





Project KEEP: A New Chapter



Paul Withers, HCL Labs





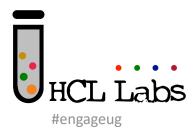


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Paul Withers

- Associate Director, HCL Labs
- Lifetime IBM Champion
- Former HCL Ambassador
- OpenNTF Board Member









FAQS

- Volt MX offering, Domino entitlement (CCB / CCX)
 - Domino version numbering dropped
- Delivered by Volt MX, not Domino
- Separate installation
- Domino task
- Log4J and all dependencies updated
 - We don't want technical debt
- Documentation online <u>docs</u> and <u>tutorials</u>
- Next beta available TOMORROW



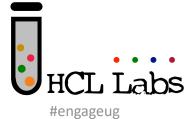






KEEP objectives

"Make Domino development and access available to a broad audience with diverse development backgrounds. Keep the barrier to entry low without sacrificing enterprise and container deployability. Ensure access control through declaration on the server and its databases, relieving end-user applications from that task"

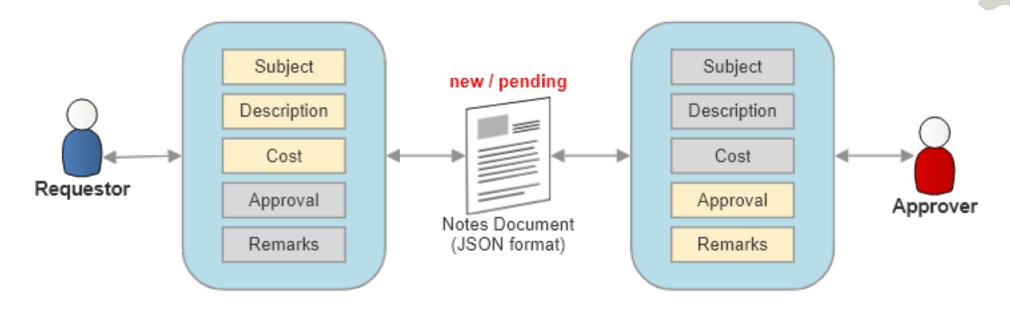






Granular Access

REST API access focused on Domino developers





Read / Write Read only

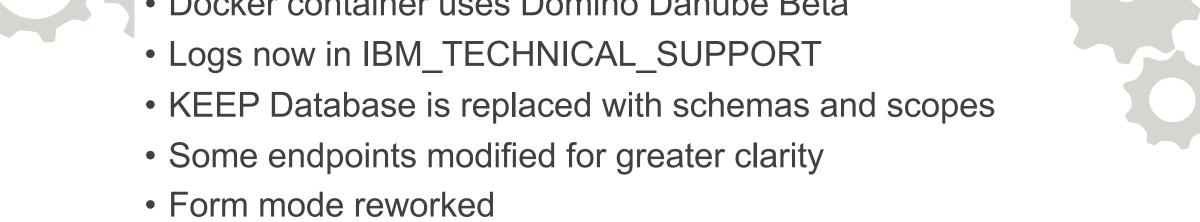




What's New?



- Updated REST Configuration UI
- OAuth IdP functionality
- Extended info in JWT token
- New endpoint /listpivot
 - Updated templates









KEEP Database Schemas and Scopes

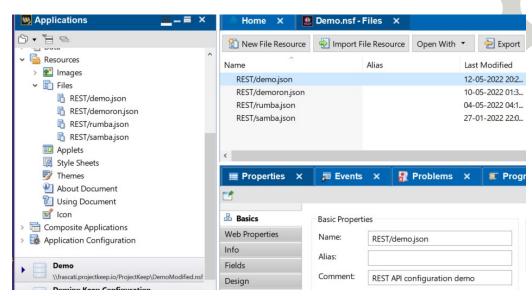
Schema (Configuration)

- Configuration for an NSF Forms, Views, Agents, DQL
- Stored as a .json File Resource in relevant NSF
- Potential for community to create an editor?

Scope (Access)

- Stored in KeepConfig.nsf (Domino Directory for GA, Next to Internet Sites)
- Managed by an Administrator
- Part of the URL that will be used externally



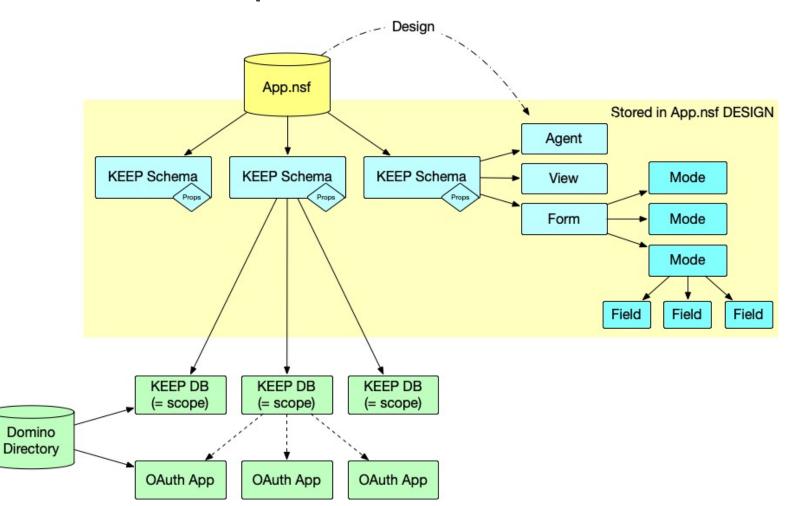








Schemas and Scopes



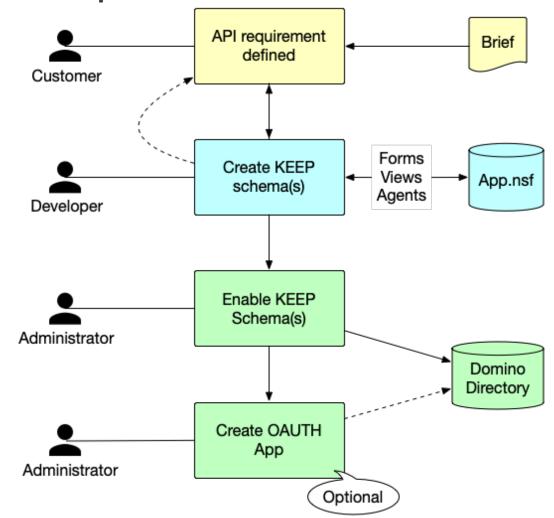


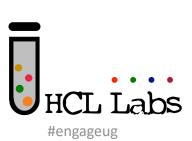




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Division of Responsibilities











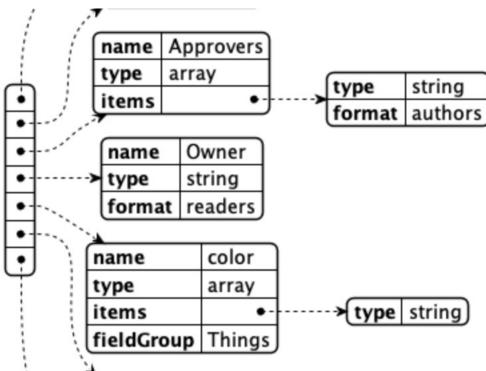


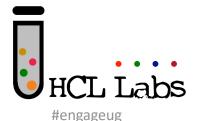
Fields



Fields follow the ideas proposed by <u>JSON schema</u>

 Intention is to be able to follow constraints available in JSON schema



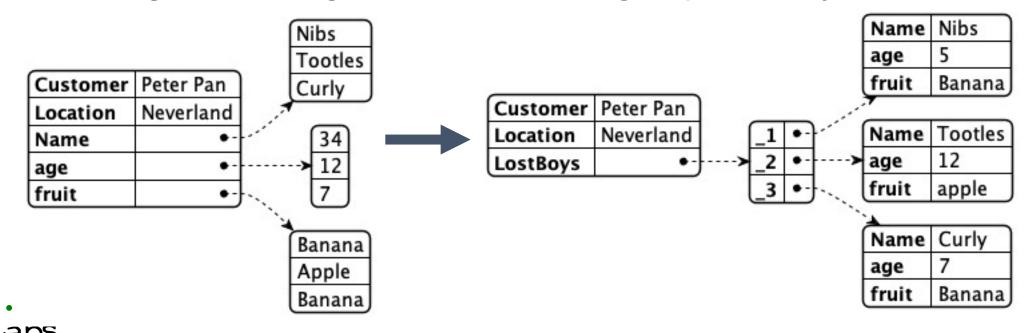






Field groups

- Designed to handle multi-value where values at a particular index form a record
- Assign Name, age and fruit to field group LostBoys

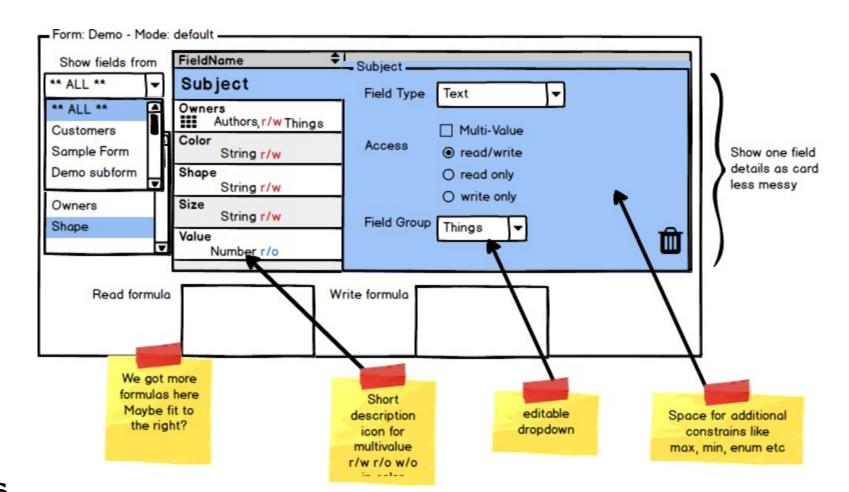








UX WIP – Hot Off The Press!









API Endpoint Changes

Old Endpoint	New Endpoint
?db	?dataSource
/admin/databases	/admin/access POST + body params
/admin/database	/schema
/admin/database/{scope}	/schema?configName={schema}&nsfPath={path}
/databases	/scopes – get all scopes for a database
	/scope – get schema for a scope
	/admin/scope – Create/update a scope
/admin/database/{scope}/{formName}	/scope/form/{form}
	/scope/mode/{form}/{mode}



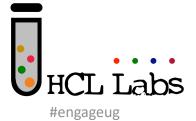




OAuth IdP

• Enabled with oauth.json in [datadir]/keepconfig.d on server

```
"oauth": {
    "active": true,
    "database": "oauth.nsf",
    "url": "https://mykeepserver.com",
    "authCodeExpiresIn": 120,
    "accessTokenExpiresIn": 3600,
    "refreshTokenExpiresIn": 525600
}
```





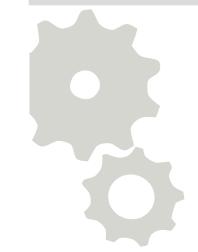


Keep Application

- KEEP application defines an OAuth application
- Created by KEEP Admin, defines scopes enabled
- Has client ID and secret

```
"client_name": "My App",
  "client_uri": "https://www.projectcastle.io/coolapp",
  "contacts": [
        "admin@projectcastle.io"
],
  "description": "Super cool demo App",
  "logo_uri": "https://www.projectcastle.io/castle.jpg",
  "redirect_uris": [
        "http://localhost/callback",
        "https://domino.projectcastle.io/identity",
        "https://www.projectcastle.io/oauth"
],
  "scope": "demo $DECRYPT",
  "status": "isActive"
}
```



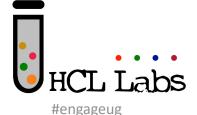






OAuth IdP

- KEEP presents the OAuth authorization screen
- Each OAuth application can store multiple scopes
- During OAuth dance, if application requests undefined or invalid scope, request is denied
- \$DATA gives access to any data-related scope set up
- OAuth application is responsible for passing name that matches ACL
- oauth.nsf holds Authorizations from third parties









JWT Token Extensions

- "sub" holds primary name in ACL
- "names" added to hold groups

```
"claims": {
    "iss": "Domino KEEP RANDOM",
    "sub": "CN=Domino Admin/0=Stark Industries",
    "scope": "MAIL $DATA $DECRYPT",
    "names": [
        "CN=Domino Admin/0=Stark Industries",
        "Domino Admin",
        "*",
        "*/0=Stark Industries",
        "LocalDomainAdmins"
]
},
```



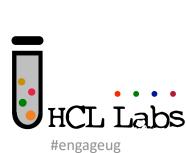






/listspivot/{name}

- Processes view data as a pivot table
- Uses a flat view
- Computes min, max, count and total of retrieved view entries
- pivotColumn query param defines column to pivot on
- All other view-related query params still available









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Domino Console Commands

Command	Effect
load keep	Start the Domino REST API
tell keep quit	End the Domino REST API
tell keep reload	Restart with new configuration
tell keep [show] info	Show loaded components (geek stuff)
tell keep [show] config	Show current configuration
tell keep [show] status	Show version information and state



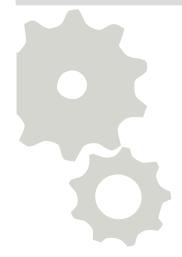






KEEP Application Hosting

- keepweb.d can host JS web applications
- WebJars can also be hosted through KEEP
 - Include on classpath
 - config.json to specify route
 - webapp > webjars



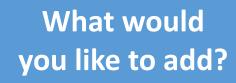






Future Plans

- More APIs
- Volt MX Adapter for Domino
- RichText to Markdown conversion
- More RichText support
- Move scopes to Domino Directory
- Scope creation, activation, deactivation from Domino directory
- More tell keep commands





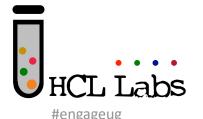






- No direct upgrade path!
- Backup a copy of KeepConfig.nsf, then remove from server
- Remove keep templates
- Update container













- Contributions welcome
- Use Issues on repo, with tag "functionality"
- Tutorials online
 - Contributions welcome
- Channel on OpenNTF Discord?
- Videos?
- Regular drop-ins?
- Playbacks?





2:























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