OPENNTF WEBINARS

April, 2022 OpenNTF Webinar

What's New in Domino Designer

AGENDA

- Welcome – Howard Greenberg and Graham Acres
- Presentation – Ulrich Krause, midpoints GmbH
- Q and A - All

THANKS TO THE OPENNTF SPONSORS

- HCL made a contribution to help our organization
  - Funds these webinars!
  - Contests like Hackathons
  - Running the organization
- Prominic donates all IT related services
  - Cloud Hosting for OpenNTF
  - Infrastructure management for HCL Domino and Atlassian Servers
  - System Administration for day-to-day operation

HCL NOTES UI CONTEST

- OpenNTF is co-sponsoring HCL Notes UI Contest with GroupWave

- The new application should work within **Notes Client V12.0.1 and Nomad** for mobile devices (both iOS and Android

- Entries will be judged on usability, compatibility, and technical design

- The jury consists of HCL Ambassadors and HCL employees

- Winners announced at Engage in May!

- More info at https://www.groupwave.be/contest/

THIS IS OUR COMMUNITY

- Join us and get involved!

- We are all volunteers

- No effort is too small

- If your idea is bigger than you can do on your own, we can connect you to a team to work on it

- Test or help or modify an existing project

- Write guides or documentation

- Add reviews on projects / stars on Snippets

OPENNTF BOARD UPDATES

- Community Projects
  - Catalog of User Group Presentations
  - Led by Oliver Busse
  - Channel on slack.openntf.com #presentation-project
- The Future of OpenNTF
  - How to Evolve OpenNTF
  - We want your input!
  - Blog and video posted soon
  - Feedback via Discord

UPCOMING EVENTS

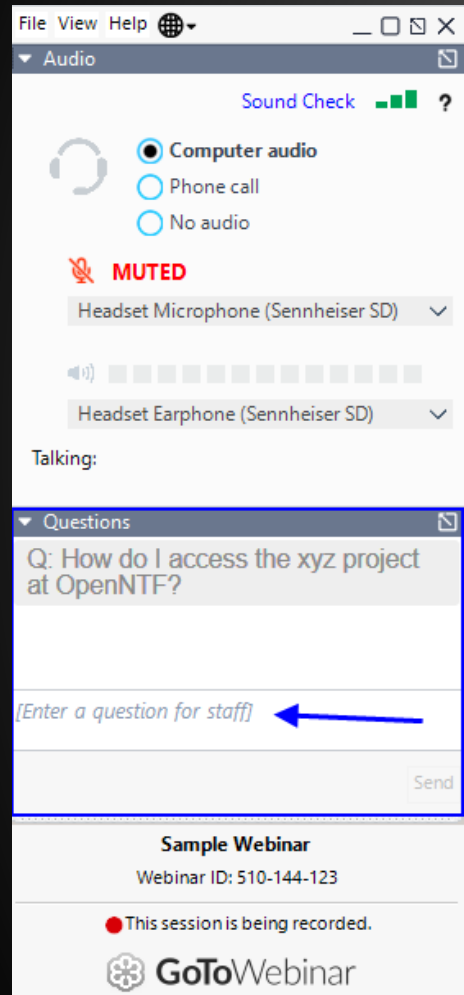- Engage 2022 – Bruges, Belgium – **NOW** May 23-25, 2022
    - https://engage.ug/

NEXT WEBINAR – ONE TOUCH SETUP

- Watch https://www.openntf/org/webinars for more information

- June: OpenNTF Annual General Meeting

ASKING QUESTIONS

- First Question – Will this be recorded?
  - Yes, view on YouTube!!!
  - https://www.youtube.com/user/OpenNTF
- Use the Questions Pane in GoToWebinar
- We will get to your questions at the end of the webinar
- The speakers will respond to your questions verbally
  - (not in the Questions pane)
- Please keep all questions related to the topics that our speakers are discussing!!!
- Unrelated Question => post at:
  - http://openntf.slack.com/

Lotus, IBM, HCL Notes und Domino since 1993

Developer / Administrator / Consultant

IBM Champion 2010 - 2019

HCL Ambassador 2019 - 2022

Let's Encrypt For Domino (LE4D)
https://www.midpoints.de/de-solutions-LE4D

Working with midpoints GmbH, Germany

HCL Ambassador

Tools & Resources

... free of charge

Available for free download.

Compatible with Notes 9+.

Using NotesPeek

https://ds_infolib.hcltechsw.com/ldd/dominowiki.nsf/dx/Using_NotesPeek

Download

http://domquery.info/ldd/sandbox.nsf/Threads/2791869F4E1D3FA38525 6F2C00432973?OpenDocument

For complete information on all options and how to get started, open the application and select Help > > About This Application and Help > > Using This Application .

https://help.hcltechsw.com/dom_designer/beta/12.0.1/basic/wn_databasecompare.html

You can use "Database Comparison" to generate a design synopsis of a database that is exported to another database.

The target database contains documents describing each design element.

Fixlist is back

Views | **Upcoming Releases** | **What's New** | **Search**

- APARs
- Customer Priority
- Date modified
- Notes.ini settings

- Product area
- Platform
- Regressions (fixed)

by Release

⊕ Expand   ⊖ Collapse   ⬅ Previous   Next ➡

235	▶ 12.0.1
460	▶ 12.0
130	▶ 11.0.1 FP4
115	▶ 11.0.1 FP3
75	▶ 11.0.1 FP2
74	▶ 11.0.1 FP1
162	▶ 11.0.1
201	▶ 11.0
139	▶ 10.0.1 FP7
73	▶ 10.0.1 FP6
68	▶ 10.0.1 FP5
88	▶ 10.0.1 FP4
34	▶ 10.0.1 FP3
74	▶ 10.0.1 FP2
35	▶ 10.0.1 FP1
61	▶ 10.0.1
418	▶ 10.0

26 VOTE

Make fixlist available to be replicated

Great to see the fixlist is back.https://ds_infolib.hcltechsw.com/ldd/fixlist.nsfWould love to be able to replicate the database to my Server for better searching and recognising changes.

Created 16 Mar 11:32am
Domino / Administration

Needs Review   💬 0

https://ds-infolib.hcltechsw.com/ldd/fixlist.nsf

Views | **Upcoming Releases** | **What's New** | **Search**

- 12.0.2   - 12.0.1 FP1

Release number   12.0.2
Est. release date   tbd *Details*

Description   Scheduled maintenance release, containing several bug fixes and some new features.

Status   Stage 1: SPR Triage

Download availability   Coming in Stage 5

Latest fixes   No documents found

More fixes >>>

Notices

View past release status

1 ● SPR Triage
Current release SPR work list finalized.

2 ◎ Code Freeze
Deadline for developers to submit bug fixes.

3 ◎ Gold Candidate
Build submitted for final testing and verification.

4 ◎ Gold Build
Final build is completed.

5 ◎ Web Posting
Release posted online for download.

6 ◎ First Customer Ship
Full installation kit physical media shipped to customers.

https://domino-ideas.hcltechsw.com/ideas/DOMINO-I-2023

Domino Designer Documentation

> Domino

∨ Domino Designer

    Domino Designer 12.0.1

    Domino Designer 11.0.1

    Domino Designer 11.0.0

    Domino Designer 10.0.1

    Domino Designer 9.0.1

Domino AppDev Pack

Enterprise Integrator

Domino Connector for SAP Solutions 2.0.2

> Additional Information

> **HCL Domino Designer Basic User Guide and Reference**
This guide provides information on using HCL Domino Designer and programming language reference information.

> **HCL Domino Designer XPages User Guide**
This guide focuses on the aspects of creating applications using XPages technology.

> **JavaScript and XPages reference**
This reference describes the JavaScript™ language elements, Application Programming Interfaces (APIs), and other artifacts that you need to create scripts, plus the XPages simple actions.

Notices

https://help.hcltechsw.com/dom_designer/designer_welcome.html

```java
import java.util.Locale;

import com.github.javafaker.Faker;

import lotus.domino.AgentBase;
import lotus.domino.Database;
import lotus.domino.DateTime;
import lotus.domino.Document;
import lotus.domino.Session;

public class JavaAgent extends AgentBase {

    public void NotesMain() {

        Database db = null;
        Document doc = null;
        DateTime dt = null;

        final String FORM = "person";

        final long MAX_RECORDS = 25000;
        long records = 0;

        try {
            Session session = getSession();
            db = session.getCurrentDatabase();

            for (Locale loc : Locale.getAvailableLocales()) {
                records = 0;
                System.out.println(loc.toLanguageTag());
                Faker faker = new Faker(new Locale(loc.toLanguageTag()));

                do {
                    doc = db.createDocument();

                    doc.replaceItemValue("Form", FORM);
                    doc.replaceItemValue("firstName", faker.address().firstName());
                    doc.replaceItemValue("lastName", faker.address().lastName());
```

Java Faker is a port of Ruby's faker that generates fake data.

It's useful when you're developing a new project and need some pretty data for showcase.

https://github.com/DiUS/java-faker
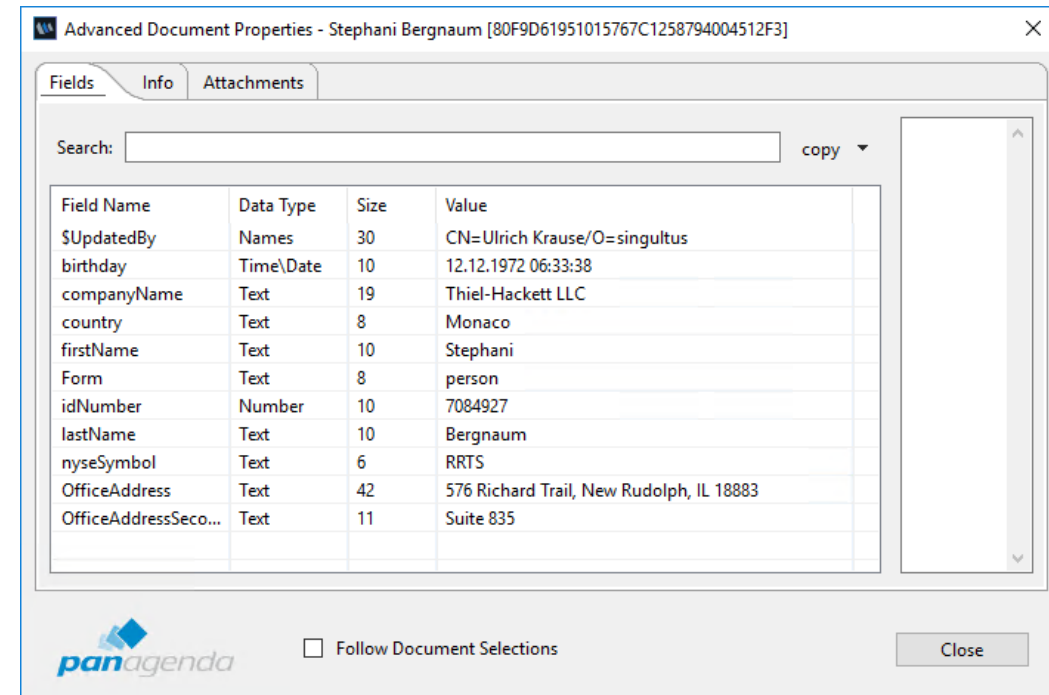
Aside from LS & Java

C API SDK

11.0.1 (first update since v 9.x), but no makefiles

12.0.0 comes with makefiles

C API SDK

> This PC > data (E:) > 0.git > notesapi >

Name	Date modified	Type
📁 1101	30/10/2021 14:10	File folder
📁 1200	30/10/2021 14:12	File folder

11.0.1 (first update since v 9.x), but no makefiles

12.0.0 comes with makefiles

https://www.eknori.de/2021-02-07/capi-sdk-11-0-1-for-hcl-notes-domino-released/

https://www.eknori.de/2021-02-10/onemk-makefiles-made-easy/

```
1  #### ############################################################ ####
2  # MAKEFILE FOR C/C++ PROJECT
3  # Author: Ulrich Krause
4  # Date:   2021/02/10
5  # sample makefile to build /notesapi/11.0.1/samples/basic/intro
6  #### ############################################################ ####
7  BASE_DIR = $(GIT_REPOSITORY)/
8  ifeq ($(BITNESS),)
9  BITNESS = 32
10 endif
11 TYPE = application
12 TARGET = intro
13 SUFFIX = c
14 #--------------------------------------------------------------------
15 include $(BASE_DIR)makefiles/common.notesapi.11.0.1.mk
16 #--------------------------------------------------------------------
17
18 SRCDIR =
19 INCLUDES =
20
21 #--------------------------------------------------------------------
22 # Create list of sourcefiles and calculate obj files accordingly
23 #
24 SRCS := $(wildcard $(strip $(SRCDIR)*.$(SUFFIX)))
25 OBJS := $(SRCS:%.$(SUFFIX)=%.$(OBJ))
26
27 #--------------------------------------------------------------------
28 # Recipes (included from common.recipes.mk)
29 #
30 include $(BASE_DIR)makefiles/common.recipes.mk
31 #--------------------------------------------------------------------
```

C API SDK

> This PC > data (E:) > 0.git > notesapi >

Name	Date modified	Type
📁 1101	30/10/2021 14:10	File folder
📁 1200	30/10/2021 14:12	File folder

11.0.1 (first update since v 9.x), but no makefiles

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https://www.eknori.de/2021-02-07/capi-sdk-11-0-1-for-hcl-notes-domino-released/

https://www.eknori.de/2021-02-10/onemk-makefiles-made-easy/

```
#### ########################################################### ####
# MAKEFILE FOR C/C++ PROJECT
# Author: Ulrich Krause
# Date:    2021/01/05
#### ########################################################### ####
BASE_DIR = $(GIT_REPOSITORY)/
ifeq ($(BITNESS),)
BITNESS = 32
endif
TYPE = application
TARGET = ntfbuild
SUFFIX = cpp
#------------------------------------------------------------------
include $(BASE_DIR)makefiles/common.notesapi.9.0.1.mk
#------------------------------------------------------------------
SRCDIR = src
INCLUDES = \
      inc \
      $(BASE_DIR)easylogging/src \
      $(BASE_DIR)cmdline \
      $(BASE_DIR)notes2 \
      $(BASE_DIR)cppnotes/include \
      $(NOTESAPI)include \
      $(BASE_DIR)boost/boost_1_75_0

LDLIBS_ADDITIONAL_PATH = \
      $(BASE_DIR)_static_libs

ifeq ($(DETECTED_OS),$(strip Windows))
LDLIBS += cmdline-$(BITNESS)-vc141.lib
LDLIBS += ncpp-3.0.0-w$(BITNESS)-vc141.lib
LDLIBS += notes2-w$(BITNESS).lib
LDLIBS += /NODEFAULTLIB:LIBCMT
WINVER = /DWINVER=0xA00
else
LDLIBS += -lstdc++fs
LDLIBS += -lncpp-3.0.0-w$(BITNESS)-vc141
LDLIBS += -lcmdline-$(BITNESS)-vc141
endif

#------------------------------------------------------------------
# Create list of sourcefiles and calculate obj files accordingly
#------------------------------------------------------------------
SRCS := $(wildcard $(strip $(SRCDIR)/*.$(SUFFIX)))
OBJS := $(SRCS:%.$(SUFFIX)=%.$(OBJ))

#------------------------------------------------------------------
# Recipes (included from common.recipes.mk)
include $(BASE_DIR)makefiles/common.recipes.mk
#------------------------------------------------------------------
```

DOTS (Domino OSGI Tasklet Service)

37 VOTE

Bring back DOTS support

DOTS was an important addition in the panorama of the scheduled processes fo Domino.True, it was cumbersome to have to install the Social Component in order to have DOTS task but overall it was a "breath of decent fresh air". Considered the power ...

Created 26 Mar 06:56am
Domino

Shipped   1

Javaddin C code

1.Launch the jvm
2.Invoke launcher.jar to launch the OSGi framework
3.Load the ServerTaskManager
4.Register native methods
5.Dispatch tell commands
6.Call addInDispatch in the main loop

launcher.jar

JVM
OSGi container

Server task plugins

Javaddin core plugin

OSGi core plugins

https://www.openntf.org/main.nsf/project.xsp?r=project/OSGI%20Tasklet%20Service%20for%20IBM%20Lotus%20Domino/summary

Domino OSGI Tasklet Service (DOTS) is available again

DOTS is available again in Domino 12.

For more information, see article KB0089518 on the HCL Software Support site.

https://help.hcltechsw.com/domino/12.0.0/admin/wn_dotsredux.html

64 Bit Client

Notes Basic Client

Notes Standard Client

Domino Designer

Admin Client

Notes1201_x64_Beta

```
C:\tools\SysinternalsSuite>sigcheck c:\notes\admin.exe

Sigcheck v2.03 - File version and signature viewer
Copyright (C) 2004-2014 Mark Russinovich
Sysinternals - www.sysinternals.com

c:\notes\admin.exe:
        Verified:        Signed
        Signing date:    01:15 PM 11/22/21
        Publisher:       HCL America Inc.
        Description:     HCL Notes/Domino
        Product:         HCL Notes/Domino
        Prod version:    12.0.100.21325
        File version:    12.0.100.21325
        MachineType:     64-bit
```

Files	Download Log	Notification Log

Download Selected Files

☐	+	File Description ⬍	File Size ⬍
☐	+	HCL Notes 12.0.1 for Windows 64bit English - Beta	681.6MB
☐	+	HCL Notes, Designer 12.0.1 for Windows 64bit English - Beta	0.95GB

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A look in the rearview mirror

... Domino V10.x / 11.x

NotesHTTPRequest,

The new **LotusScript** class allows HTTP requests to web servers. For more information, see the section LotusScript Classes A - Z in the IBM Domino Designer Basic User Guide and Reference.

Domino Query Language (DQL)

Is a new facility that runs in Domino core that allows for a terse, shorthand syntax for finding documents according to a wide variety of complexity of terms.

It leverages existing design elements without the need to write detailed code to access them.

DQL can be executed in the **LotusScript** and **Java Query** method on the **(Notes) Database** object or via the **domino-db node.js API**.

For more information, see the Domino Query Language documentation, currently under https://help.hcltechsw.com/dom_designer/10.0.1/basic/dql_overview.html

NotesRichTextItem,

New method **convertToHtml** to convert a RichTextItem to an HTML string

After this method is called, the **getHTMLReferences** method can be called.

The **HTMLReference** class was created to represent the data contained within an HTML reference

s

NotesRichText

```
...()
convertToHtml()
getHtmlReferences()
...()
```

https://help.hcltechsw.com/dom_designer/9.0.1/appdev/H_HTMLREFERENCE_CLASS.html

HTMLAPIReference	Data
HTMLAPI_PROP_TYPE	Data
HTMLAPI_REF_TYPE	Data
HTMLAPI_URLArg	Data
HTMLAPI_URLComponent	Data
HTMLAPI_URLTargetComponent	Data
HTMLConvertElement	Func
HTMLConvertImage	Func
HTMLConvertItem	Func
HTMLConvertNote	Func
HTMLCreateConverter	Func
HTMLDestroyConverter	Func
HTMLGetProperty	Func
HTMLGetReference	Func
HTMLGetText	Func

„Unfortunately, the documentation for this was a mistake, as it was a method under development years ago.
It is unsupported and will be removed going forward."

- James Cooper/USA/PNPHCL -

NotesHtmlReference

```
CommandId
Type
FileName
URL
```
```
extractFile()
```

https://help.hcltechsw.com/dom_designer/9.0.1/appdev/H_CONVERTOHTML_METHOD_NOTESRICHTEXTITEM.html

Domino AppDev Pack

A server-side component called **Proton**. An administrator installs and configures Proton on one or more Domino servers.

A Node.js module called **domino-db**. A developer adds this module to a Node.js application. domino-db uses Proton to perform bulk operations on documents in a server database. domino-db uses the Domino Query Languge (DQL) to select target documents for most operations.

A Node.js based service called **IAM** (Identity and Access Management). An administrator can deploy it aside Domino to enable remote applications to access Domino resources through RESTFul APIs with standard **OAuth2.0** authorization flows. It is a Preview feature.

For details, see the App Dev Pack documentation.

https://doc.cwpcollaboration.com/appdevpack/docs/en/homepage.html

New or enhanced LotusScript and Java classes

The **NotesHTTPRequest** LotusScript class, introduced in release 10.0, supports additional methods and properties.

A new class, **DominoQuery**, is used to compile, tune, and run Domino Query Language queries. Available for **LotusScript** and **Java**.

The following new **LotusScript** classes support JSON: **NotesJSONArray, NotesJSONElement, NotesJSONNavigator,** and **NotesJSONObject**.

New properties to support Domino -based mobile clients such as HCL Nomad

New LotusScript classes **NotesGPS** and **NotesGPSPosition**

New methods and properties for **NotesJsonNavigator**, **NotesJsonArray**, **NotesJsonObject** classes

New methods for **(Notes)DominoQuery** classes

New properties for **NotesViewColumn** class

Domino Query Language enhancements.

https://help.hcltechsw.com/dom_designer/11.0.1/basic/wn_designer_11.0.html

https://help.hcltechsw.com/dom_designer/11.0.1/basic/wn_designer_11.0.1.html

```
Private Sub registerPerson(syncDoc As NotesDocument)
    Dim newUserDoc As NotesDocument
    If (Not syncDoc Is Nothing ) Then

        If (syncDoc.Hasitem(ITEM_OBJECT_GUID)) Then
            If Not syncDoc.hasItem(ITEM_CERTIFICATE) Then

                firstName = syncDoc.firstName(0)
                lastName = syncDoc.lastName(0)

                Call calcUserIdFileName
                Call calcMailFileName

                reg.Contactnoteid = syncDoc.Noteid         ' new as of V11.0.1

                Call reg.RegisterNewUser(lastName, _        ' last name
                REG_USER_ID_FILEPATH & userIdFileName, _    ' file to be created
                REG_MAIL_SERVER, _                          ' mail server
                firstName, _                                ' first name
                "", _                                       ' middle initial
                REG_CERT_ID_PWD, _                          ' certifier password
                "", _                                       ' location field
                "", _                                       ' comment field
                mailFileName, _                             ' mail file
                "", _                                       ' forwarding domain
                userPassword, _                             ' user password
                NOTES_DESKTOP_CLIENT)                       ' user type
            End if
        End if
    End If
End Sub
```

Used to register users who have existing Person documents created by syncing Active Directory users into the Domino directory. (HCL DirSync)

https://help.hcltechsw.com/dom_designer/11.0.1/basic/H_CONTACTNOTEID_PROPERTY_NOTESREGISTRATION.html

```
Public Sub registerPerson2()
    Dim newUserDoc As NotesDocument

    firstName = "John"
    lastName = "Doe"

    Call calcUserIdFileName
    Call calcMailFileName

    Call reg.RegisterNewUser(lastName, _
    REG_USER_ID_FILEPATH & userIdFileName, _
    REG_MAIL_SERVER, _
    firstName, _
    "", _
    REG_CERT_ID_PWD, _
    "", _
    "", _
    mailFileName, _
    "", _
    userPassword, _
    NOTES_DESKTOP_CLIENT)
    MsgBox reg.Contactnoteid

End Sub
```

reg.RegisterNewUser does not return contactNoteId

Mike O'Brien HCL: „I see that it could be convenient to have it be returned after registering a brand new person.

Thanks, we will look into this."

NotesDatabase

...()
CreateDocumentCollection()
...()

Returns an empty document collection.

Available since V8

Undocumented since V8

Supported & **documented** as of V 11.0.1

Leere NotesDocumentCollection erzeugen: db.CreateDocumentCollection
« am: 06.01.12 - 09:56:51 »

Ab Notes 8 gibt es eine einfache Möglichkeit, eine leere NotesDocumentCollection zu erzeugen:

Dim coll As NotesDocumentCollection
if db.IsOpen Then
Set coll = db.CreateDocumentCollection
end if

Quelle: https://www-304.ibm.com/support/docview.wss?uid=swg21368236

Gruß
Andreas

https://atnotes.de/index.php/topic,53402.0.html

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NotesViewEntryCollection

...()
intersect(collection: Variant, maintainOrder: boolean)
substract(collection: Variant, maintainOrder: boolean)
...()

(Optional) Boolean **maintainOrder**.

Specifies that after the intersect / substract operation is complete, whatever order the originating view was in when the NotesEntryCollection was created will remain in force for subsequent entry processing.

That is, either the default view order will be used or that last set by calling **view.resortView**.

New optional parameter "maintainOrder"

Samples - View

Subject ⬍		Category ⬍
@GetLocationName		Formula
@Environment		
@DbBuildVersion		
GetModifiedDocuments		
@UserName		
rt:ColorYourCode		

```
Dim query As String
query = "Subject >= 'DEMO' AND  Subject < 'DEN'"
Dim dql As NotesDominoQuery

Set db = session.currentDataBase
Set view = db.getView("Samples")

Set dql = db.CreateDominoQuery()
Set col = dql.Execute(query)

MsgBox "---- Sorted by subject ----"
Call view.Resortview("Subject", True)
Set vec = view.Allentries
Call vec.Intersect(col, True)
Call printIt(vec, "Subject")

MsgBox "---- Sorted by category ----"
Call view.Resortview("category", False)
Set vec = view.Allentries
Call vec.Intersect(col, True)
Call printIt(vec, "category")
```

```
Agent message: Sorted by subject
Agent message: demoAtest 12 6A84F3FBD0C6D0F5C125845E00240A77
Agent message: demoBtest 2 E72797D4293801F1C125845E00241753
Agent message: DEMOZIP & Unzip F0D4655E17B0E8F0C125842331AB
Agent message: DEMO: CheckFormula B1A1B7BC7A734ACDC12577F7003185F2
Agent message: DEMO: DIM - Zeitschleife 7A936907A8AE5274C12577F70040B23A
Agent message: DEMO: GetNextDocument vs. GetNthDocument 1371EDB4A6B34EF5C125780600475516
Agent message: DEMO: Header / Footer 4A9B263BBE367EDFC1257800002D0DC5
Agent message: DEMO: Is Item empty? 17411321A64AD64BC12577FA00329961
Agent message: Demo: IsRTEmpty 008DA28641C1F231C125782000410BE7
Agent message: DEMO: Permutation B4F22E2A62F50F60C12578070037FE89
Agent message: DEMO: Replace Images with attachments 5C2627E92A50A84BC12577FD0032FD36
Agent message: DEMO: ZIP & Unzip 6F77CDFBB5292375C12578070401EE7
Agent message: DEMO: @LocationGetInfo F30B3962E3C389D0C125782A00552969
Agent message: DEMO: @Sort 3CFA6937A918E912C125780702979D3
Agent message: Demo: @WhichFolders in LS I 36F1213B073EFBE9C12577FF003705E8
Agent message: DeMo:NoSpace 75F989288E7056EFC125845E00233D05
Agent message: Sorted by category
Agent message: - no value -
Agent message: - no value -
Agent message: - no value -
Agent message: - no value -
Agent message: - no value -
Agent message: - no value -
Agent message: - no value -
Agent message: Richtext 17411321A64AD64BC12577FA00329961
Agent message: LotusScript 36F1213B073EFBE9C12577FF003705E8
Agent message: LotusScript 1371EDB4A6B34EF5C125780600475516
Agent message: Images 5C2627E92A50A84BC12577FD0032FD36
Agent message: Formula 3CFA6937A918E912C125780702979D3
Agent message: Formula F30B3962E3C389D0C125782A00552969
Agent message: API 008DA28641C1F231C125782000410BE7
Agent message: API 6A84F3FBD0C6D0F5C125845E00240A77
Agent message: API E72797D4293801F1C125845E00241753
```

NotesGPS
HighAccuracy TimeoutSec
GetCurrentPosition() RequestAccess()

Provides access to user location for supported platforms.

Currently supported for **HCL Nomad** beginning with Release 1.0.4.

NotesGPSPosition
Coordinates Timestamp
Update()

NotesGPSCoordinates
Accuracy Altitude AltitudeAccuracy Heading Latitude Longitude Speed

https://help.hcltechsw.com/dom_designer/11.0.1/basic/H_NOTESGPS_CLASS.html

```
#Include "lsxbeerr.lss"

Public Sub devicePosition()
    Dim lastError As Integer
    Dim GPS_COORDINATES As T_GPS_COORDINATES

    Call getCoordinates(GPS_COORDINATES, lastError)

    If (NOERROR <> lastError) Then
        If (lastError = lsERR_NOTES_METHODNOTAVAILABLE) Then
            MsgBox ERR_MSG_NOT_AVAILABLE
        Else
            MsgBox "Error: " & CStr(lastError)
        End If
        Exit Sub
    End if

    MsgBox _
    " LAT: " & GPS_COORDINATES.latitude & _
    " LONG: " & GPS_COORDINATES.longitude

End Sub
```

```
LAT: 51,2594589299025 LONG:
       6,9759780844618

              OK
```

```
Private Sub getCoordinates(GPS_COORDINATES As T_GPS_COORDINATES, lastError As integer)
    On Error GoTo err_handle

    Dim session As New NotesSession
    Dim gps As NotesGPS
    Dim gpsPosition As NotesGPSPosition
    Dim gpsCoordinates As NotesGPSCoordinates

    Set gps = session.Creategps()

    If Not gps.Requestaccess() Then Exit sub

    Set gpsPosition = gps.Getcurrentposition()
    Set gpsCoordinates = gpsPosition.Coordinates

    GPS_COORDINATES.latitude = gpsCoordinates.Latitude
    GPS_COORDINATES.longitude = gpsCoordinates.Longitude

exit_here:
    Exit sub
err_handle:
    lastError = Err
    Resume exit_here
End Sub
```

```
Const NOERROR = 0

Type T_GPS_COORDINATES
    latitude As Double
    longitude As Double
End Type
```

30

@Platform

@Platform([SPECIFIC])

Platform

iOS 14.4.2 phone 414,896

OK

@Prompt([Ok]; "Platform";@Implode(@Platform([Specific])))

https://help.hcltechsw.com/dom_designer/12.0.0/basic/H_PLATFORM_FUNCTION.html

NotesDominoQuery

MaxScanDocs
MaxScanEntries
NoViews
RebuildDesignCatalog
RefreshDesignCatalog
RefreshFullText
RefreshViews
TimeoutSec

CreateIndex()
Execute()
Explain()
ListIndexes()
Parse()
RemoveIndex()
ResetNamedVariables()
SetNamedVariable()

LotusScript / Java class to compile, tune, and run Domino Query Language queries.

https://help.hcltechsw.com/dom_designer/12.0.0/basic/H_NOTESDOMINOQUERY_CLASS.html#reference_fzc_syh_cgb

Do not create manually. Use **dql.createIndex(viewName, field)**

Omit the optional parameters *IsVisible* & *Nobuild*

Programmatically update if needed (**dql.removeIndex() & dql.createIndex()**)

Check with **dql.listIndexes()**

Use a **prefix** to identify the views/indexes for use with DQL & to avoid conflict with existing views.

10
VOTE

Add namespace property to (Notes)DominoQuery class

When working with DQL, best practice is to create/update/remove indexes programmatically using their according methods.

To avoid conflicts with existing views of the same name, all indexes created should have a prefix.

https://domino-ideas.hcltechsw.com/ideas/DDXP-I-818

```
Dim dql As NotesDominoQuery
Set dql = db.Createdominoquery()

Set dql.namespace = "dql1_"

Call dql.Createindex("idxBySubject" , "Subject" )
```

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```
Public Class DqlIndexHelper
    Private session As NotesSession
    Private ns As String
    Private db As NotesDatabase
    Private dql As NotesDominoQuery

    Public Sub New()
        Set me.session = New NotesSession
    End Sub

    Public Sub createIndex(tIdx As IDX)
        Set me.dql = me.db.Createdominoquery()
        Call me.dql.CreateIndex( _
        me.ns & "_" & tIdx.tName, tIdx.tFields, tIdx.tIsVisible, tIdx.tNoBuild)
    End Sub

    Public Sub removeIndex(tIdx As IDX)
        Dim view  As NotesView
        Set me.dql = me.db.Createdominoquery()
        Set view = me.db.Getview(me.ns & "_" & tIdx.tName)
        Call dql.RemoveIndex(me.ns & "_" & tIdx.tName)
    End Sub

    Public Sub updateIndex(tIdx As IDX)
        Call me.RemoveIndex(tIdx)
        Call me.CreateIndex(tIdx)
    End Sub

    Public Property Set database As NotesDatabase
        Set Me.db = database
    End Property

    Public Property Set namespace As String
        me.ns = namespace
    End Property
End Class
```

Helper Class to handle creation, removal and update of DQL indexes.

Supports namespace

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```
Dim session As New NotesSession
Dim db As NotesDatabase
Set db = session.currentDatabase

Dim indexHelper As New DqlIndexHelper()
indexHelper.namespace = "domino"
Set indexHelper.database = db

Dim tIdx As IDX
tIdx.tName = "camp22"

ReDim tIdx.tFields(1)
tIdx.tFields(0) = "Subject"
tIdx.tFields(1) = "Folder"

tIdx.tIsVisible = true
tIdx.tNoBuild = False


Call indexHelper.createIndex(tIdx)
```

Manage the views of this database

Use this tool to manage the views of this database.

Done

Selected: ec11.nsf, 29 MB

The view indexes of this database consume 3 MB of disk space, which is 9% of the entire space used by this database.

View name	Size	Owner	Refresh	Discard	Notel
unid	148.832	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
(TESTV122)	288.288	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
(TESTV122)	288.288	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
TESTV121	288.288	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
(TESTV123)	288.288	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
view1	280.096	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
Copy Of Samples	190.368	Ulrich Krause/mic	Automatic	If inactive for 45 da	0x
domino_camp22	312.864	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x

Purge

Index domino_camp22 on ec11.nsf **successfully populated**, and cataloged for field Subject - index will be usable for all DQL terms and sorting using the field name Subject
ec11.nsf harvested, 0 catalog documents removed, 18 view designs or aliases cataloged out of 17 total with 4 field-usable columns 50.870 msecs and LastModified of 16.03.2022 08:13:13
CREATE INDEX operation of Index domino_camp22 on ec11.nsf SUCCEEDED

```
Dim session As New NotesSession
Dim db As NotesDatabase
Set db = session.currentDatabase

Dim indexHelper As New DqlIndexHelper()
indexHelper.namespace = "domino"
Set indexHelper.database = db

Dim tIdx As IDX
tIdx.tName = "camp22"

Call indexHelper.removeIndex(tIdx)
```
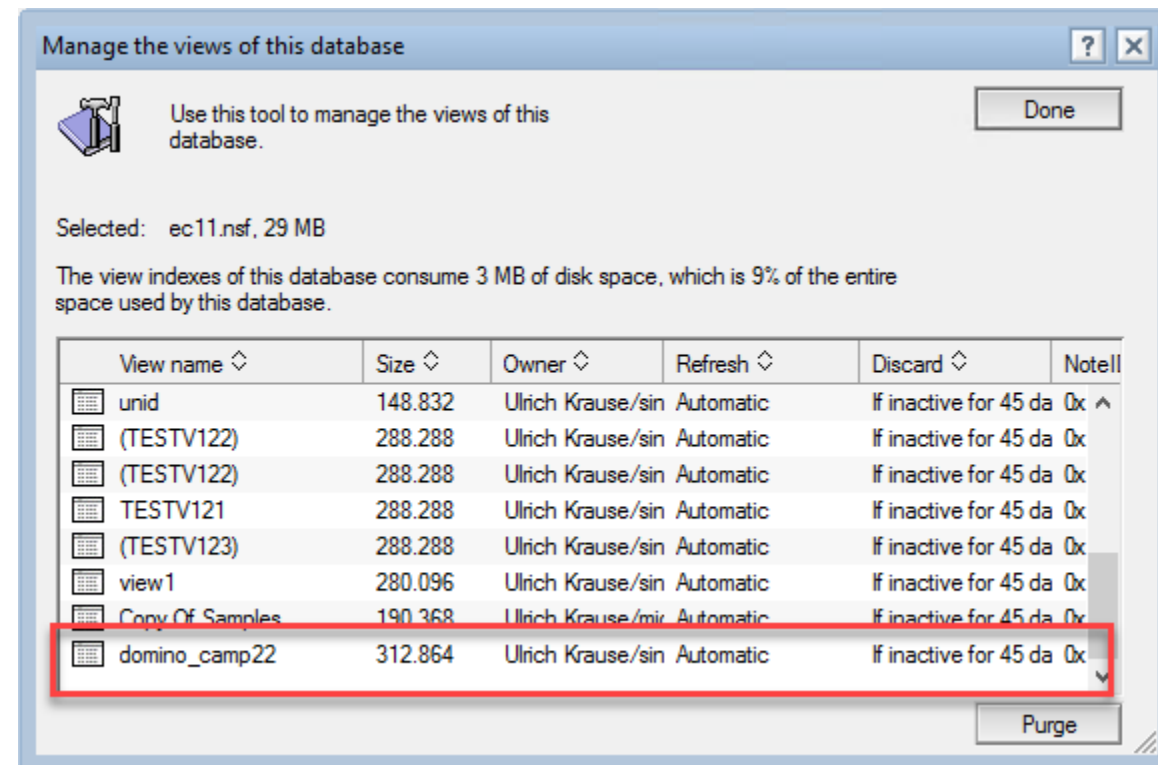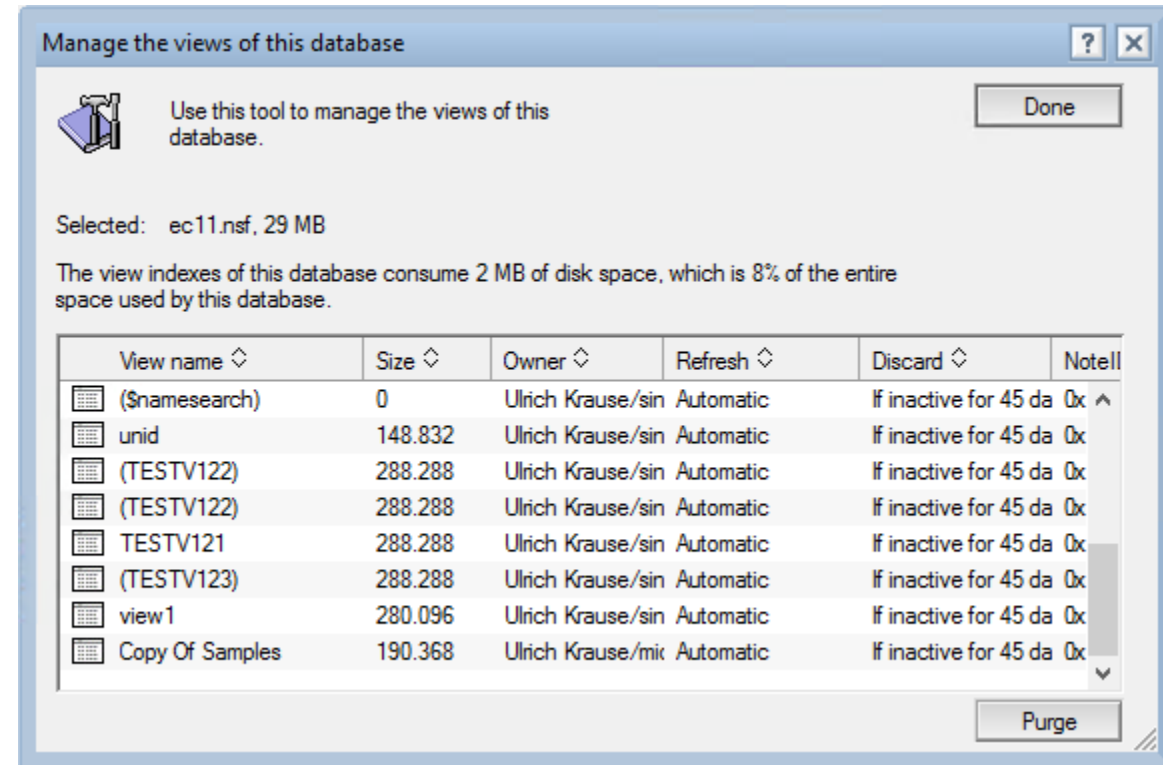
Manage the views of this database   ? X

Use this tool to manage the views of this database.   Done

Selected: ec11.nsf, 29 MB

The view indexes of this database consume 2 MB of disk space, which is 8% of the entire space used by this database.

View name	Size	Owner	Refresh	Discard	NoteI
($namesearch)	0	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
unid	148.832	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
(TESTV122)	288.288	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
(TESTV122)	288.288	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
TESTV121	288.288	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
(TESTV123)	288.288	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
view1	280.096	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
Copy Of Samples	190.368	Ulrich Krause/mi	Automatic	If inactive for 45 da	0x

Purge

ec11.nsf harvested, 0 catalog documents removed, 17 view designs or aliases cataloged out of 16 total with 4 field-usable columns 48.70 msecs and LastModified of 16.03.2022 09:27:19
DELETE INDEX operation of Index domino_camp22 on ec11.nsf SUCCEEDED

```
Dim session As New NotesSession
Dim db As NotesDatabase
Set db = session.currentDatabase

Dim indexHelper As New DqlIndexHelper()
indexHelper.namespace = "domino"
Set indexHelper.database = db

Dim tIdx As IDX
tIdx.tName = "camp22"

ReDim tIdx.tFields(1)
tIdx.tFields(0) = "Categories"
tIdx.tFields(1) = "Subject"

tIdx.tIsVisible = false
tIdx.tNoBuild = false

Call indexHelper.updateIndex(tIdx)
```

Manage the views of this database

Use this tool to manage the views of this database.

[Done]

Selected: ec11.nsf, 29 MB

The view indexes of this database consume 3 MB of disk space, which is 9% of the entire space used by this database.

View name	Size	Owner	Refresh	Discard	NoteI
unid	148.832	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
(TESTV122)	288.288	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
(TESTV122)	288.288	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
TESTV121	288.288	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
(TESTV123)	288.288	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
view1	280.096	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x
Copy Of Samples	190.368	Ulrich Krause/mic	Automatic	If inactive for 45 da	0x
(domino_camp22)	312.864	Ulrich Krause/sin	Automatic	If inactive for 45 da	0x

[Purge]

DELETE INDEX operation of Index domino_camp22 on ec11.nsf SUCCEEDED
Index (domino_camp22) (using hidden view) on ec11.nsf successfully populated, and cataloged for field Categories - index will be usable for all DQL terms and sorting using the field name Categories
ec11.nsf harvested, 0 catalog documents removed, 18 view designs or aliases cataloged out of 17 total with 5 field-usable columns
68.542 msecs and LastModified of 16.03.2022 09:35:21
CREATE INDEX operation of Index domino_camp22 on ec11.nsf SUCCEEDED
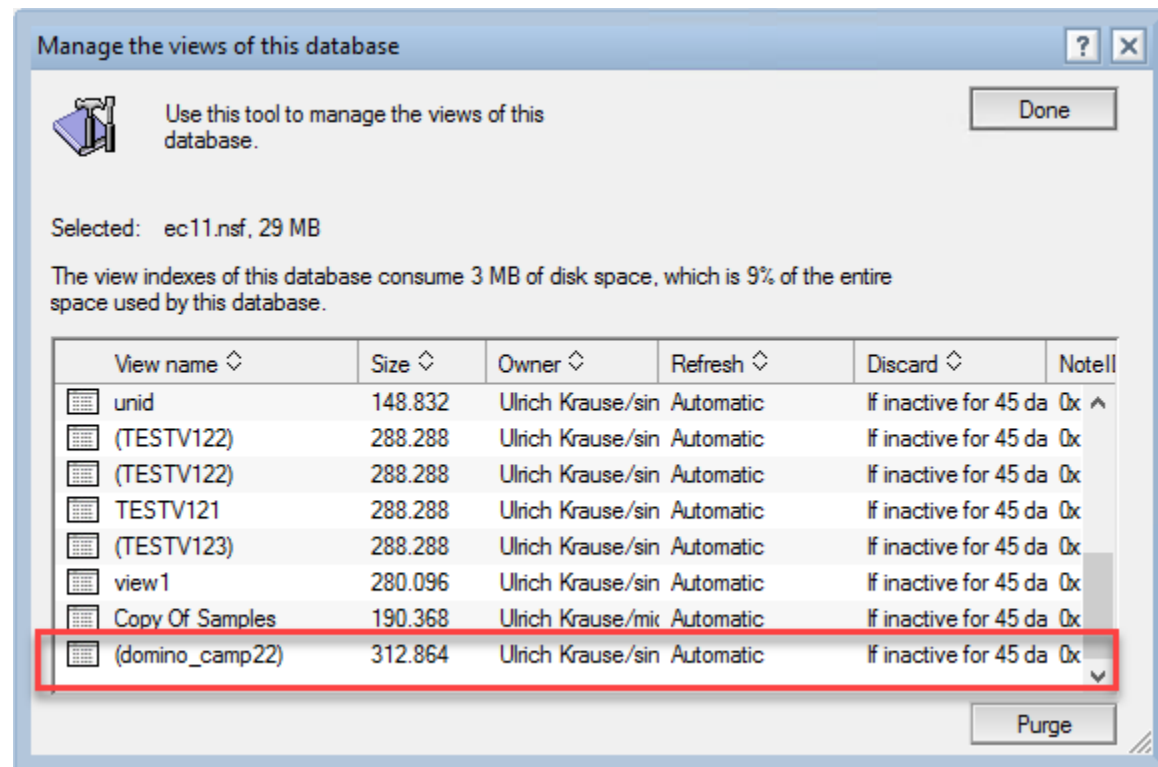
Lists the indexes that are optimized for Domino DQL query terms.

Results are returned in JSON format, with the following structure:

Columnref is whether DQL *'viewname'.columnname* syntax can be used with the field and

Fieldref is whether the *field name* can be used directly in DQL terms.

```
{
    "DBName": "dev\\ordwrk2.nsf",
    "Indexes": [
        {
            "Indexname": "All",
            "Columnname":"Sales_person",
            "Columnref": true,
            "Fieldref": true
        },
        ...
    ]
}
```

```
Dim session As New NotesSession
Dim db As NotesDatabase
Set db = session.currentDatabase

Dim indexHelper As New DqlIndexHelper()
Set indexHelper.database = db

Call indexHelper.listAllIndexes()
```

```
Public Sub listAllIndexes()
    Dim nav As NotesJSONNavigator
    Dim arr As NotesJSONArray
    Dim el As NotesJSONElement

    Set me.dql = me.db.Createdominoquery()
    Set nav = me.dql.ListIndexes()

    Set el = nav.GetElementByName("Indexes")
    If Not el.type=JsonElem_type_array Then Exit Sub

    Set arr = el.value
    Set el = arr.getFirstElement()

    While Not el Is Nothing
        Call me.printIndexInfo(el)
        Set el = arr.GetNextElement()
    Wend
End Sub

Private Sub printIndexInfo(idx As NotesJSONElement)
    Dim s As String

    Dim el As NotesJSONElement
    Set el = idx.value.GetFirstElement()

    While Not el Is Nothing
        s = s & el.Name & ": " & el.value & ", "
        Set el = idx.value.GetNextElement()
    Wend

    Print s
End Sub
```

Indexname: Anon,	Columnname: Subject,	Columnref: True,	Fieldref: False
Indexname: Samples,	Columnname: subject,	Columnref: True,	Fieldref: False
Indexname: TESTV121,	Columnname: Subject,	Columnref: True,	Fieldref: True
Indexname: view1,	Columnname: Subject,	Columnref: True,	Fieldref: False
Indexname: (TESTV122),	Columnname: Subject,	Columnref: True,	Fieldref: True
Indexname: (TESTV122),	Columnname: Subject,	Columnref: True,	Fieldref: True
Indexname: (TESTV123),	Columnname: Subject,	Columnref: True,	Fieldref: True
Indexname: ($namesearch),	Columnname: Subject,	Columnref: True,	Fieldref: False
Indexname: CatDiscworldCharacters,	**Columnname: company,**	**Columnref: False,**	**Fieldref: False**
Indexname: DiscworldCharacters,	Columnname: company,	Columnref: True,	Fieldref: False
Indexname: Samples,	Columnname: category,	Columnref: True,	Fieldref: False
Indexname: (domino_camp22),	Columnname: Categories,	Columnref: True,	Fieldref: True

NotesViewColumn

...
IsValidDominoQueryColumn
IsValidDominoQueryField
...

properties missing in documentation

https://help.hcltechsw.com/dom_designer/12.0.0/basic/H_NOTESVIEWCOLUMN_CLASS.html

See: *"Identifying view columns used by DQL Processing"*

https://doc.cwpcollaboration.com/appdevpack/docs/en/domino-query-language.html#identifying-view-columns-used-by-dql-processing

"Show responses in a hierarchy" must be set to OFF (it is default to on)

„The pain of remembering all settings is why we created CreateIndex."
– John Curtis -
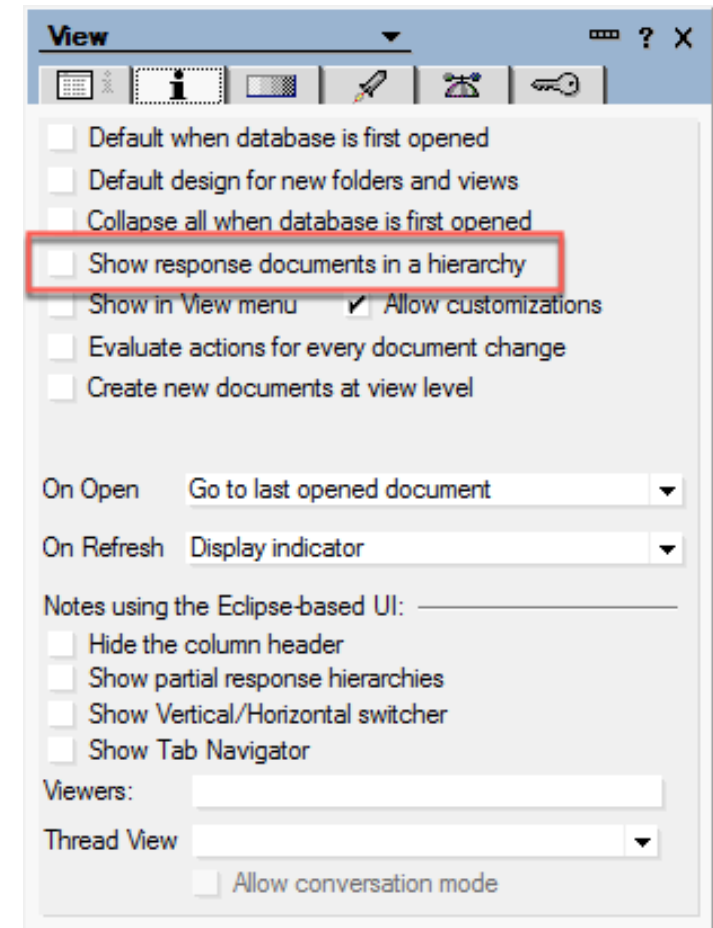
```
Public Sub checkViewColumn(tIdx As IDX, index As integer)
    Dim View As NotesView
    Dim column As NotesViewColumn
    Set view = me.db.getView(me.ns & "_" & tIdx.tName)
    Set column = view.Columns(index)
    If column Is Nothing Then Exit Sub
    Dim ret As String
    ret = {View.SelectionFormula: } & view.Selectionformula & _
    Chr(13) & {Column.Ishierarchical: } & view.Ishierarchical & _
    Chr(13) & {Column.ItemName: } & column.Itemname & _
    Chr(13) & {Column.IsSorted: } & column.Issorted & _
    Chr(13) & {Column.Issortdescending: } & column.Issortdescending & _
    Chr(13) & {Column.Formula: } & column.Formula & _
    Chr(13) & {Column.Isvaliddominoquerycolumn: } & _
    column.Isvaliddominoquerycolumn &_
    Chr(13) & {Column.Isvaliddominoqueryfield : } & _
    column.Isvaliddominoqueryfield
End Sub
```

View.SelectionFormula: SELECT @All
Column.Ishierarchical: False
Column.ItemName: Categories
Column.IsSorted: True
Column.Issortdescending: False
Column.Formula:
Column.Isvaliddominoquerycolumn: True
Column.Isvaliddominoqueryfield : True

OK
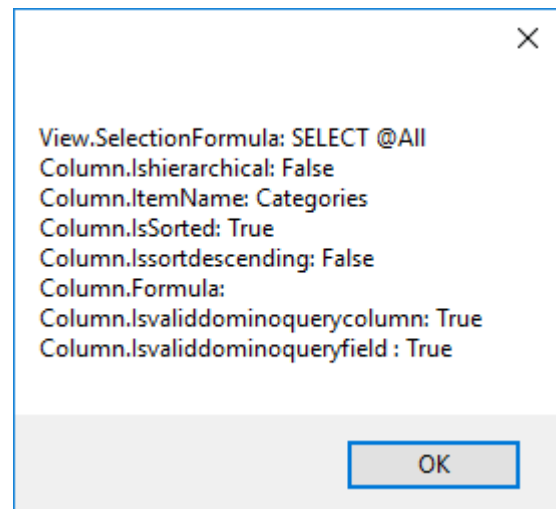
NotesHTTPRequest

Maxredirects
PreferStrings
ResponseCode
TimeOutSec

DeleteRessource()
Get()
Post()
Put()
Patch()
SetHeaderField()
ResetHeaders()
GetResponseHeaders()

LotusScript class used to make HTTP requests to web servers.

https://help.hcltechsw.com/dom_designer/11.0.1/basic/H_NOTES_HTTPREQUEST_CLASS.html

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```
Call httpReq.get(URL)
MsgBox httpReq.Responsecode
```

HTTP/1.1 200 OK

OK
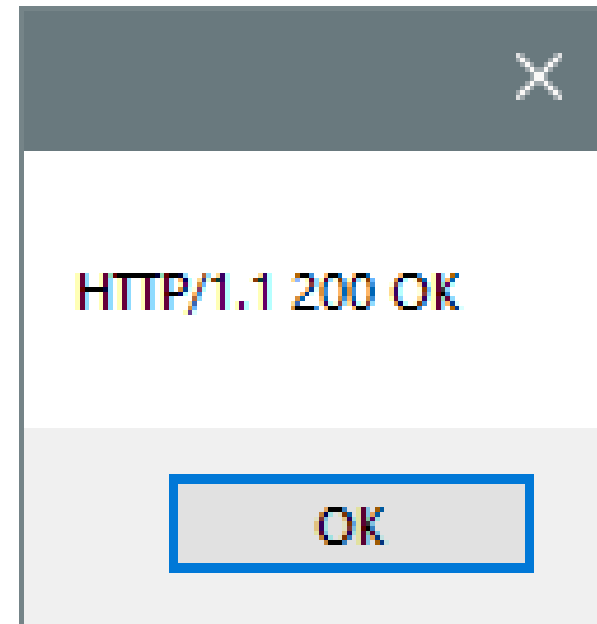
```
Call httpReq.get(URL)
MsgBox httpReq.Responsecode
```

Server Login

Please type your user name and password

User name: Ulrich Krause

Password: ●●●●●●●●●●

Log In

HTTP/1.1 200 OK

OK
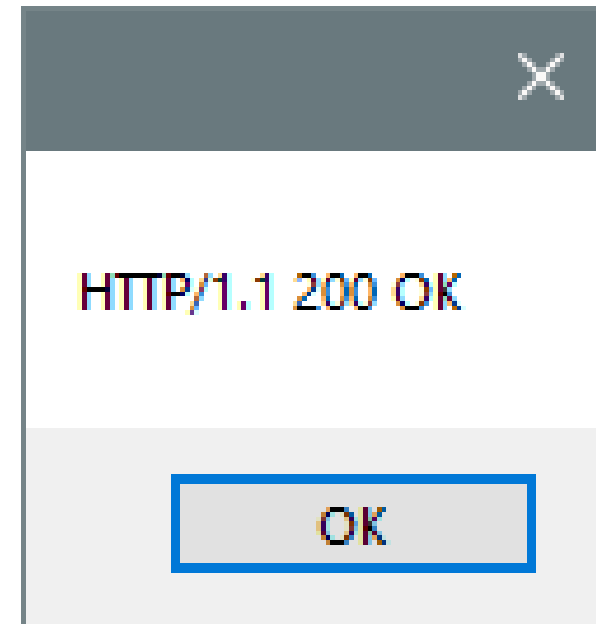
```
Call httpReq.get(URL)
MsgBox httpReq.Responsecode
```

DOMINO_FORCE401_WITH_HTML_LOGIN_PAGE=1

Server Login

Please type your user name and password

User name: Ulrich Krause

Password: ●●●●●●●●●●

Log In

HTTP/1.1 401 Unauthorized

OK

```
Function EncodeBase64 (StrIn As String) As String
    Dim session As New NotesSession
    Dim stream As NotesStream
    Dim db As NotesDatabase
    Dim doc As NotesDocument
    Dim body As NotesMIMEEntity

    Set stream = session.CreateStream
    Call stream.WriteText (StrIn)

    Set db = session.CurrentDatabase
    Set doc = db.CreateDocument
    Set body  = doc.CreateMIMEEntity

    Call body.SetContentFromText (stream,  "", ENC_NONE)
    Call body.EncodeContent (ENC_BASE64)

    EncodeBase64 = body.ContentAsText

    Call stream.Close
    Set doc = Nothing
End Function
```

```
Set httpreq = session.CreateHTTPRequest()
httpreq.PreferJSONNavigator = True
Call httpReq.Setheaderfield(_
"Authorization", "Basic " + _
EncodeBase64 (user + ":" + password))

Set jsonNav = httpreq.get(URL)
```

http://blog.nashcom.de/nashcomblog.nsf/dx/dominov10-http-requests-from-Lotus-Script.htm

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```
' V 10.0.1
Dim session As New NotesSession
Dim httpreq As NotesHTTPRequest
Dim jsonNav As NotesJSONNavigator
Dim response As Variant

Set httpreq = session.CreateHTTPRequest()
response = httpreq.get(url)

Set jsonNav = session.CreateJSONNavigator(response)


' V 10.0.1 FP2
Dim session As New NotesSession
Dim httpreq As NotesHTTPRequest
Dim jsonNav As NotesJSONNavigator

httpreq.PreferJSONNavigator = True
Set jsonNav = httpreq.get(url)
```

In the 10.0.1 FP2 release of Notes/Domino two new properties were introduced in the NotesHTTPRequest class: PreferUTF8 and PreferJSONNavigator. We are not going to change the default behavior, so if you are fine using the class as it is in a previous release you may continue.

However, if you have experienced any of the issues mentioned in the KB article, it is recommended to start setting **PreferJSONNavigator = True** before making your request.

https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0068788

NotesJsonArray

Size

AppendArray()
AppendElement()
AppendObject()
GetFirstElement()
GetNextElement()
GetNthElement()

NotesJsonNavigator

PreferUTF8

AppendArray()
AppendElement()
AppendObject()
GetElementByName()
GetElementByPointer()
GetFirstElement()
GetNextElement()
GetNthElement()
Stringify()

NotesJsonObject

Size

AppendArray()
AppendElement()
AppendObject()
GetElementByName()
GetFirstElement()
GetNextElement()
GetNthElement()

NotesJsonElement

Name
Type
Value

Type

Jsonelem_type_array
Jsonelem_type_boolean
Jsonelem_type_empty
Jsonelem_type_number
Jsonelem_type_object
Jsonelem_type_string

String

Variant

Integer

```
Set g_nav = g_session.Createjsonnavigator("")
Set g_nav = g_session.Createjsonnavigator("[]")
Set g_nav = g_session.Createjsonnavigator(colors)
g_agentLog.logAction(g_nav.Stringify())
```

```
{
"colors": [
    {
    "color": "black",
    "category": "hue",
    "type": "primary",
    "code": {
        "rgba": [255,255,255,1],
        "hex": "#000"
    }
    },
    {
    "color": "white",
    "category": "value",
    "code": {
        "rgba": [0,0,0,1],
        "hex": "#FFF"
    }
    }
]
}
```

CreateJsonNavigator("") creates an empty **JsonObject**

CreateJsonNavigator("[]") creates an empty **JsonArray**

appendArray()

```
Set g_nav = g_session.Createjsonnavigator("")

Call g_nav.Appendelement("LotusScript")
Call g_nav.Appendelement("Java")
Call g_nav.Appendelement("c/c++")
```

```
{
    "":"LotusScript",
    "":"Java",
    "":"c/c++"
}
```

```
Set g_nav = g_session.Createjsonnavigator("[]")

Call g_nav.Appendelement("LotusScript")
Call g_nav.Appendelement("Java")
Call g_nav.Appendelement("c/c++")
```

```
[
    "LotusScript",
    "Java",
    "c/c++"
]
```

https://help.hcltechsw.com/dom_designer/12.0.0/basic/H_APPENDELEMENT_METHOD_NJN.html#reference_appendelement_method

Type property is **read-only** and cannot be set. Use this code as a workaround.

```
Set g_nav = g_session.Createjsonnavigator("")
Call g_nav.Appendelement("Ulrich", "firstName")
Call g_nav.Appendelement("Krause", "lastName")
Call g_nav.Appendelement("62", "age")
Call g_nav.Appendelement(True, "developer")

Dim el As NotesJSONElement
Set el = g_nav.Getelementbyname("age")

Dim oldValue As String
oldValue = el.value
el.value = CInt(oldValue)
g_agentLog.logAction(g_nav.Stringify())
```

```
{
    "firstName": "Ulrich",
    "lastName": "Krause",
    "age": 62,
    "developer": true
}
```

```
Set g_nav = g_session.CreateJSONNavigator(_
/{
  "color": "black",
  "category": "hue",
  "type": "primary",
  "code": {
    "rgba": [255,255,255,1],
    "hex": "#000"
  }
}/)

Dim el As NotesJSONElement

Set el = g_nav.Getelementbypointer("/category")
Set el = g_nav.Getelementbypointer("/code/hex")
Set el = g_nav.Getelementbypointer("/code/rgba/3")
```

category: hue
hex: #000
code/rgba/3: 1

https://tools.ietf.org/html/rfc6901

New in Domino Designer 12.0.0

What new in Domino Designer 12.0?

The following features are new in HCL Domino Designer 12.0.1.

Transaction methods for LotusScript and Java Database classes

New LotusScript and Java methods are provided for the Database class to record database transactions.

Use formula Language in DQL search terms

In HCL Domino® 12, Formula Language can be used in Domino Query Language (DQL) search terms.

NotesQueryResultsProcessor class

This new LotusScript and Java class aggregates, computes, sorts, and formats collections of documents across any set of Domino databases.

XPages support for Bootstrap 4

The XPages Extension Library now supports Bootstrap version 4.4.1.

Hide columns or fields from smaller-resolution screens

The new onSize event, @RelayoutWindow command, and @ResolutionWidth and @ResolutionHeight formulas allow you to hide columns and fields when they are displayed in smaller-resolution screens.

Column properties in narrow views honored in Notes

Column properties associated with narrow views specified in HCL Domino® Designer are now honored in HCL Notes® applications.

```
                NotesDatabase
 +...()
 +TransactionBegin()
 +TransactionCommit()
 +TransactionRollback()
```

New LotusScript and Java methods are provided for the Database class to record database transactions

Database ▼ ▭ ? X

Unread Mark Options
✔ Don't maintain unread marks
Replicate unread marks:
◉ Never   ○ Clustered servers only   ○ All servers

Advanced Options
☐ Optimize document table map
☐ Don't overwrite free space
☐ Maintain Last Accessed property
✔ Disable transaction logging
☐ Don't support specialized response hierarchy
☐ Use LZ1 compression for attachments
☐ Use Domino Attachment and Object Service
☐ Don't allow headline monitoring
✔ Allow more fields in database
☐ Support Response Thread History
☐ Don't allow simple search
☐ Compress database design
☐ Compress document data
☐ Disable automatic updating of views
☐ Disable export of view data
☐ Allow soft deletions
    Permanently delete documents after   48   hours
Limit entries in $UpdatedBy fields   0
Limit entries in $Revisions fields   0
☐ Move views out of database
Allow Domino Data Service   Never ▼

Not available on the client

HCL Notes ×

⚠ Method is not available for local databases on the client

OK

HCL Notes ×

⚠ Transaction operation failed:
Function only supported for transaction logged databases

OK
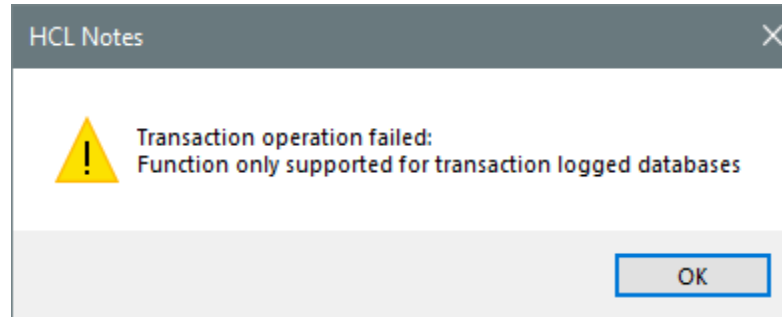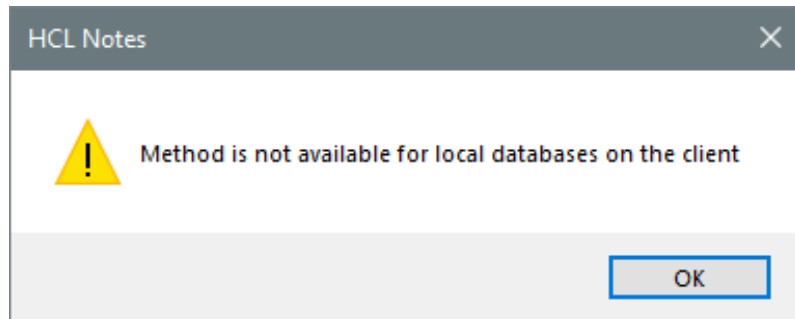
Transaction logging must be
enabled on the application

HCL Notes ×

⚠ TransactionBegin must be called before other Transaction methods

OK
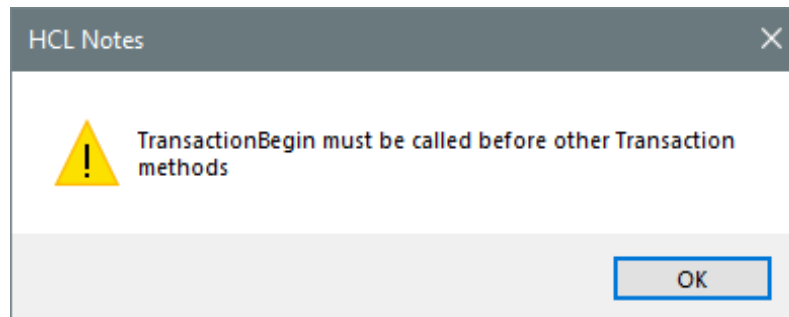
transactionRollback and transactionCommit
can be called only after transactionBegin

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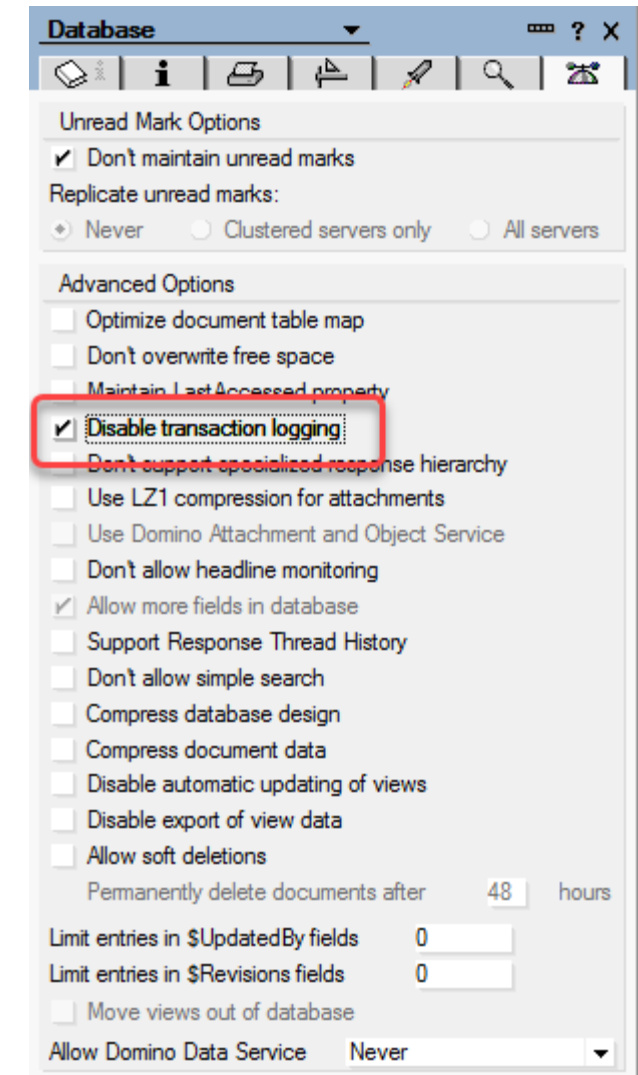
```
Sub createDocument
    Dim s As New NotesSession
    Dim db As NotesDatabase
    Dim doc As NotesDocument

    Set db = s.Getdatabase("serv04", "transact.nsf")
    Call db.Transactionbegin()

    Set doc = db.Createdocument()
    Call doc.replaceItemValue("Form", "Memo")
    Call doc.replaceItemValue("Subject", "TestDoc")
    Call doc.save(True, False)

    'Call db.Transactioncommit()
    Call db.Transactionrollback()
End Sub
```

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```
[1CB8:0002-179C] (4-108 [4]) OPEN_DB(serv04!!transact.nsf):
[1CB8:0002-179C] (OPEN_SESSION: 3 ms)
[1CB8:0002-179C] (Opened: REPC1258682:00169262) 3 ms. [134+290=424]
[1CB8:0002-179C] (5-108 [5]) DB_BEGIN_TRANSACTION(REPC1258682:00169262):
[1CB8:0002-179C] (6-108 [6]) UPDATE_NOTE(REPC1258682:00169262-NT00000000,00000005):
[1CB8:0002-179C] (7-108 [7]) DB_ABORT_TRANSACTION(REPC1258682:00169262):
[1CB8:0002-179C] (8-108 [8]) CLOSE_DB(REPC1258682:00169262):


[1CB8:0002-179C] (4-108 [4]) OPEN_DB(serv04!!transact.nsf):
[1CB8:0002-179C] (OPEN_SESSION: 3 ms)
[1CB8:0002-179C] (Opened: REPC1258682:00169262) 3 ms. [134+290=424]
[1CB8:0002-179C] (5-108 [5]) DB_BEGIN_TRANSACTION(REPC1258682:00169262):
[1CB8:0002-179C] (6-108 [6]) UPDATE_NOTE(REPC1258682:00169262-NT00000000,00000005):
[1CB8:0002-179C] (7-108 [7]) DB_COMMIT_TRANSACTION(REPC1258682:00169262):
[1CB8:0002-179C] (8-108 [8]) CLOSE_DB(REPC1258682:00169262):
```

Column properties associated with narrow views

https://help.hcltechsw.com/dom_designer/12.0.0/basic/wn_column_styling_in_narrow_views.html

New properties are available in Domino® Designer to support applications that are used with the mobile client HCL Nomad.

 These features are supported as of Nomad for iOS 1.0.6 and Nomad for Android 1.0.

If a column in a view does not display well in a mobile client, you can hide it.

If an **action** or a **field** does not display well in a mobile client, you can hide it.

https://help.hcltechsw.com/dom_designer/11.0.1/basic/wn_new_properties_for_mobile.html
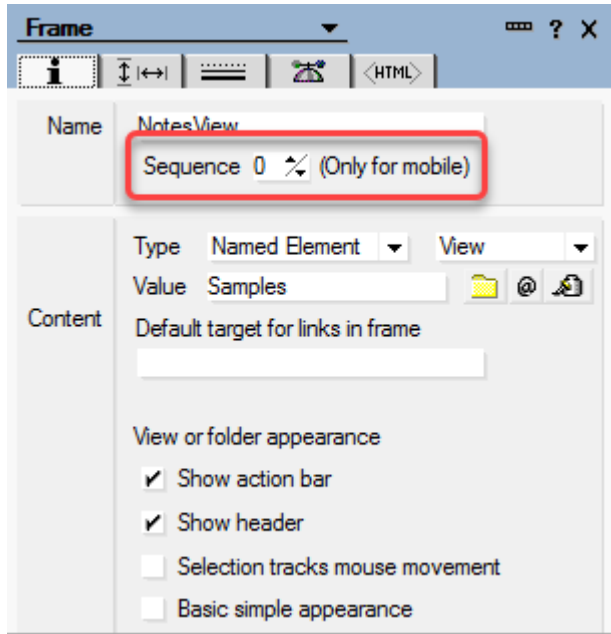
When there are **multiple frames** in an application, choose the **sequence** in which to navigate them in Nomad

You can enable an action to be available in the **mobile actions button** in Nomad.

From the Action properties box, select Include action in Mobile Actions button.

For more information see Nomad documentation

https://help.hcltechsw.com/nomad/1.0/mobile_actions_menu_button.html

The new **onSize event**, **@RelayoutWindow** command, and **@ResolutionWidth** and **@ResolutionHeight** formulas allow you to hide **columns** and **fields** when they are displayed in smaller-resolution screens.

These new design elements are particularly useful for applications accessed through mobile devices with smaller screen size.

https://help.hcltechsw.com/dom_designer/12.0.0/basic/wn_hide_columns_or_fields_from_smaller_screens.html

New in Domino Designer 12.0.1

What's new in Domino Designer 12.0.1?

The following features are new in HCL Domino Designer 12.0.1

New methods for DQL named results

The DominoQuery class includes a new method, execute, that returns the results of a query to named results in a database.

New method to saved sorted QRP results to a results view

The QueryResultsProcessor class includes a new method, ExecuteToView, that saves sorted results to a specialized results view in a database.

New methods for named documents

New methods are provided with the Database class to create and manage a new type of document referred to as a named document.

Ability to exclude fields from full-text search indexes

A new application property allows you to specify fields to exclude from full-text search indexing.

Larger database icons

Templates can have database icons that are up to 64x64 pixels in size.

UseDoubleAsPointer method for Notes session class

This new method for the LotusScript Notes session class lets you use a Double to handle a 64-bit pointer argument for a C API call.

Database comparison tool

A new application template, CompareDBs Reports (comparedbs.ntf), installed on the Domino 12.0.1 server, can be used to compare two database designs and/or document contents or to analyze the design of one database.
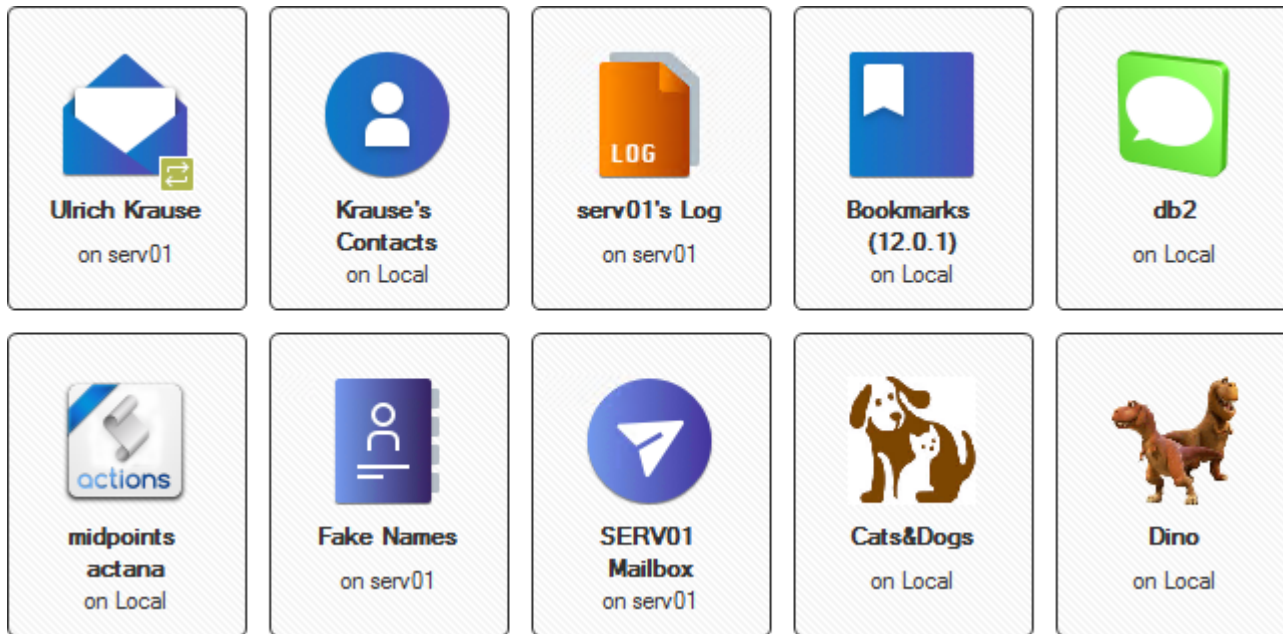
Larger Database Icons
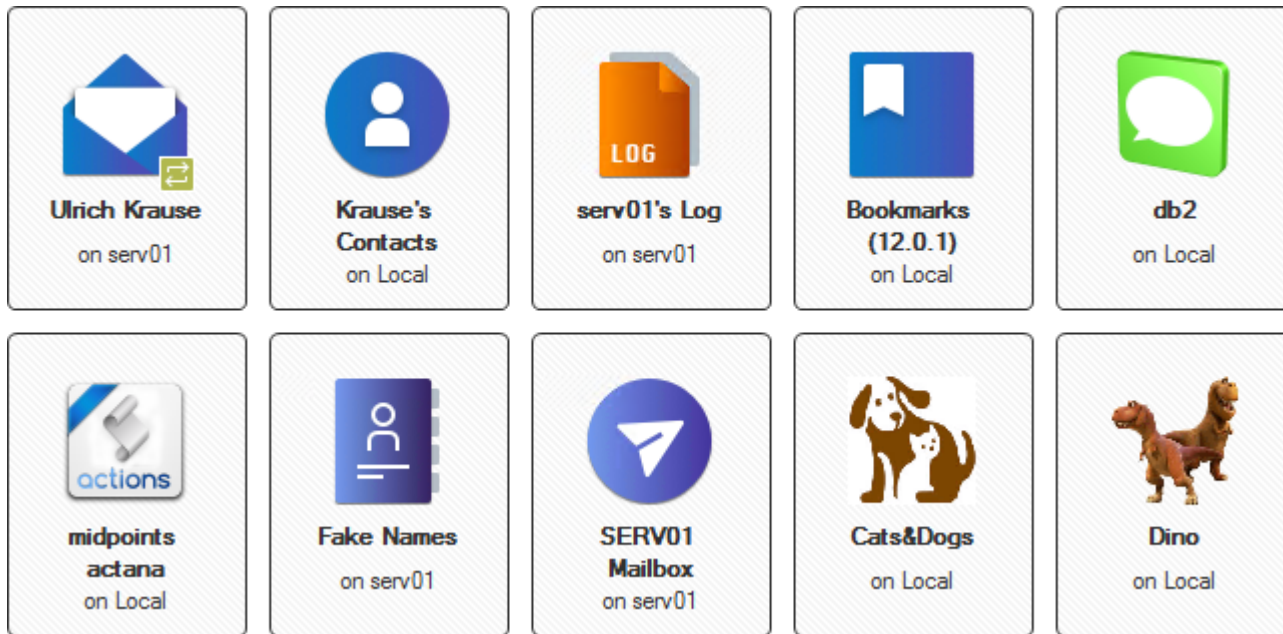
Templates can have database icons that are up to 64x64 pixels in size.

Previously, database icons could be a maximum of 32x32 pixels.

https://help.hcltechsw.com/dom_designer/12.0.0/basic/wn_template_with_larger_application_icons.html
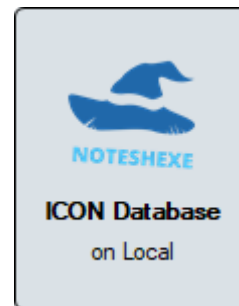
Larger Database Icons

Templates can have database icons that are up to 64x64 pixels in size.

Previously, database icons could be a maximum of 32x32 pixels.

Pimp Your Client (Icon Set Database Download)
– Anett Hammerschmidt –

```
session.UseDoubleAsPointer = True

Print "Calling OSMemAlloc with size, setting  active", dwDWordOne
wWordOne = OSMemAlloc(wWordTwo, dwDWordOne, dwDWordTwo)

If(wWordOne = 0) Then
    Print "OSMemAlloc worked, continuing with handle", dwDWordTwo
    dRetDouble = OSLockObject(dwDWordTwo)
    If(dRetDouble > 0) Then
        Print "OSLockObject worked, calling XXX"

        OSUnlockObject(dwDWordTwo)
    Else
        Print "OSLockObject failed"
    End If
    Print "Freeing memory"
    wWordOne = OSMemFree(dwDWordTwo)
End If

session.UseDoubleAsPointer = False
```

Allows to use a Double to handle a 64-bit pointer argument for a C API call.

A workaround was previously available through the Domino notes.ini setting **LS64BITCCALLOUTPointerSupport=1.**

However, the notes.ini approach had the downside of applying to **all** LotusScript agents on the server.

https://help.hcltechsw.com/dom_designer/beta/12.0.1/basic/wn_usedoubleaspointer.html

Named Documents

New methods are provided with the Database class to create and manage a **new type** of document referred to as a named document.

A named document has a **name** rather than a **NoteID** and does not appear in the Notes client or in any view.

A named document is designed for programmatic access and is a functional **replacement** for profile documents which have been used previously.

db.getNamedDocument(String Name, Optional String username) As NotesDocument

https://help.hcltechsw.com/dom_designer/beta/12.0.1/basic/H_GETNAMEDDOCUMENT_METHOD.html

```
Dim ss As New NotesSession
Dim db As NotesDatabase
Dim named As NotesDocument

Const userName = ".ulrich.krause;"
Const namedDocName = "named1,,,... ...doc"

Set db = ss.CurrentDatabase
Set named = db.getNamedDocument(namedDocName, userName)
Call named.replaceItemValue("someItem","someValue2")
'Call named.save( True, False)
```

```
MsgBox named.Nameofdoc
MsgBox named.Usernameofdoc
MsgBox named.someItem(0)
```

```
Agent Manager: Agent message: named1,,,..    ......doc
Agent Manager: Agent message: .Ulrich.Krause;
Agent Manager: Agent message: someValue2
```

SPR # MAVACCAE8N: https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0097119

For related LotusScript documentation, see the following topics:

- GetNamedDocument (NotesDatabase - LotusScript)
- GetNamedDocumentCollection (NotesDatabase - LotusScript)
- IsNamedDoc (NotesDocument - LotusScript)
- IsNewNote (NotesDocument - LotusScript)
- NameOfDoc (NotesDocument - LotusScript)
- UserNameOfDoc (NotesDocument - LotusScript)

For related Java documentation, see the following topics:

- getNamedDocument (Database - Java)
- getNamedDocumentCollection (Database - Java)
- IsNamedDoc (Document - Java)
- IsNewNote (Document - Java)
- getNameOfDoc (Document - Java)
- getUserNameOfDoc (Document - Java)

https://help.hcltechsw.com/dom_designer/beta/12.0.1/basic/wn_nameddocumentmethods.html

Exclude fields from full-text search indexes
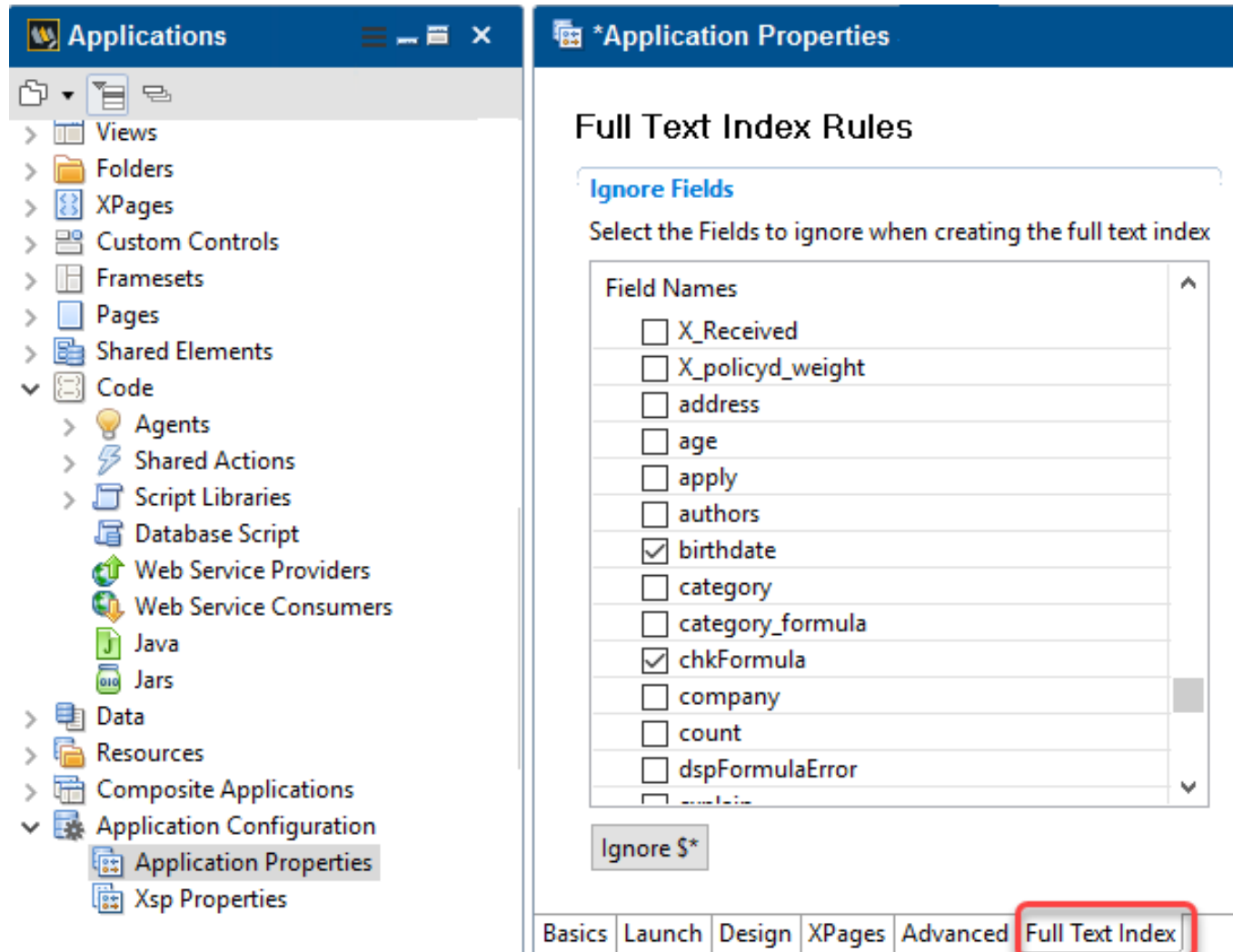
To generate more useful full-text search results and to **save space**, you can exclude fields in an application that aren't relevant for full-text searches.

Add **FT_DEBUG_DISABLE_DB_RULES=0** to the server notes.ini. You must **restart the server** for the change to take effect.

https://help.hcltechsw.com/dom_designer/12.0.0/basic/wn_excludefieldsfromftsearches.html

Applications

- faker
  \\serv01\singultus\faker.nsf
  - Forms
    - (untitled)
    - person
  - Views
    - all
  - Folders
  - XPages
  - Custom Controls
  - Framesets
  - Pages
  - Shared Elements
  - Code
  - Data
  - Resources
  - Composite Applications
  - Application Configuration
    - Application Properties
    - Xsp Properties

Application Properties - faker

Full Text Index Rules

Ignore Fields

Select the Fields to ignore when creating the full text index

Field Names

- ☑ Form
- ☑ IconBitmap
- ☑ OfficeAddress
- ☑ OfficeAddressSecondary
- ☑ birthday
- ☑ companyName
- ☑ country
- ☑ firstName
- ☐ idNumber
- ☑ lastName
- ☑ nyseSymbol

[Enable $*]

- faker
  - Access Control List
  - Designs (0/20)
    - Outlines
    - Framesets
    - Pages
    - Forms (0/2)
      - (untitled)
      - person
    - Views (0/1)
    - Folders
    - Navigators
    - Agents (0/2)
    - Images (0/1)
    - Applets
    - Web Services Providers
    - Web Services Consumers
    - Java
    - Jars
    - Subforms
    - Shared Fields
    - Script Libraries
    - Others (0/3)

🔒	🔒	T...	Name	Nu...	Sequ...	Dupl...	Index	Va
◉		ab	$FTRules	11	2	0	3	[11
		ab	$Name	1	2	0	1	$F
		🐾	$UpdatedBy	1	2	0	2	CN

Rows Loaded: 3 | Rows Displayed: 3 | Rows Selected: 1

Note Info | Field Value

Type: *ab* Text list   Name: $FTRules

```
IGNORE FIELDNAME $*
IGNORE FIELDNAME firstName
IGNORE FIELDNAME country
IGNORE FIELDNAME companyName
IGNORE FIELDNAME birthday
IGNORE FIELDNAME OfficeAddressSecondary
IGNORE FIELDNAME OfficeAddress
IGNORE FIELDNAME IconBitmap
IGNORE FIELDNAME Form
IGNORE FIELDNAME nyseSymbol
IGNORE FIELDNAME lastName
```

AMgr: Start executing agent 'qry' in 'ftdemo.nsf'

Agent Manager: Agent printing: initial query.

Full Text message: Index does not exist. (No such file or directory)

03/26GTR search error for "/local/notesdata/ftdemo.ft/ftgi": Index does not exist.: Full text index not found for this database

Agent Manager: Agent error: NotesException: Domino Query execution error: Full text index not found for this database - error during planning and tree generation idNumber > 20 AND idNumber < 30 (Call hint: FTSearchExt, Core call #0)*****************

Agent Manager: Agent error: at lotus.domino.local.DominoQuery.execute(Unknown Source)

Agent Manager: Agent error: at JavaAgent.NotesMain(JavaAgent.java:35)

Agent Manager: Agent error: at lotus.domino.AgentBase.runNotes(Unknown Source)

Agent Manager: Agent error: at lotus.domino.NotesThread.run(Unknown Source)

AMgr: Agent 'qry' in 'ftdemo.nsf' completed execution

DOTS

OSGi (Open Service Gateway Initiative) is a Java framework for developing and deploying modular software programs and libraries.

The OSGi framework provides a dynamic modular architecture which has been used in many applications such as Eclipse Equinox, Apache Felix, etc.

Modularity enables programmers to do functionality testing in isolation and engage in parallel development efforts during a given sprint or project. This increases efficiency throughout the entire software development life-cycle.

OSGi is only a thin runtime that governs how bundles are loaded/stopped (lifecycle), their dependencies, how their services are exposed, etc.

https://www.osgi.org

In OSGi, a single component is called a **bundle**.

Logically, a bundle is a piece of functionality that has an independent lifecycle – which means it can be started, stopped and removed independently.

Technically, a bundle is just a jar file with a MANIFEST.MF file containing some OSGi-specific headers.

A bundle can require other bundles and export packages that can be accessed by other OSGi components.
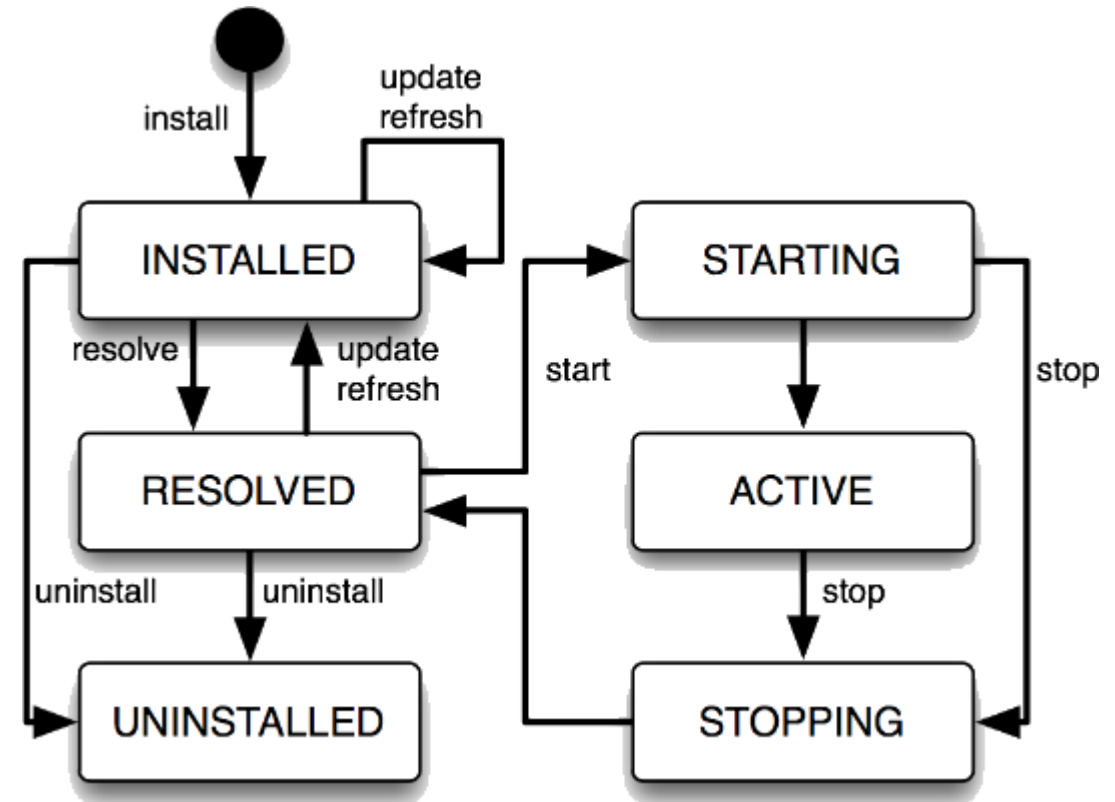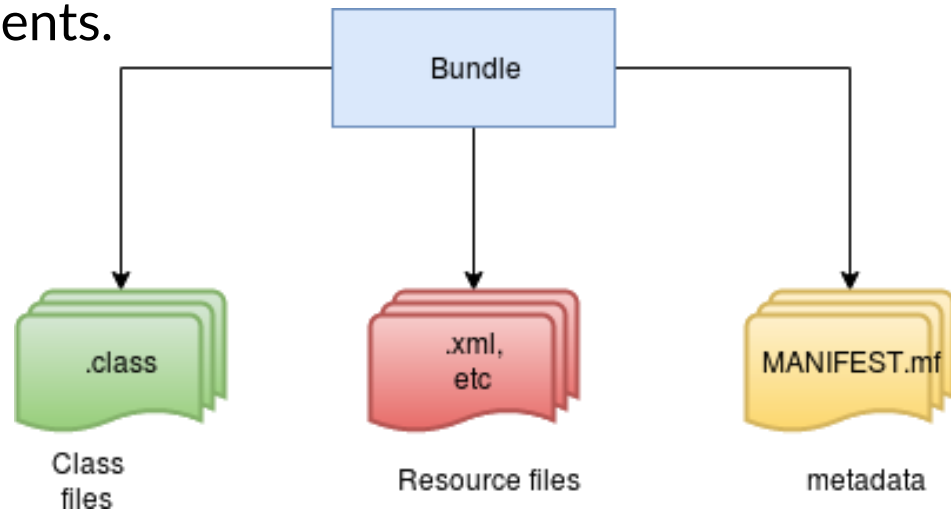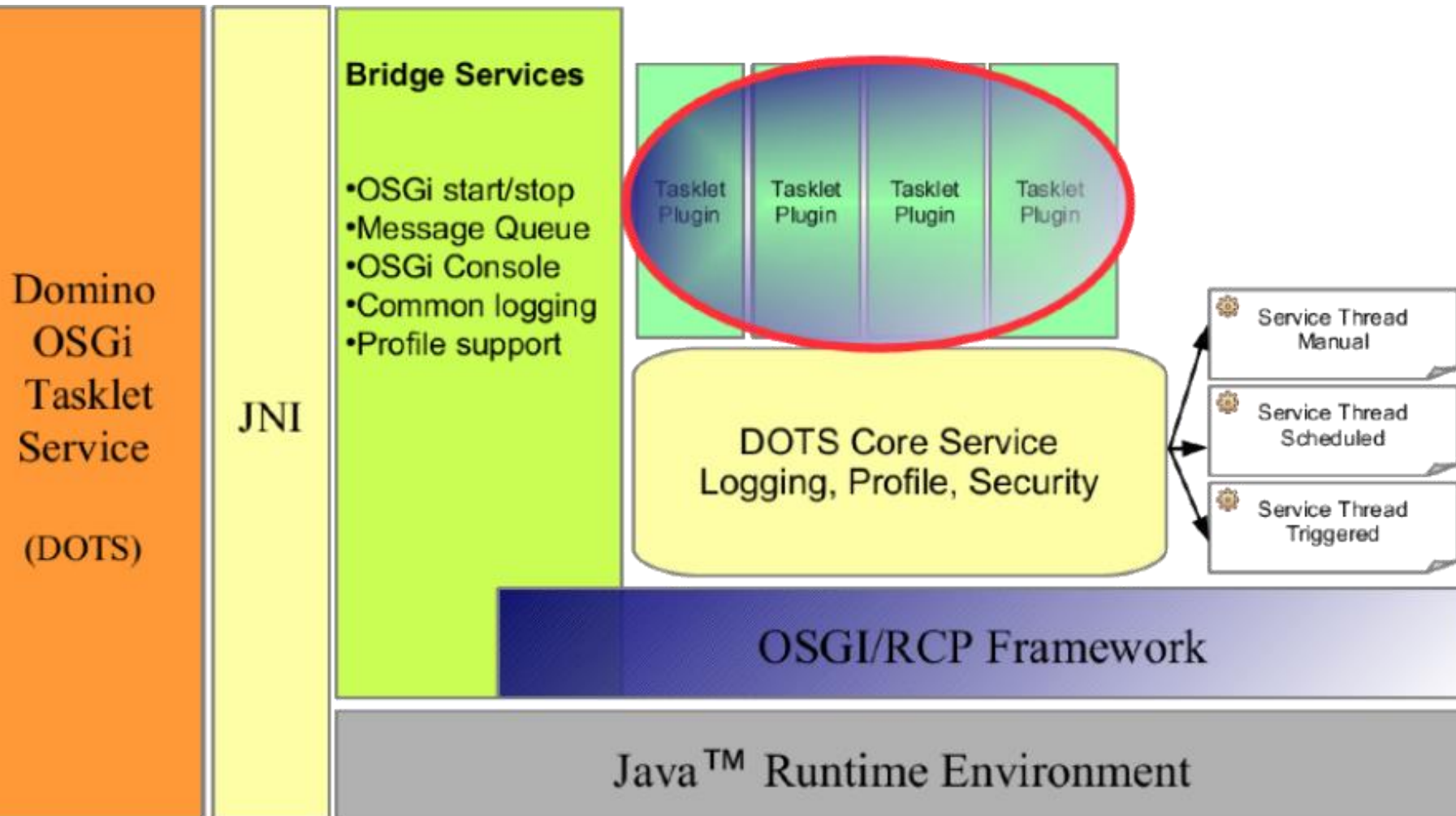
DOTS is a generic Domino add-in task that lets users create Domino server tasks by creating a tasklet container using Java OSGi plugins.

A **tasklet** is a lightweight server add-in task written in Java and declared as an OSGi extension point.

Domino Server task **ndots.exe** installed at {dominobin} directory. Launches a JVM and invokes code located in launcher.jar to launch the OSGi container.
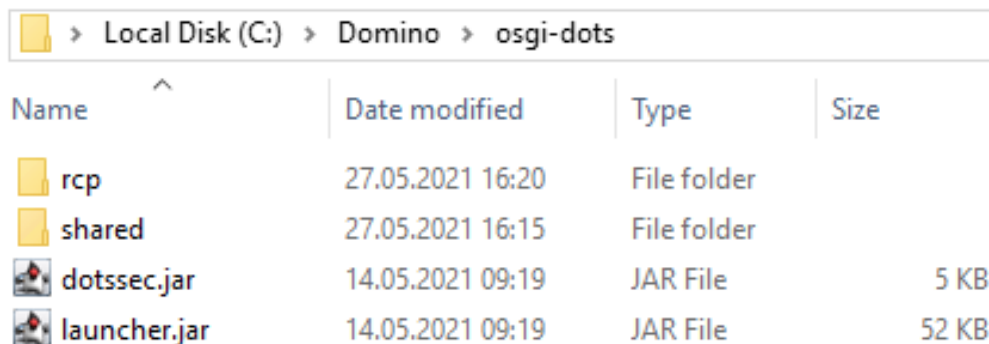
The **OSGi framework** located in {dominobin}/osgi-dots/rcp/eclipse contains the core plugins to run the OSGi framework.

The **com.ibm.dots** plugin located in {dominobin}/osgi-dots/shared/eclipse/plugins, is part of the DOTS framework. This plugin is essential to communicate between the DOTS server task and the server tasklet plugins.

Domino Extension manager library dotsextmgr.dll installed at {dominobin} directory. Responsible for posting the events to the tasklet container for further processing by the triggered tasklets.

dotssec.jar file installed at {dominobin}/osgi-dots directory acts as a DOTS security hook.

launcher.jar file installed at {dominobin}/osgi-dots directory. Responsible for launching the OSGi framework.

> Local Disk (C:) > Domino > osgi-dots			
Name	Date modified	Type	Size
rcp	27.05.2021 16:20	File folder	
shared	27.05.2021 16:15	File folder	
dotssec.jar	14.05.2021 09:19	JAR File	5 KB
launcher.jar	14.05.2021 09:19	JAR File	52 KB

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Multi platform support

Built-in mechanism to access server task user arguments. Command line options.

Easy deployment. Just drop a single .jar file into the file system.

Tasklet run in the context of the server. **No** design element **signing** needed.

No limitations like in the Agent Manager. DOTS tasks can run every second and as long as needed.

Better tooling with Eclipse IDE and its first-class Java and plugins editors and Java.

Source Control Management.

Shared bundles. Can be used in different plugins.

```
te dots travelerrules help
usage: tell DOTS travelerrules [-a] [-apns] [-c] [-cr <--dry-run>] [-dd
        <deviceId>] [-dj <form>] [-h] [-il] [-l <level>] [-ma] [-mail]
        [-mdm] [-t] [-u]

Command line options and arguments:

 -a,--about                      Prints version of this application
 -apns,--check-apns              Checks APNS certificate expiration
 -c,--cleanup                    Forces the periodic cleanup
 -cr,--cleanup-rules <--dry-run> Runs cleanup of orphan rules
 -dd,--dumpdevice <deviceId>     Dumps device information
 -dj,--deletejobs <form>         Deletes all documents with a given form
 -h,--help                       Shows this screen
 -il,--inetlockout               Checks InetLockOutDb and updates user
                                 documents
 -l,--loglevel <level>           Changes the log level during runtime
 -ma,--maintenance               Forces the maintenance task to cleanup
 -mail,--mail                    Sends a test mail to the configured
                                 recipients. Uses mail sender from basic
                                 configuration
 -mdm,--mdmupdate                Executes MDM update
 -t,--timecontrol                Forces the timecontrol task
 -u,--update                     Forces the periodic device update

Please report issues to support@midpoints.de
```

com.ibm.dots.jar	22.11.2021 09:57	JAR File	417 KB
de.midpoints.data.sync_2.2.0.jar	25.02.2022 12:18	JAR File	43.593 KB
de.midpoints.mobileprofiler.dots_11.0.0.jar	10.11.2021 09:56	JAR File	13.009 KB
de.midpoints.travelerrules.dots_5.0.0.jar	21.02.2022 12:58	JAR File	15.672 KB

https://www.eclipse.org

Visual Studio Code

https://code.visualstudio.com

https://www.jetbrains.com/idea/

```java
package de.eknori.osgi.hello;

import org.osgi.framework.BundleActivator;

public class Activator implements BundleActivator {

    private static BundleContext context;

    static BundleContext getContext() {
        return context;
    }

    public void start(BundleContext bundleContext) throws Exception {
        Activator.context = bundleContext;
    }

    public void stop(BundleContext bundleContext) throws Exception {
        Activator.context = null;
    }

}
```

```java
package de.eknori.osgi.hello;

import org.eclipse.core.runtime.IProgressMonitor;

public class HelloWorld extends AbstractServerTask {
    public HelloWorld() {
    }

    @Override
    public void dispose() throws NotesException {
        logMessage("BYE WORLD!!");
    }

    @Override
    public void run(RunWhen arg0, String[] arg1, IProgressMonitor arg2) throws NotesException {
        logMessage("HELLO WORLD!");
    }

}
```

```xml
<?xml version="1.0" encoding="UTF-8"?>
<?eclipse version="3.4"?>
<plugin>
    <extension
            point="com.ibm.dots.task">
        <task
            class="de.eknori.osgi.hello.HelloWorld"
            id="de.eknori.osgi.hello.helloworld"
            runOnStart="true">
        </task>
    </extension>

</plugin>
```

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To launch the DOTS container, use the following command from the Domino serverconsole: „**load dots**" and to stop a running DOTS container use „**tell dots quit**".

The JVM loaded by DOTS supports **JavaOptionsFile** notes.ini setting for any user-specific JVM options.

The JVM loaded by DOTS uses the **default max and min** heap values of 1024MB and 64MB respectively.

You can customize heap size values by using the notes.ini setting **DOTSJavaMaxHeapSize** and **DOTSJavaMinHeapSize**. For example:

> DOTSJavaMinHeapSize =128M
>
> DOTSJavaMaxHeapSize = 2048M

The following notes.ini variables from prior versions of DOTS **are no longer available** in Domino V12

> DOTS_DEBUGADDRESS
>
> DOTS_DEBUGSUSPEND
>
> DOTS_JavaOptionsFile

JavaUserOptionsFile

```
// ========================================================
// notes.ini
// ========================================================
JavaOptionsFile=d:/domino/data/javaoptions.txt
```

```
// ========================================================
// javaOptions.txt
// ========================================================
-Duser.country=US
-Duser.language=en
-Djava.security.manager -Djava.security.policy=./data/custom.policy
```

```
// ========================================================
//  custom.policy file added at runtime
//  -Djava.security.manager -Djava.security.policy=custom.policy
// ========================================================

grant {
    permission java.lang.RuntimePermission "getClassLoader";
    permission java.lang.RuntimePermission "setContextClassLoader";
    permission java.lang.RuntimePermission "accessDeclaredMembers";
    permission java.lang.reflect.ReflectPermission "suppressAccessChecks";
};
```

To remote debug the DOTS tasklet application, use the following notes.ini settings, which are the same used for other Java applications

JavaEnableDebug=1

JavaDebugOptions=transport=dt_socket,server=y,suspend=n

The address should be the random port allocated by the JVM.

Adding address attribute (e.g. address=8000) in JavaDebugOptions may interfere with other JVM load and **will** lead to a crash.

The issue is being tracked under **SPR# NBALC3LAVJ**

Simple actions & @formula

No way. But such agents do not have complex code. It should be easy to rewrite them in Java

LotusScript

As with agents, LotusScript cannot be transferred to DOTS. LotusScript classes have equivalent Java classes and the code can be rewritten.

Java

copy & paste

KB0089518 - How to

HCL Domino OSGi Tasklet Service (DOTS)

🗓 16d ago · 👁 193 Views · ⭐⭐⭐⭐⭐

Applies to

HCL Domino 12.0

Introduction

The Domino OSGi Tasklet Service (DOTS) is available again in HCL Domino 12. See the documentation for complete details.

Domino OSGi Tasklet Service (DOTS) Documentation

Copy Permalink

https://support.hcltechsw.com/csm?id=kb_article&sysparm_article=KB0089518&sys_kb_id=2f2251911b9b249ca2f48661cd4bcbba

QueryResultsProcessor

NotesQueryResultsProcessor

+AddCollection()
+AddDominoQuery()
+AddFormula()
+AddColumn()
+ExecuteToJson()

Contained by NotesDatabase

Aggregates, computes, sorts, and formats collections of Documents

```
Dim session As New NotesSession
Dim db As NotesDatabase

Set db = session.Currentdatabase

Dim qrp As NotesQueryResultsProcessor
Set qrp = db.CreateQueryResultsProcessor()
```

https://help.hcltechsw.com/dom_designer/12.0.0/basic/H_NOTESQUERYRESULTSPROCESSOR_CLASS.html

```
Dim session As New NotesSession
Dim db As NotesDatabase
Dim qrp As NotesQueryResultsProcessor
Dim ndc As NotesDocumentCollection
Set db = session.Currentdatabase
Set qrp = db.CreateQueryResultsProcessor()

Call qrp.AddCollection(_
db.Alldocuments, "coll_01")

Call qrp.AddDominoQuery(_
db.Createdominoquery(), "@All", "coll_02")

Call qrp.AddCollection(_
db.getView("all").AllEntries, "coll_03")

Set ndc = db.Ftsearch("animal",5000)
Call qrp.AddCollection(ndc, "coll_04")

Set ndc = db.Search(|"bird" *= species|, nothing, 0)
Call qrp.AddCollection(ndc, "coll_05")
```

Adds a NotesDocumentCollection or NotesViewEntryCollection to the Documents being processed

https://help.hcltechsw.com/dom_designer/12.0.0/basic/H_ADDCOLLECTION_METHOD.html

```
Set qrp = db.CreateQueryResultsProcessor()

Call qrp.AddCollection( _
db.Alldocuments, "rslt_1")

Call qrp.AddDominoQuery( _
db.Createdominoquery(), "@All", "rslt_1")
```

A unique name (to the **QueryResultsProcessor** instance) of the input collection is required

HCL Notes ✕

⚠ Invalid arguments:
Duplicate name error for Input Collection or query results - name rslt_1

OK
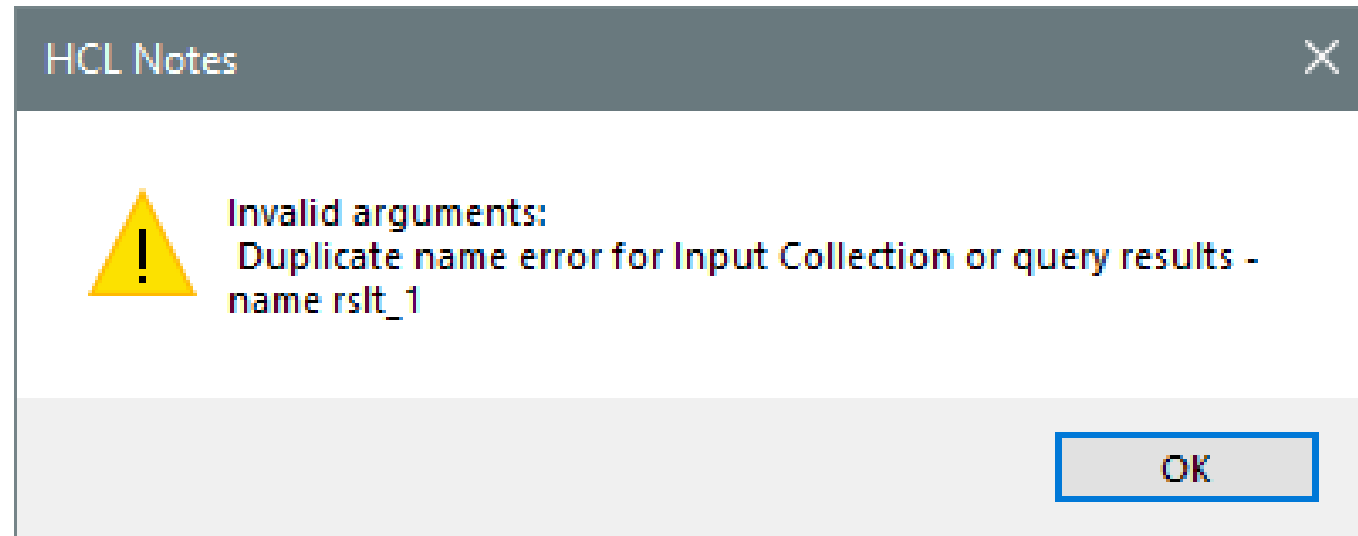
```
Dim session As New NotesSession
Dim db As NotesDatabase
Dim dq As NotesDominoQuery
Dim qrp As NotesQueryResultsProcessor
Dim nav As NotesJSONNavigator

Set db = session.Currentdatabase

Set dq = db.CreateDominoQuery()

Set qrp = db.CreateQueryResultsProcessor()
Call qrp.AddDominoQuery(dq, QRY_ALL_CATS_AND_DOGS, "qrp_dq")
Call qrp.AddColumn("name", "","", SORT_ASCENDING, False, False)

Set nav =  qrp.Executetojson()
json = nav.Stringify()
```

Processes the input collections in the manner specified by the Sort Columns, overriding field values with formulas specified via addFormula calls, and returns JSON output to a NotesJsonNavigator object.

The JSON syntax produced by QueryResultsProcessor execution conforms to **JSON RFC 8259**

https://help.hcltechsw.com/dom_designer/12.0.0/basic/H_EXECUTETOJSON_METHOD.html

```
{
    "StreamResults": [
        {
            "@nid": "NT0000090A",
            "@DbPath": "c:\\Notes\\Data\\animals.nsf",
            "name": "Garfield"
        },
        {
            "@nid": "NT000008FA",
            "@DbPath": "c:\\Notes\\Data\\animals.nsf",
            "name": "Lassie"
        },
        {
            "@nid": "NT000008F6",
            "@DbPath": "c:\\Notes\\Data\\animals.nsf",
            "name": "Boomer"
        }
    ]
}
```
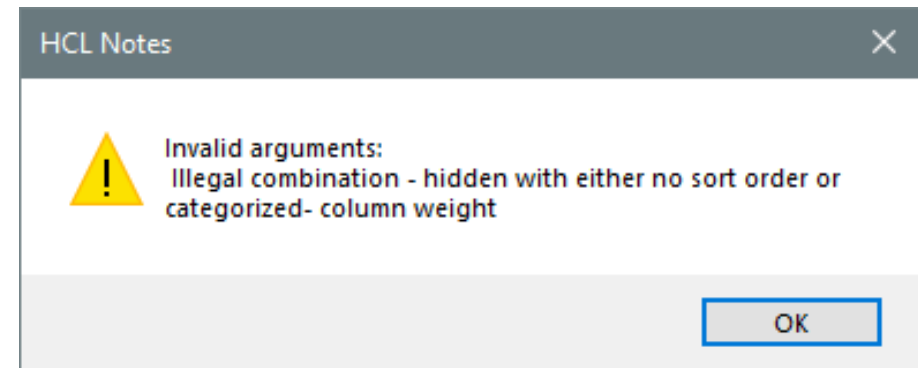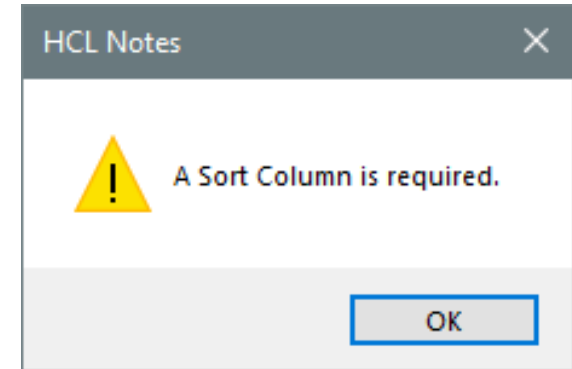
Special keys "**@nid**" for NoteID and "**@DbPath**" are output so results can be acted upon on a document basis.

All results are output under the "**StreamResults**" top element key.

addColumn()

```
Set qrp = db.CreateQueryResultsProcessor()
Call qrp.AddDominoQuery(_
dq, QRY_ALL_CATS_AND_DOGS, "cats_dogs")
Call qrp.Addcollection(_
dbBirds.Alldocuments, "birds")

'Call qrp.AddColumn("name","","", SORT_ASCENDING, False, False)
'Call qrp.AddColumn("name","","", SORT_ASCENDING)
'Call qrp.AddColumn("name",,,, SORT_ASCENDING)
Call qrp.AddColumn("name")

Call qrp.AddColumn("weight",,,,True)
```

HCL Notes ✕

⚠ A Sort Column is required.

OK

HCL Notes ✕

⚠ Invalid arguments:
   Illegal combination - hidden with either no sort order or
   categorized- column weight

OK

https://help.hcltechsw.com/dom_designer/12.0.0/basic/H_ADDCOLUMN_METHOD.html

Provides Domino formula language to **override the data** used to generate values for a particular sort column and an input collection or set of collections.

Since input collections can be created from different databases, **design differences** can be adjusted using addFormula() to **produce homogenous values** in the output

Design difference

```
Dim session As New NotesSession
Dim db As NotesDatabase
Dim dbDino As NotesDatabase
Dim qrp As NotesQueryResultsProcessor
Dim nav As NotesJSONNavigator

Set db = session.Currentdatabase
Set dbDino = session.Getdatabase("", "dino.nsf")

Set qrp = db.CreateQueryResultsProcessor()

Call qrp.Addcollection(db.Alldocuments, "cats_dogs")
Call qrp.Addcollection(dbDino.Alldocuments, "dino")
Call qrp.Addformula("name", "displayName", "cats_dogs")
Call qrp.Addformula("dinoName", "displayName", "dino")
Call qrp.AddColumn("displayName")

Set nav =  qrp.Executetojson()
json = nav.Stringify()
```

```
{
    "StreamResults": [
        {
            "@nid": "NT000008F6",
            "@DbPath": "c:\\Notes\\Data\\dino.nsf",
            "displayName": "T-REX"
        },
        {
            "@nid": "NT000008F6",
            "@DbPath": "c:\\Notes\\Data\\animals1.nsf",
            "displayName": "Boomer"
        },
        {
            "@nid": "NT000008FA",
            "@DbPath": "c:\\Notes\\Data\\animals1.nsf",
            "displayName": "Lassie"
        },
        {
            "@nid": "NT000008FE",
            "@DbPath": "c:\\Notes\\Data\\animals1.nsf",
            "displayName": "Garfield"
        }
    ]
}
```

```
Dim session As New NotesSession
Dim db As NotesDatabase

Set db = session.Currentdatabase

Dim qrp As NotesQueryResultsProcessor
Set qrp = db.CreateQueryResultsProcessor()
Call qrp.Addcollection(db.Alldocuments, "rslt_1")

Call qrp.AddColumn("costcenter")
Call qrp.AddFormula(_
    |@DbLookup("";"";"costcenter";10;"costcenter")|, _
"costcenter","rslt_1")

Call qrp.AddFormula(_
    |@if(costcenter="10";"DOGHOUSE";"OTHER")|, _
"costcenter","rslt_1")
Call qrp.AddColumn("name")
```

```
{
    "@nid": "NT000008FE",
    "@DbPath": "c:\\Notes\\Data\\animals1.nsf",
    "costcenter": "OTHER",
    "name": "Garfield"
},
{

    "@nid": "NT000008FA",
    "@DbPath": "c:\\Notes\\Data\\animals1.nsf",
    "costcenter": "DOGHOUSE",
    "name": "Lassie"
},
```

I cannot get your @lookup formula language syntax working anywhere. Debugging is hard due to Damien Katz' love affair with abstraction.

http://damienkatz.net/2005/01/formula-engine-rewrite.html

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```
Dim session As New NotesSession
Dim db As NotesDatabase

Set db = session.Currentdatabase

Dim coll As NotesDocumentCollection
Dim dq As NotesDominoQuery
Set dq = db.Createdominoquery()
Set coll = dq.Execute(/_
    @fl('Form="animal"') And _
    @fl('"cat":"dog" *= species')_
/)

Dim qrp As NotesQueryResultsProcessor
Set qrp = db.CreateQueryResultsProcessor()
Call qrp.AddCollection(coll, "rslt_ndc")

Call qrp.AddColumn("subject", "", "",SORT_DESCENDING, False, True)
Call qrp.AddColumn("name")
```

Beginning in HCL Domino® 12, Formula Language can be used in Domino Query Language (DQL) search terms.

Formula Language provides full expression handling, intra-document field searches, and the ability to leverage an extensive library of @function calls.

Use the **@FL** (or **@FORMULA**, **case insensitive**) clause to encapsulate Formula Language syntax within DQL terms.

https://help.hcltechsw.com/dom_designer/12.0.0/basic/dql_formulalanguage.html

New methods for DQL named results

```
Session session = getSession();
DominoQuery dominoQuery = null;
DocumentCollection coll = null;
DocumentCollection coll2 = null;

Database sourceDb = session.getCurrentDatabase();
sourceDb.removeAllQueryNamedResults();

dominoQuery = sourceDb.createDominoQuery();
dominoQuery.setMaxScanDocs(Integer.MAX_VALUE);
dominoQuery.setMaxScanEntries(Integer.MAX_VALUE);

String query = "idNumber > 20 AND idNumber < 30";
coll = dominoQuery.execute(query, "named_rslt_1");

for (int i = 21; i < 30; i++) {
    query = String.format("in ('named_rslt_1') and idNumber = %d", i);
    coll2 = dominoQuery.execute(query);
}
```

Executes a query string passed in according to set parameters and **returns named results** in a database where they can be accessed again more quickly.

For **reuse** of complex queries, this saves significant processing time.

[37D8:0046-3FC4] 18.03.2022 07:45:31   Error: writing named foundset "named_rslt_1": Entry already in index

https://help.hcltechsw.com/dom_designer/beta/12.0.1/basic/wn_dqlnamedresults.html

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```
Agent printing: initial query.
Success: writing named foundset "named_rslt_1"
Agent printing: @fl('idNumber > 20 & idNumber < 30') found 45421 results in 26734 msec.

Agent printing: query using named foundset 'named_rslt_1'.
Agent printing: in ('named_rslt_1') and idNumber = 21 found 5073 results in 4766 msec.
Agent printing: in ('named_rslt_1') and idNumber = 22 found 4879 results in 4609 msec.
Agent printing: in ('named_rslt_1') and idNumber = 23 found 5005 results in 4532 msec.
Agent printing: in ('named_rslt_1') and idNumber = 24 found 5132 results in 4562 msec.
Agent printing: in ('named_rslt_1') and idNumber = 25 found 4981 results in 4531 msec.
Agent printing: in ('named_rslt_1') and idNumber = 26 found 5059 results in 4594 msec.
Agent printing: in ('named_rslt_1') and idNumber = 27 found 5015 results in 4688 msec.
Agent printing: in ('named_rslt_1') and idNumber = 28 found 5152 results in 4625 msec.
Agent printing: in ('named_rslt_1') and idNumber = 29 found 5125 results in 4531 msec.

Agent printing: query without named foundset.
Agent printing: idNumber = 21 found 5073 results in 18125 msec.
Agent printing: idNumber = 22 found 4879 results in 18047 msec.
Agent printing: idNumber = 23 found 5005 results in 17328 msec.
Agent printing: idNumber = 24 found 5132 results in 18172 msec.
Agent printing: idNumber = 25 found 4981 results in 17437 msec.
Agent printing: idNumber = 26 found 5059 results in 17563 msec.
Agent printing: idNumber = 27 found 5015 results in 17281 msec.
Agent printing: idNumber = 28 found 5152 results in 17657 msec.
Agent printing: idNumber = 29 found 5125 results in 17484 msec.
```

68172 msec

159094 msec

```
Dim session As New NotesSession
Dim db As NotesDatabase
Dim qrp As NotesQueryResultsProcessor
Dim nav As NotesJSONNavigator

Set db = session.Currentdatabase

Set qrp = db.CreateQueryResultsProcessor()
Call qrp.AddCollection(db.Alldocuments, "cats_dogs")
Call qrp.AddColumn(_
"weight",  "","", SORT_DESCENDING, false, true)
Call qrp.AddColumn(_
"categories",  "",  "", SORT_DESCENDING, false, false)

Call qrp.AddColumn("name")

Set nav =  qrp.Executetojson()
json = nav.Stringify()
```

```
{
    "StreamResults": [
        {
            "weight": 25,
            "documents": [
                {
                    "@nid": "NT000008FA",
                    "@DbPath": "D:\\Notes\\Data\\animals1.nsf",
                    "categories": [
                      "cinema",
                      "TV"
                    ],
                    "name": "Lassie"
                },
                {
                    "@nid": "NT0000906",
                    "@DbPath": "D:\\Notes\\Data\\animals1.nsf",
                    "categories": "ÄÖÜßäöü",
                    "name": "ÄÖÜßäöü"
                }
            ]
        },
        {
            "weight": 12,
            "documents": [
```

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```
Dim session As New NotesSession
Dim db As NotesDatabase
Dim qrp As NotesQueryResultsProcessor
Dim nav As NotesJSONNavigator

Set db = session.Currentdatabase

Set qrp = db.CreateQueryResultsProcessor()
Call qrp.AddCollection(db.Alldocuments, "cats_dogs")
Call qrp.AddColumn(_
"categories", "", "", SORT_DESCENDING, false, false)
Call qrp.AddColumn(_
"weight", "","", SORT_DESCENDING, false, false)
Call qrp.AddColumn("name")

Set nav = qrp.Executetojson()
json = nav.Stringify()
```

Name	Species	Weight	Color	First Seen	Last Seen	Categories
ÄÖÜßäöü	dog	25	black/white	21.10.1980	08.03.1982	ÄÖÜßäöü
ÄÖÜßäöü	dog	12	blue	22.10.1980	08.04.1982	cinema
Boomer	dog	12	blue	21.10.1980	08.03.1982	cinema,TV,Conferen
Garfield	cat	10	mixed	21.10.1990	12.02.2005	animation
Lassie	dog	25	black/white	21.10.1980	08.03.1982	cinema,TV

```json
{
    "StreamResults": [
        {
            "@nid": "NT000008F6",
            "@DbPath": "D:\\Notes\\Data\\animals1.nsf",
            "categories": [
                "cinema",
                "TV",
                "Conferences"
            ],
            "weight": 12,
            "name": "Boomer"
        },
        {
            "@nid": "NT000008FA",
            "@DbPath": "D:\\Notes\\Data\\animals1.nsf",
            "categories": [
                "cinema",
                "TV"
            ],
            "weight": 25,
            "name": "Lassie"
        },
```
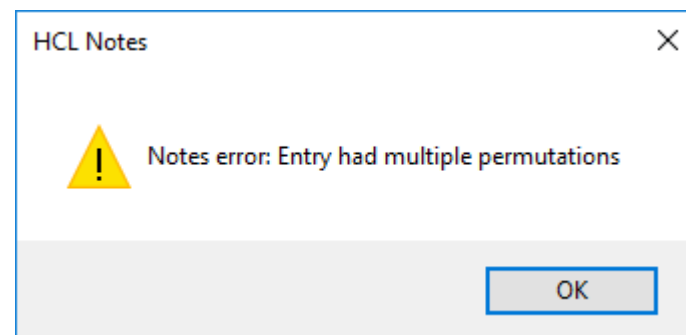
```
Dim session As New NotesSession
Dim db As NotesDatabase
Dim qrp As NotesQueryResultsProcessor
Dim nav As NotesJSONNavigator

Set db = session.Currentdatabase

Set qrp = db.CreateQueryResultsProcessor()
Call qrp.AddCollection(db.Alldocuments,"cats_dogs")
Call qrp.AddColumn(_
"categories", "", "", SORT_DESCENDING, false, TRUE)
Call qrp.AddColumn(_
"weight", "","", SORT_DESCENDING, false, false)
Call qrp.AddColumn("name")

Set nav =  qrp.Executetojson()
json = nav.Stringify()
```

HCL Notes ✕

⚠ Notes error: Entry had multiple permutations

OK

Name	Species	Weight	Color	First Seen	Last Seen	Categories
ÄÖÜßäöü	dog	25	black/white	21.10.1980	08.03.1982	ÄÖÜßäöü
ÄÖÜßäöü	dog	12	blue	22.10.1980	08.04.1982	cinema
Boomer	dog	12	blue	21.10.1980	08.03.1982	cinema,TV,Conferen
Garfield	cat	10	mixed	21.10.1990	12.02.2005	animation
Lassie	dog	25	black/white	21.10.1980	08.03.1982	cinema,TV

Aggregate functions

Aggregate function names begin with **double @@** signs and are case insensitive.

They cannot be nested one within another.

Their numeric output can be either integer or floating-point values.

@@avg(colname) Returns the sum all values of col1 within the current category divided by the number of documents.

@@sum(colname) Returns the sum of all values of col2 within the current category.

@@max(colname) Returns the maximum numeric value of col3 within the current category.

@@min(colname) Returns the minimum numeric value of col4 within the current category.

@@count() Returns the count of documents within the current category

https://help.hcltechsw.com/dom_designer/12.0.0/basic/H_ADDCOLUMN_METHOD.html

```
Dim session As New NotesSession
Dim db As NotesDatabase
Dim qrp As NotesQueryResultsProcessor
Dim nav As NotesJSONNavigator

Set db = session.Currentdatabase

Set qrp = db.CreateQueryResultsProcessor()
Call qrp.AddCollection(db.Alldocuments,"cats_dogs")
Call qrp.AddColumn(_
"weight", "", "", SORT_ASCENDING, false, true)
Call qrp.AddColumn("@@count()")
Call qrp.AddColumn("@@sum(weight)")
Call qrp.AddColumn("name")

Set nav =  qrp.Executetojson()
json = nav.Stringify()
```

```
{
  "StreamResults": [
    {
      "weight": 10,
      "@@count()": 1,
      "@@sum(weight)": 10,
      "documents": [
        {
          "@nid": "NT000008FE",
          "@DbPath": "D:\\Notes\\Data\\animals1.nsf",
          "name": "Garfield"
        }
      ]
    },
    {
      "weight": 12,
      "@@count()": 2,
      "@@sum(weight)": 24,
      "documents": [
        {
          "@nid": "NT000008F6",
          "@DbPath": "D:\\Notes\\Data\\animals1.nsf",
          "name": "Boomer"
        },
        {
          "@nid": "NT0000090E",
          "@DbPath": "D:\\Notes\\Data\\animals1.nsf",
          "name": "ÄÖÜßäöü"
        }
      ]
    },
```

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```
Dim qrp As NotesQueryResultsProcessor
Dim dominoQuery As NotesDominoQuery
Dim vwRslt As NotesView

Set dominoQuery = sourceDb.CreateDominoQuery()
dominoQuery.MaxScanDocs = 5000000

Set qrp = thisdb.CreateQueryResultsProcessor()

Call qrp.AddDominoQuery(dominoQuery, QRY, "rslt")

Call qrp.AddColumn("country",  "",  "",SORT_ASCENDING, False, true)
Call qrp.AddColumn("firstName",  "",  "",SORT_UNORDERED, False, false)
Call qrp.AddColumn("lastName",  "",  "",SORT_UNORDERED, False, false)
Call qrp.AddColumn("idNumber",  "",  "",SORT_ASCENDING, False, False)
Call qrp.AddColumn("OfficeAddress", _
          "@fl('Büroadresse')",  "",SORT_UNORDERED, false, False)

Dim theReaders (1 To 1) As String
theReaders (1) = "*"

Set vwRslt = thisdb.getView(RSLT_VIEW)
If Not vwRslt Is Nothing Then Call vwRslt.Remove()

Set vwRslt = qrp.executeToView(RSLT_VIEW, 2, theReaders)
```

Saves sorted QueryResultsProcessor results to a "results view" in a database.

Processes the input collections in the manner specified by the Sort Columns, overriding field values with formulas specified via addFormula calls.

Creates a results view in a host database and returns View object.

https://help.hcltechsw.com/dom_designer/12.0.0/basic/H_EXECUTETOVIEW_METHOD.html

Results views are generated programmatically, so they are designed **to be discarded** after use.

Results views contain unique NoteIDs that **cannot be referenced.**

Security for results views is implemented at the **view level**.
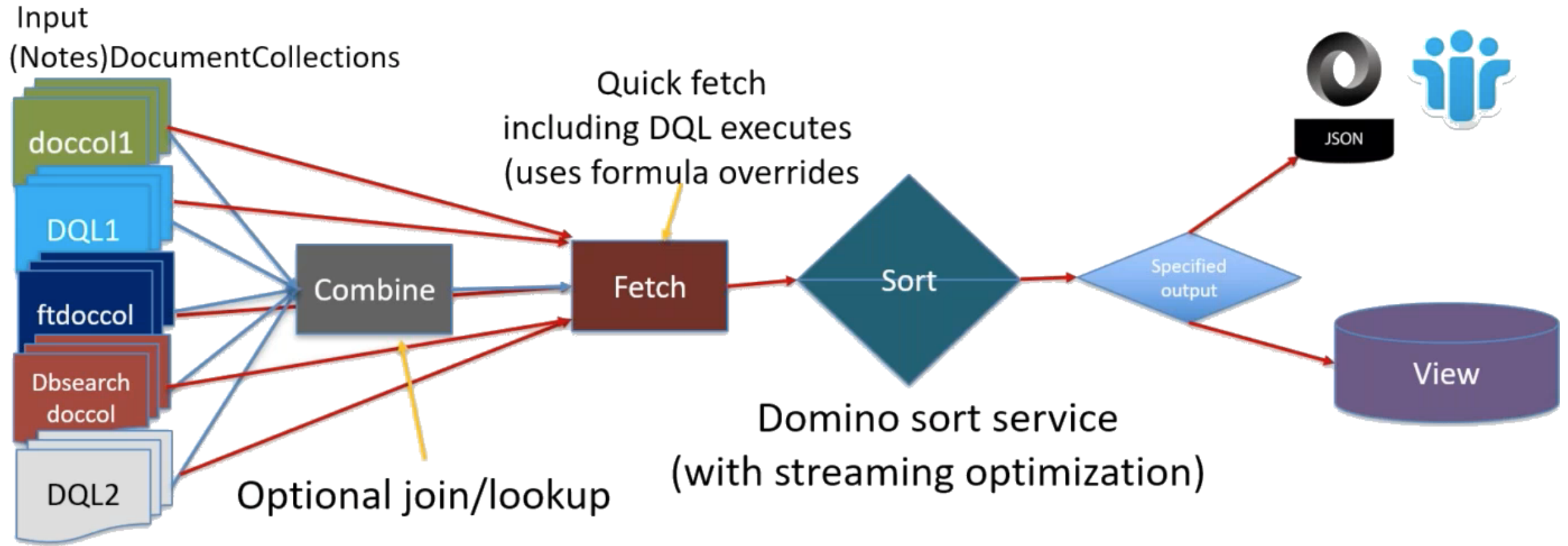
```
Call qrp.AddColumn("OfficeAddress", _
          "staff's place", "",SORT_UNORDERED, false, False)
```

country	firstName	lastName	Überschrift	staff
▼ Abházia				
▼ Ägypten				
▼ Äquatorialguinea				
▼ Äthiopien				
▼ Afeganistão				
▼ Afganistán				
▼ Afganisztán				
▼ Afghanistan				
▼ África do Sul				
▼ Albania				
▼ Albanien				
▼ Albánska republika				
▼ Albánsko				

country	firstName	lastName	Überschrift	staff place
▼ Abházia				
	Manzur	Mezei	21	6. emelet Fagyöngy
▶ Ägypten				
▶ Äquatorialguinea				
▶ Äthiopien				
▼ Afeganistão				
	Danilo	Carvalho	23	0183 Heitor Rua, Que
	Tertuliano	Xavier	24	Casa 4 323 Felicianc
	Gabriela	Vasques	28	73926 Marginal Nico
▼ Afganistán				
	Mariano	Vanegas	21	Esc. 287 Arroyo San
	Pilar	Gracia	21	Esc. 303 Torrente Se
	Tymoteusz	Leszczyński	21	Suite 246 ul. Biernat!
	Jorge	Salinas	22	Barrio Patricio 89 Es
	Julia	Guajardo	22	Esc. 612 Plaza Juan
	Marcela	Leiva	22	Esc. 995 Senda Patr
	Andrea	Morales	22	Colonia Mariano Ra

In line with SPR # MAVACCJG6J, a fix for that issue has been identified. It is subject to changes, but it has been submitted to version 12.0.2.
If you need an immediate fix, just let me know so I can request for a hotfix. – HCL support -

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Input
(Notes)DocumentCollections

doccol1

DQL1

ftdoccol

Dbsearch
doccol

DQL2

Combine

Optional join/lookup

Quick fetch
including DQL executes
(uses formula overrides

Fetch

Sort

Domino sort service
(with streaming optimization)

Specified
output

JSON

View

- AddCombineRule (left programmatic name, rule, right programmatic name)
  - ➤ Prior to sort or view create, combine data using the sort columns (with applied formulas) using the specified rule (or method)
  - ➤ "Join" is the most familiar rule type, also keyword lookup ++
- SetOutputType (type, viewname, streamtype)
  - ➤ View (with name) or stream (with streamtype)
- Execute (run the result processor)

QUESTIONS?

Use the GoToWebinar Questions Pane

Please keep all questions related to the topics that our speakers are discussing!!!

Unrelated Question => post at:

http://openntf.slack.com/