication when the bandwidth his a threshold.
- The setting is ***NetworkSpeedInMbps=value*** so for example if you want partial replication to be enabled when the Notes client has a speed below 10 Mbps, set ***NetworkSpeedInMbps=10***



Thank you for your attention

Questions?