

HCLSoftware

Domino REST API for Domino Administrators

OpenNTF

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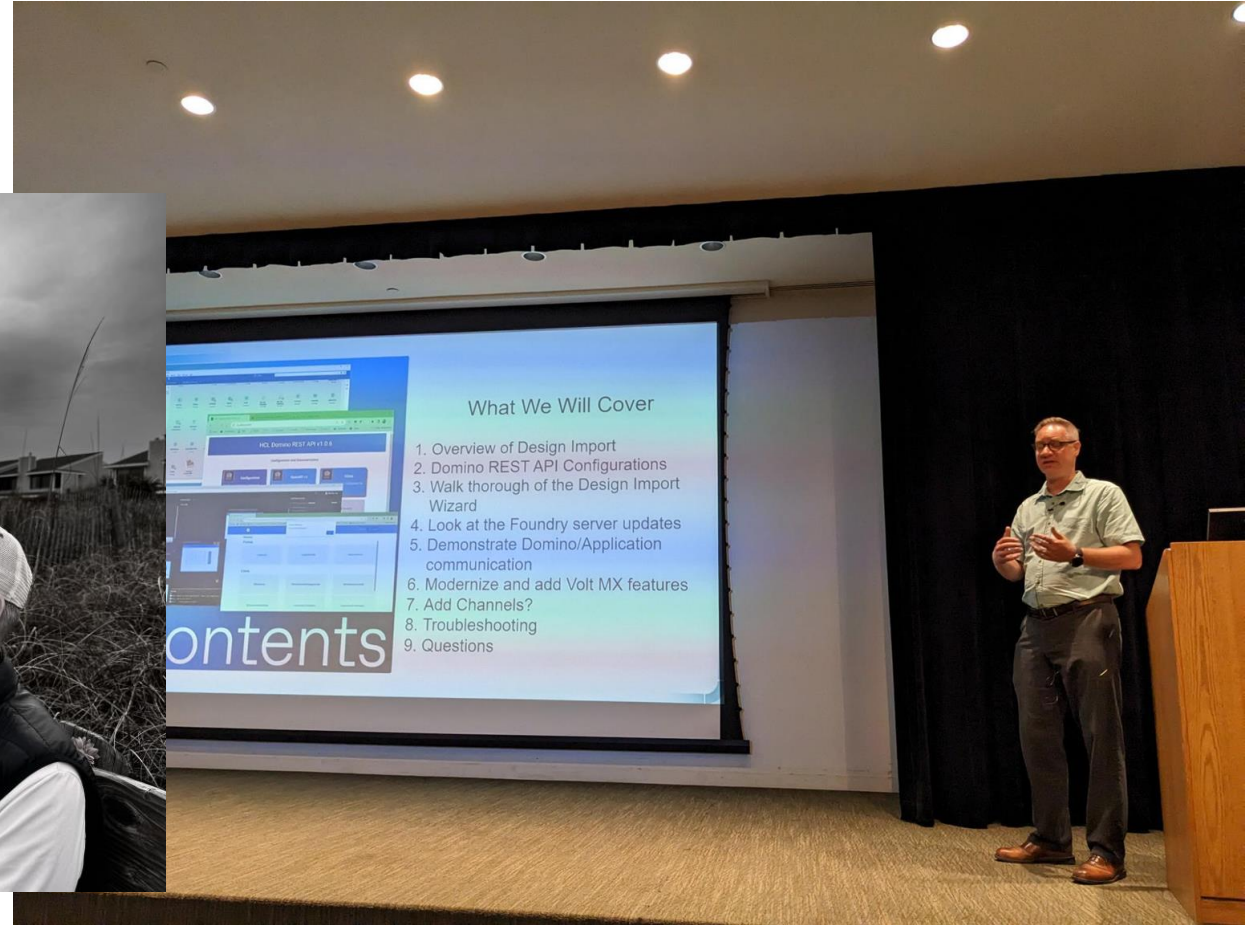
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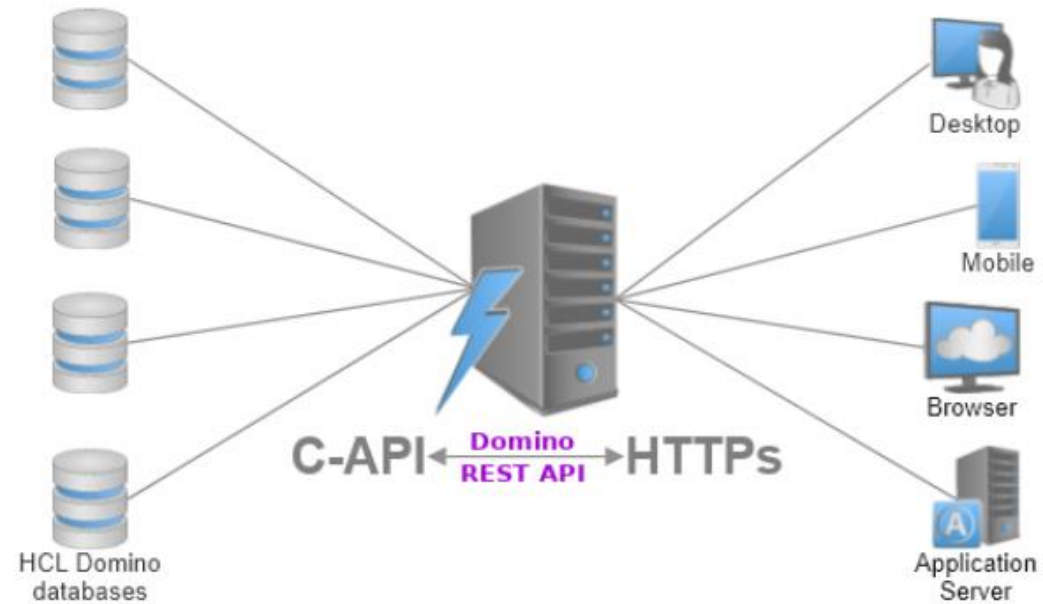
- Manager of the Volt MX Go Design Import team
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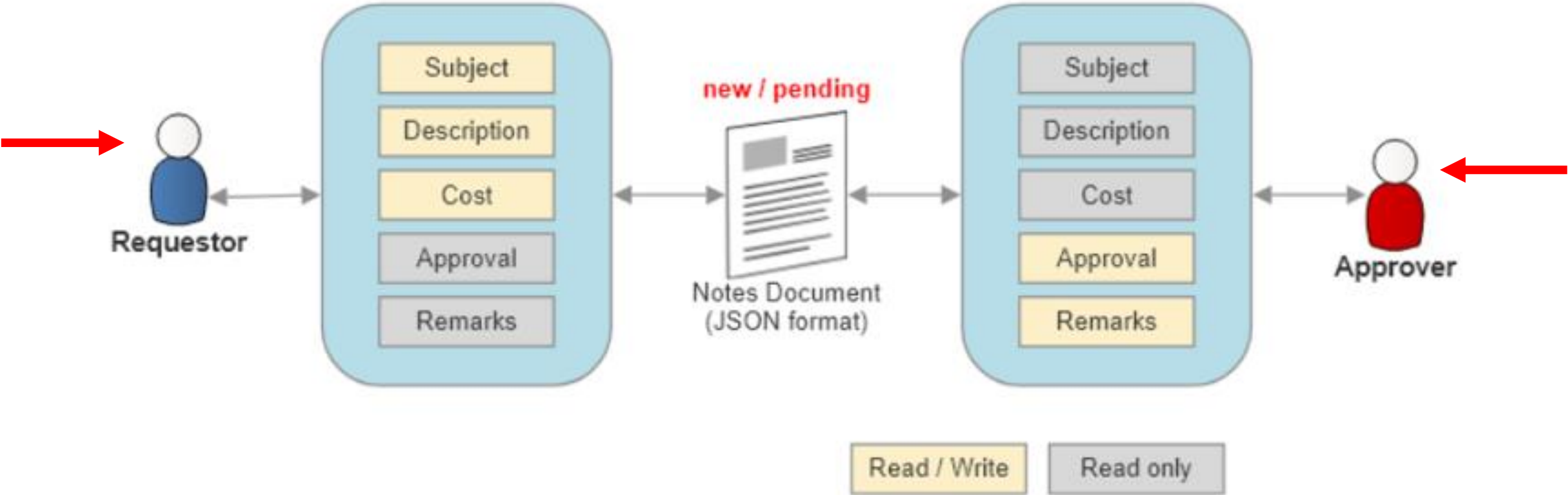
What's up for today

- What is the Domino REST API
- What does this have to do with an admin
- Installing
- What gets installed
- How does it work
- Port considerations
- Post installation configuration
- How to use it
- Where to find out more

What is the Domino REST API



What is the Domino REST API



I'm an admin...



Installing DRAPI

- <https://my.hcltechsw.com>
 - Domino – Tools, Connectors, Integrators – Domino REST API
 - Docker, Windows, Linux
 - V12 vs V14
- Flexnet: HCL Domino
- Domino_REST_API_V1.0.9_R14_Installer.tar.gz
 - 7-Zip
 - `tar -xvzf domino_rest_api_v1.0.9_r14_installer.tar.gz -C c:\Domino`
- ✓ **restapiinstall-r14.jar**
- Windows Command Prompt – Run as Administrator



my.hcltechsw.com

Install Command

```
java -jar c:\domino\restapiinstall-r14.jar -d="c:\domino\data" -i="c:\domino\data\notes.ini" -r="c:\domino\restapi"  
-p="c:\domino" -a
```

-d = Domino data folder

-i = File path and name of notes.ini

-r = File path for Domino REST API library files

-p = Domino program directory

-a = Accept

Tech tip – run java explicitly from “c:\domino\java\bin\java.exe”

Installed Components

Added Files

Files	Description
\Domino\restapi	Folder containing the Domino REST API JAR files
\Domino\nrestapi.exe	The Domino REST API server task
\Domino\nrestapi.pdb	Program debug database

Notes.ini Updates

ini Variable	Description
ServerTasks=restapi	Ensures the Domino REST API is started at server start up
KeepInstallDir=C:\Domino\restapi	The folder containing the Domino REST API JAR files
KeepManagementURL=http://localhost:8889	Needed for the Domino REST API Domino task to talk to the Java side of Domino REST API

Databases

Database name	Description
Domino Keep Configuration (keepconfig.nsf)	Database that stores the scope configurations and oauth application information.
Domino Keep Agent Schedule (keepagents.nsf)	When running an agent asynchronously via DRAPI, a document is created here to track processing of the agent.
Domino Keep OAuth (oauth.nsf)	Stores oauth refresh tokens

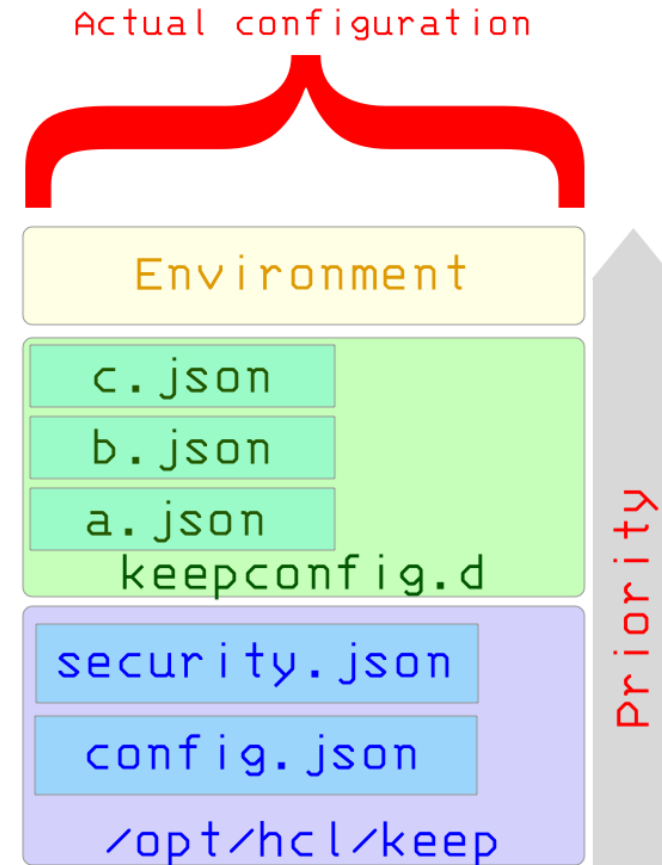
Server Task restapi

tell restapi help

```
✱ [16F4:0091-0794] 10/13/2023 10:28:34 PM Remote console command issued by Doctor Notes/Adventure: tell restapi help
✱ [1A34:0002-18D4] 10/13/2023 10:28:35 PM List of Domino REST API commands:
✱ [1A34:0002-18D4] 10/13/2023 10:28:35 PM [show] config
✱ [1A34:0002-18D4] 10/13/2023 10:28:35 PM [show] info
✱ [1A34:0002-18D4] 10/13/2023 10:28:35 PM [show] status
✱ [1A34:0002-18D4] 10/13/2023 10:28:35 PM refresh cache [database] [application]
✱ [1A34:0002-18D4] 10/13/2023 10:28:35 PM reload
```

DRAPI Basics

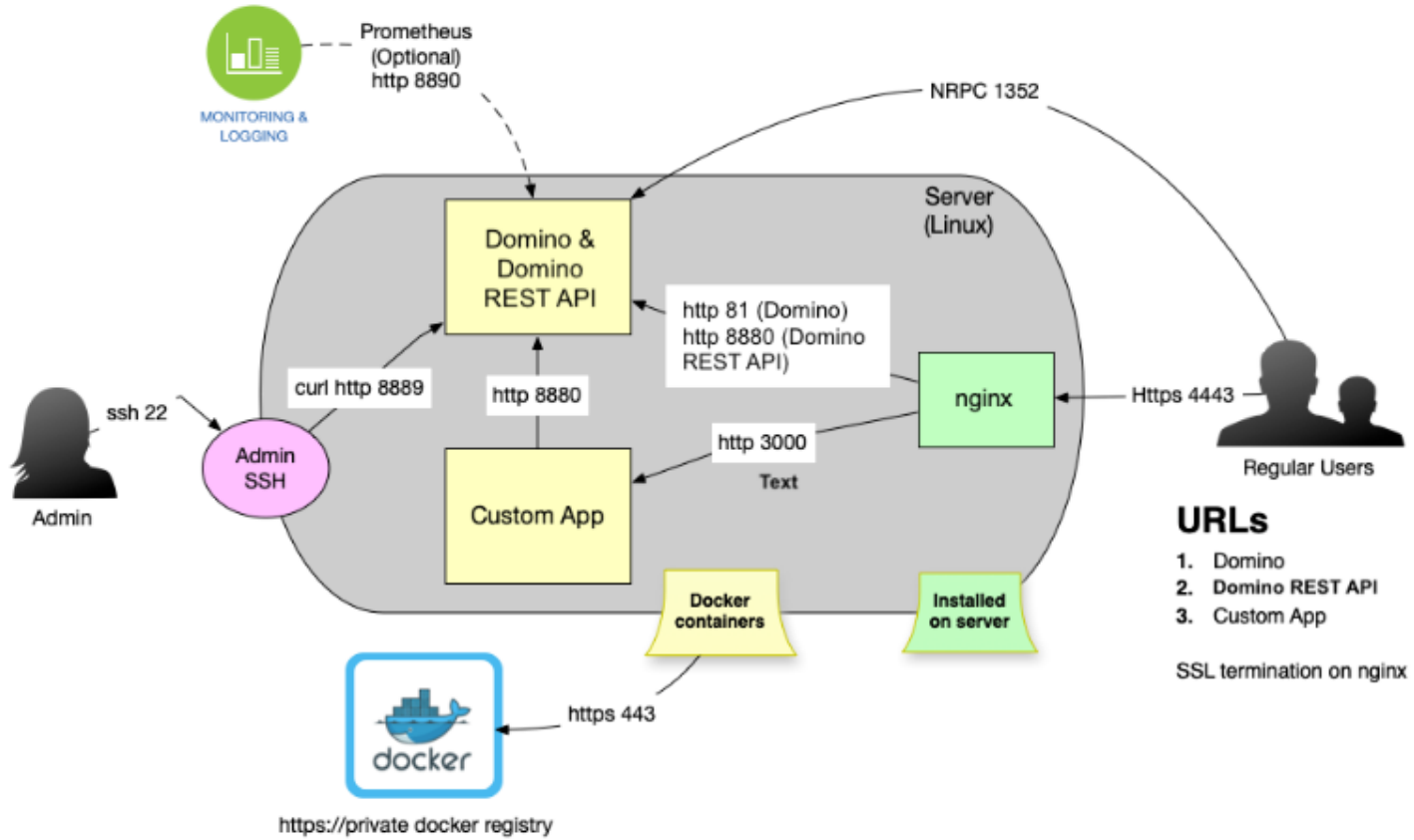
- keepconfig.d folder
- Overlay File System
- Base configuration then keepconfig.d JSON configuration files
- Alphabetical order matters



DRAPI Ports

- **Data Port – 8880**
 - Main port used by the Domino REST API. Default authentication uses the user name and Internet password of the person document.
- **Healthcheck Port – 8886**
 - Used to verify whether Domino REST API is up using the /health endpoint. It has its own functional account that does not provide access to other ports.
- **Management Port – 8889**
 - Provides access to the Domino REST API runtime behavior, such as current config (/config), runtime info (/info) or Domino REST API shutdown/restart. Recommended that the port is blocked and accessed only from localhost. It has its own functional account that does not provide access to other ports.
- **Prometheus Port – 8890**
 - Provides metrics in Prometheus format. It has its own functional account that does not provide access to other ports.

DRAPI Ports



Note: DRAPI does not use Domino's HTTP or TLS cache

Domino REST API

Configuration



Functional Accounts

- Functional accounts defined in JSON
- All JSONs go to keepconfig.d
- Shhhhh – It's a secret

```
{  
  "identity": {  
    "managementAPI": {  
      "Doctor Notes": {  
        "active": true,  
        "secret":  
        "E4B321EBA91B7F92D9BF5EAFA5322824FEC2287B8A6C133D7C31EFB706A2BA30:1A57478  
185E7AF3A98F01ECA08F0BA881DBC88BEC60AE8C6F1B1CC5CC55C11A20F676E082BF2D28B  
B96DB5A8CFB091C767C035B380DB4CBC7D1001EA8BE01663"  
      }  
    }  
  }  
}
```

Management Console



HCL Domino REST API

Management console

Salt this:

Salt

Desalinate this:

Guess:

Desalinate

Certificate Name:

Create IdP Certificate

Shutdown

Reload

Logs

Config

Config src

Info

Routes

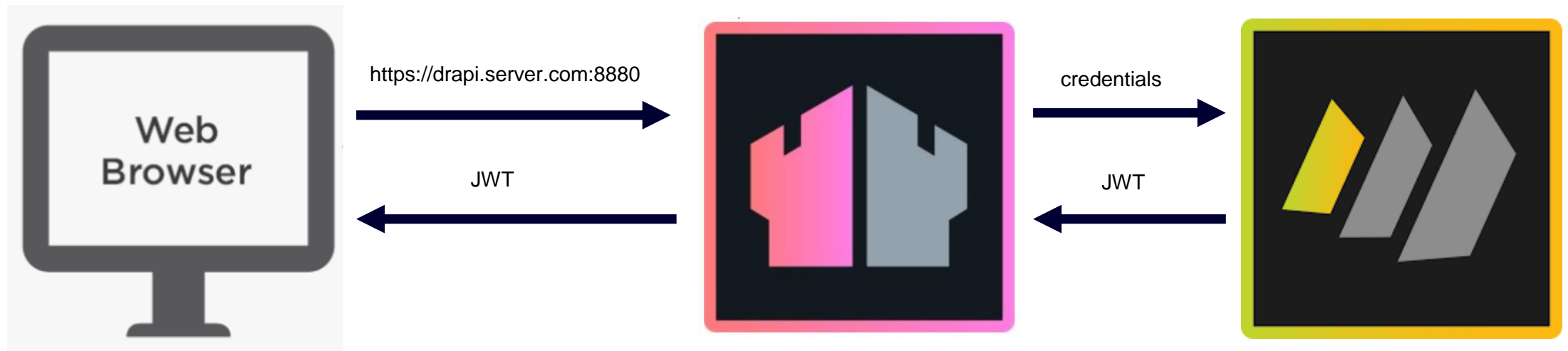
EventBus


Console

Threads

Java Web Token

- Default – random, one Domino server



 **HCL Domino REST API**
Management console

Salt this:

Salt

Desalinate this:

Guess:

Desalinate

Certificate Name:

Create IdP Certificate





Shutdown

Reload

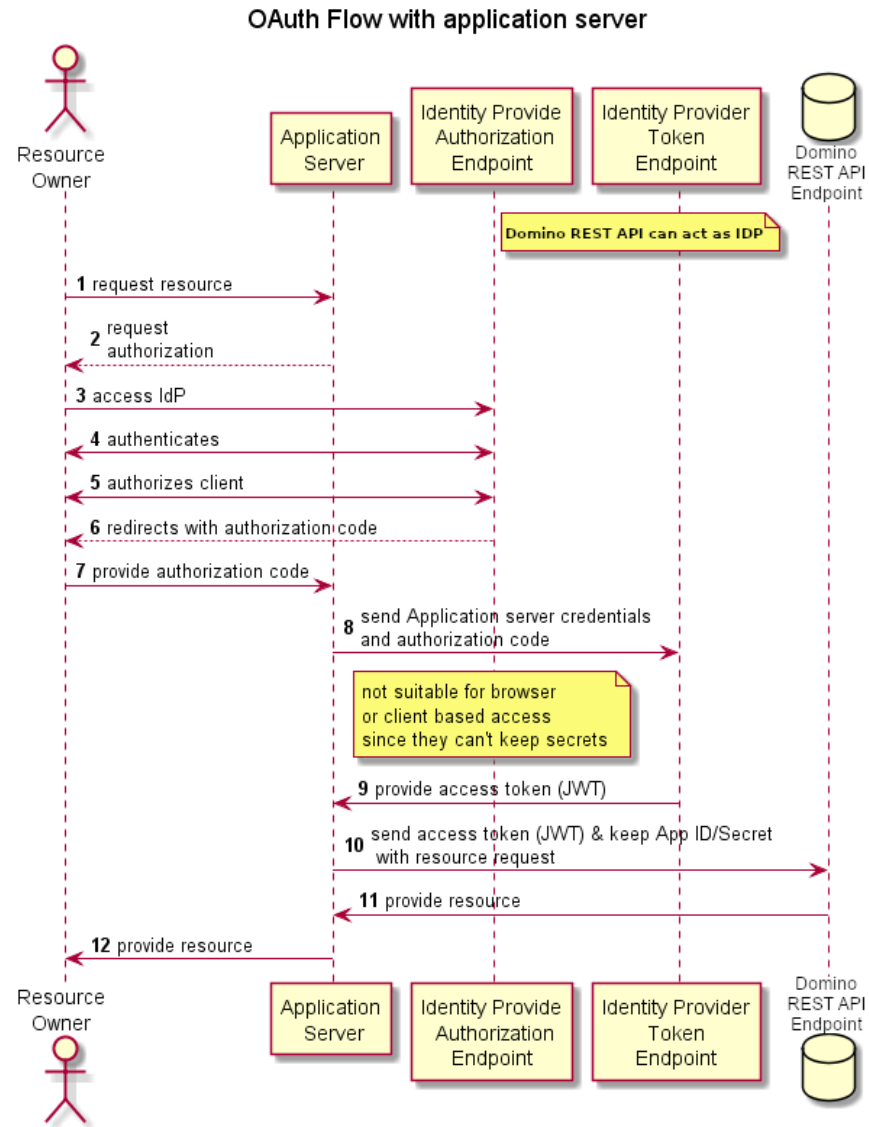
Created AdventureCompany

- Permanent JWT
 - Copy files to other Domino servers
 - Accept JWT from external provider

This PC > Local Disk (C:) > Domino > Data > keepconfig.d

Name	Date modified	Type
 AdventureCompany.cert.pem	10/17/2023 10:28 ...	PEM File
 AdventureCompany.json	10/17/2023 10:28 ...	JSON File
 AdventureCompany.private.key.pem	10/17/2023 10:28 ...	PEM File
 AdventureCompany.public.key.pem	10/17/2023 10:28 ...	PEM File

Let's Dance



Configuring OAuth

- Update oauth.nsf database ACL
 - Add server to OAuthAdmin role

- Create oauth JSON file
 - keepconfig.d folder

```
{
  "oauth": {
    "active": true,
    "database": "oauth.nsf",
    "url": "http://rock.adventure.com:8880",
    "authCodeExpiresIn": 120,
    "accessTokenExpiresIn": 3600,
    "refreshTokenExpiresIn": 525600
  }
}
```

DRAPI Databases Configuration

- ✓ **Create LocalKeepAdmins group**
- ✓ **Update DRAPI databases' ACLs**
 - Domino Keep Agent Scheduler
 - ✓ Default Reader, change to No Access
 - ✓ LocalKeepAdmins - Editor
 - Domino Keep Oauth
 - ✓ Default Author, delete flag disabled
 - Domino Keep Configuration
 - ✓ Default Reader
 - ✓ LocalKeepAdmins - Editor
- ✓ **Sign DRAPI databases**

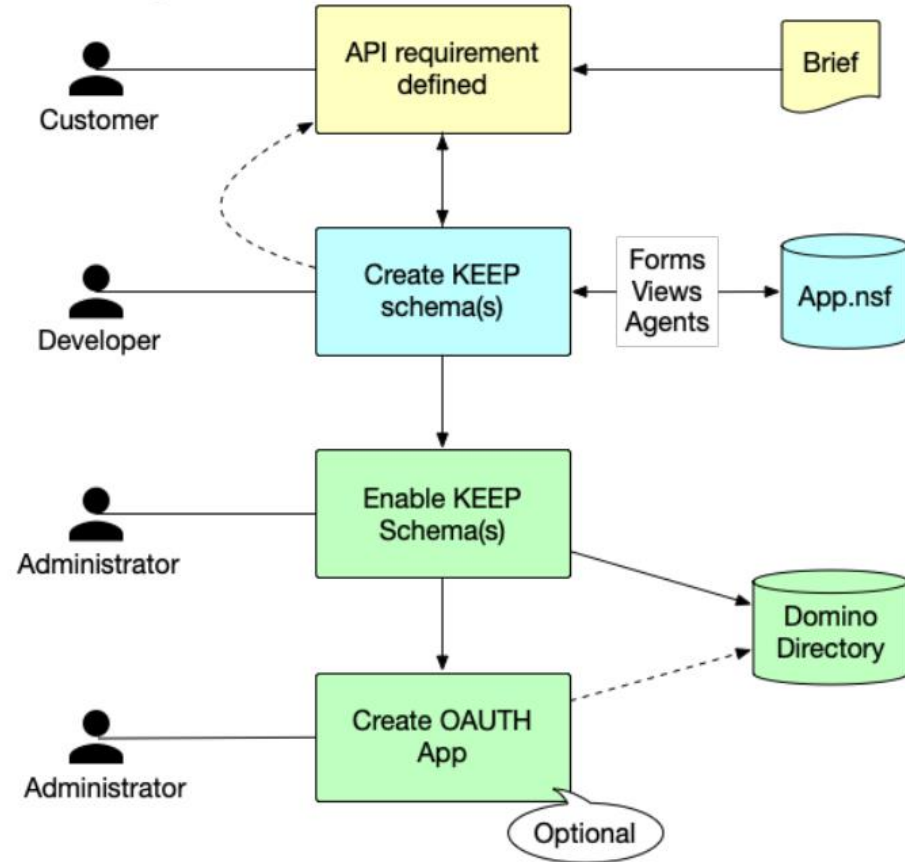
Access list group : LocalKeepAdmins

Basics | Comments | Administration

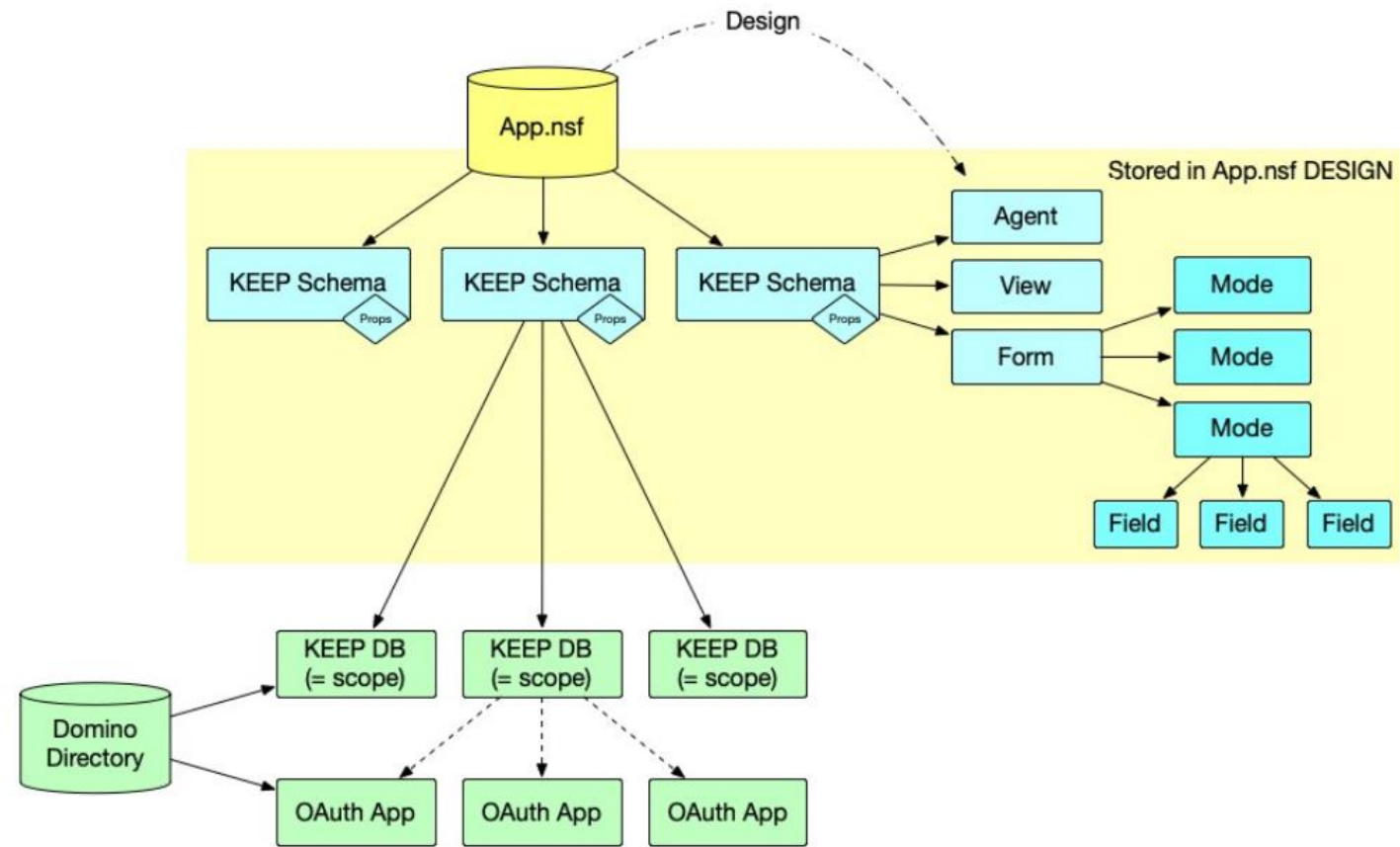
Basics

Group name:	LocalKeepAdmins
Group type:	Access Control List only
Category:	
Description:	
Auto Populate Method:	None
Members:	Doctor Notes/Adventure

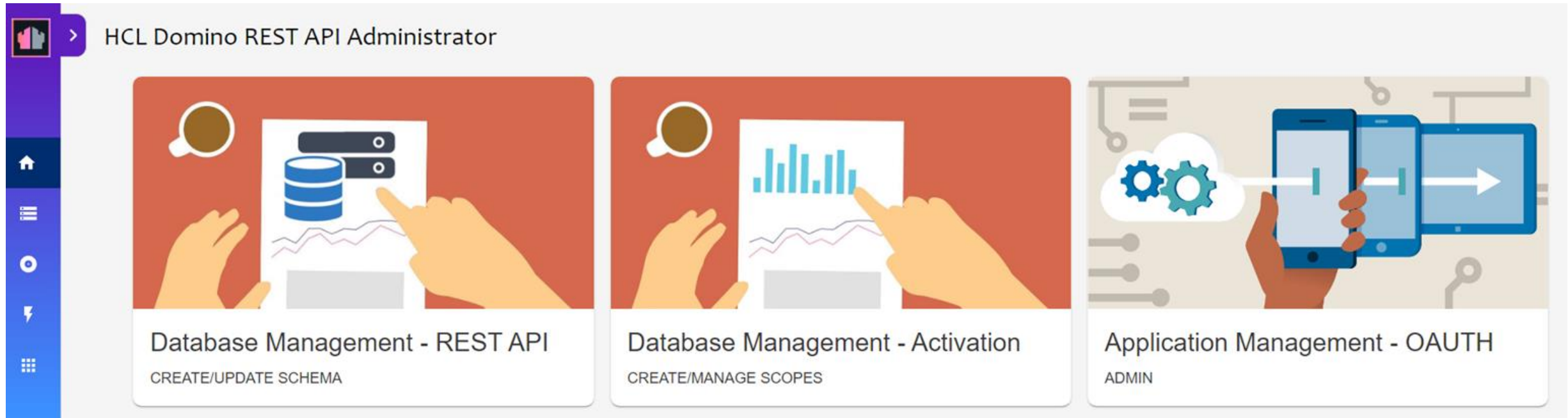
Exposing Domino Databases



Schema, Scope, OAuth application




Using Admin UI to create Schema, Scope, Oauth Application




Dev to Prod Promotions

Add New Schema



Import Schema

Import new schema from file



Create Schema

Create your own schema

DRAPI and Domino Clusters

- Load balancer/proxy
- restapi on cluster members
- Replicate keepconfig.nsf and oauth.nsf

DRAPI Resources for learning more

- [HCLU Domino REST API for Domino Admins](#)
- [Discord domino-rest-keep | OpenNTF](#)
- [Domino Administrators - What You Need to Know About the Domino REST API blog series](#)
- [Power BI, Domino and Domino REST API by Theo Heselmans](#)
- [Welcome - HCL Domino REST API Documentation \(hcltechsw.com\)](#)

Common Production Q&A

- *413 Request Entity Too Large* error when trying to POST an attachment to the Domino REST API
- How to Upgrade the Domino REST API
- How to add a corporate logo to the OAuth consent screen
- How to enable the Domino Directory for Domino REST API access
- How to create a Domino database using Postman and DRAPI
- Can I use the same IdP between Domino and DRAPI with oidc-idpcat

Answers to these and more: [Welcome - HCL Domino REST API Documentation \(hcltechsw.com\)](https://hcltechsw.com/welcome)



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