

REPORTER using Mendix

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June 28, 2016

REPORTER Information

- Reporter.ncsu.edu or go.ncsu.edu/reporter
- Registration and Course/Event Management for Non-Credit Activities
- Product TimeLine
 - Purchased Mendix & Training - September 2015
 - Development Started - October 2015
 - Live with phase 1 in January 2016 - internal non-payment courses
 - Live with phase 2 in March 2106 - external paid courses

**PCI Compliant Environment
with special Rackspace / Mendix
environment setup

[ITSAC REPORTER Presentation](#)

The screenshot displays the REPORTER web application interface. At the top, there is a navigation bar with the following tabs: MY COURSES (active), INSTRUCTOR, MY TEAM, MANAGE COURSES, FINANCES, and COURSE ROSTERS. Below the navigation bar, the main content area is divided into two sections. The first section, titled 'Upcoming Courses' with a calendar icon, states 'You are currently registered for the following courses:' and lists a single course entry. The second section, titled 'Pending Items' with a flower icon, is currently empty and labeled 'Tagged Courses'.

MY COURSES					
INSTRUCTOR					
MY TEAM					
MANAGE COURSES					
FINANCES					
COURSE ROSTERS					
Upcoming Courses					
You are currently registered for the following courses:					
6/28/2016	EAS-101	000001	IT Community Exchange: REPORTER and the Mendix aPaaS	View Details	
Pending Items					
Tagged Courses					

Mendix Information

- www.mendix.com
- Application Platform as a Service
- Develop from the Modeler
 - Download Modeler
 - Developers > App Store > Modeler
 - Branch / Domain Model Management
- App Store
- Cloud Deployment Portal
- Theme Design
 - <https://ux.mendix.com/theme-creator.html>
- 'Citizen' Developers
- One-click Deployments

Deployment Package Repository

[Create package from teamserver](#)[Upload](#)[Delete](#)

DEPLOYMENT PACKAGE NAME	VERSION
✓ Main line-1.0.0.1988.mda	1.0.0.1988
✓ Main line-1.0.0.1981.mda	1.0.0.1981
✓ Main line-1.0.0.1979.mda	1.0.0.1979



Environments

Test	Name:	Version:	Runtime:
✓	Main line-1.0.0.1981.mda	1.0.0.1981	5.21.4
✓	hotfix_6_23_16-1.0.0.1974.mda	1.0.0.1974	5.21.4
✓	hotfix_6_23_16-1.0.0.1974.mda	1.0.0.1974	5.21.4



App Store

 **mendix** App Store

Search...



Featured

Applications

Add-Ons

Modeler

Partners

My App Store

Add App Store Content

Featured

[View more](#)



Company Expenses

★★★★★ (6)



Employee



Survey Builder DX

★★★★★ (2)



Telco F

Run Locally

View App

English, United States (default)

Navigation

App Store

Home

Back

Forward

Show: All apps

Search

Categories

Widgets

Themes

Applications

Modules

Layouts

App Services

Connectors

New

Login form

Created by: Mendix

Gives your website users the opportunity to login to your website from a customized page!

Pivot Table Widget

Created by: Synobsys

Create a pivot table using a list of objects.

The number of rows and columns is not set using properties but determined from the actual data.

Tags: dynamic , grid

Document Viewer

8 reviews

Pricing: Free

Type: Widget

Downloads: 4413

Read more

1 review

Pricing: Free

Type: Widget

Downloads: 324

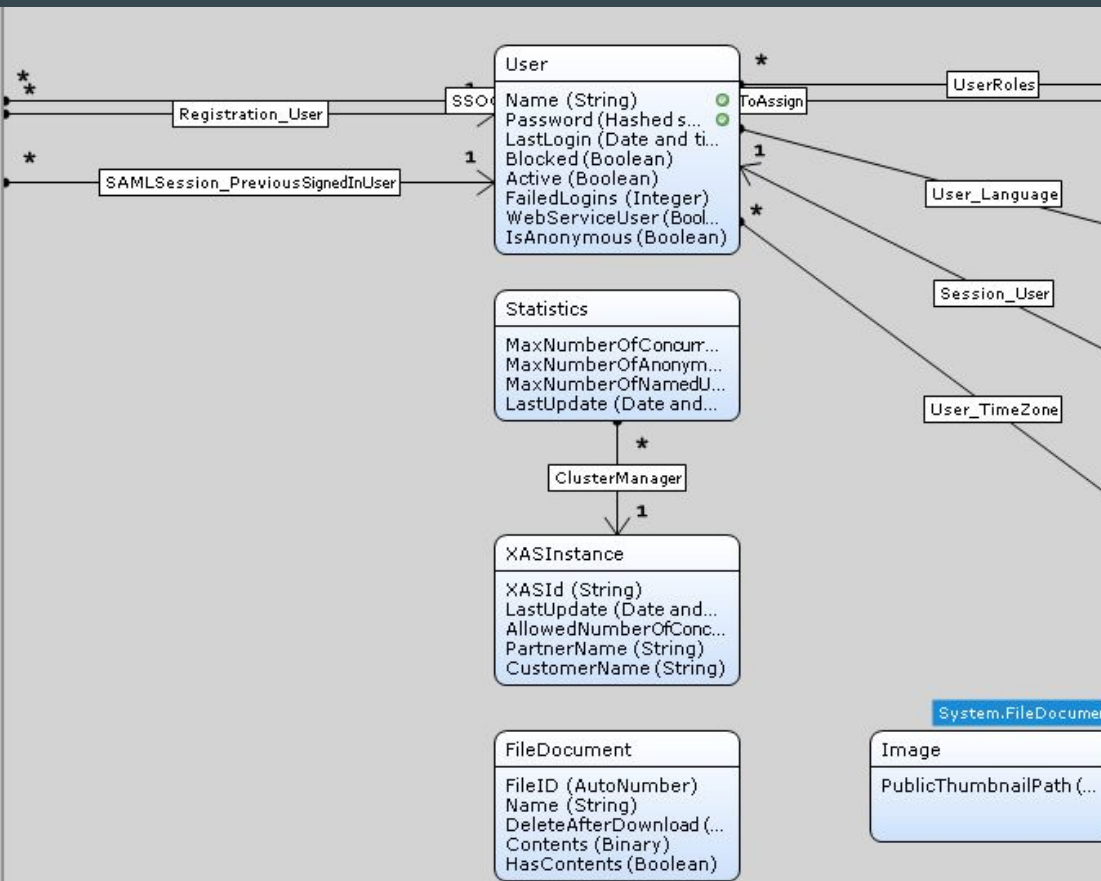
Read more

5 stars

REPORTER Using the Mendix Cloud

- PostgreSQL Database
- App Store Modules Used for REPORTER
 - Deeplink - link directly to content pages
 - SAML/SSO
 - Flat File Interface
 - Email Templates
 - Data Extraction
 - FTP/SFTP
 - Excel Importer
 - Google Maps
- Custom Integrations
 - Nelnet
 - Moodle
 - Shibboleth
 - PeopleSoft HR/Fin/SIS

Modeler - Domain Model



Properties of Entity 'System.User'

General

Name:

Generalization:

Image:

Persistable: ☒ Yes ☐ No

Objects of this entity can only be stored in the database if it is persistable.

System members

- ☒ Store 'createdDate'
- ☒ Store 'changedDate'
- ☒ Store 'owner'
- ☒ Store 'changedBy'

Attributes

View

Name	Type	Default value	Microflow
Name	String (100)		
Password	Hashed string		
LastLogin	Date and time		
Blocked	Boolean	false	
Active	Boolean	true	
FailedLogins	Integer	0	
WebServiceUser	Boolean	false	
IsAnonymous	Boolean	false	

Timezone (Entity): Attributes include Code (String), Description (String), and RawOffset (Integer).

Modeler - Domain Model














Access rights **XPath constraint**

Create and delete rights

☒ Allow creating new objects ☒ Allow deleting existing objects

Member read and write rights

Default rights for new members ☐ None ☐ Read ☒ Read, Write

Member	Access rights
 CourseIDIndicator (String (5))	Read, Write
 CourseIDNumber (String (8))	Read, Write
 CourseIDFull (String (32))	Read, Write
 Status (Enumeration 'Active_Inactive')	Read, Write
 OfficialTitlePlain (String (500))	Read, Write
 WorkingTitlePlain (String (500))	Read, Write
 OpenRestricted (Enumeration 'Open_Restricted')	Read, Write
 CourseDescriptionHTML (String (unlimited))	Read, Write
 CourseDescriptionPlain (String (unlimited))	Read, Write
 CourseNotes (String (unlimited))	Read, Write
 Visibility (Enumeration 'Visibility')	Read, Write
 URL (String (1000))	Read, Write
 InstructionalHours (Decimal)	Read, Write

Set all to

Attributes	Associations	Validation rules	Event handlers	Indexes	Access rules
New Rename Delete					
Name	Type	Owner	Parent	Child	
ApprovedInstructors_Course	Reference	Default	DataAdministration.ApprovedInstru...	DataAdministration.Course	
AuditInformation_Course	Reference	Default	DataAdministration.AuditInformation	DataAdministration.Course	
Comments_Course	Reference	Default	DataAdministration.Comments	DataAdministration.Course	
Course_Category	Reference	Default	DataAdministration.Course	DataAdministration.Category	
Course_CourseCreator	Reference	Default	DataAdministration.Course	UserManagement.Account	
Course_CourseOwnerSearch	Reference	Default	DataAdministration.Course	UserManagement.Account	
Course_CourseOwnerToUpdate	Reference	Default	DataAdministration.Course	UserManagement.Account	
Course_Department	Reference	Default	DataAdministration.Course	DataAdministration.Department	
Course_Instructor_Search	Reference	Default	DataAdministration.Course	UserManagement.Account	
Course_OtherUnit	Reference	Default	DataAdministration.Course	DataAdministration.Unit	
Course_Prefix	Reference	Default	DataAdministration.Course	DataAdministration.Prefix	
Course_PreRequisite_AND	Reference	Default	DataAdministration.Course	DataAdministration.PreRequisiteNC...	
Course_PrimaryUnit	Reference	Default	DataAdministration.Course	DataAdministration.Unit	
Course_SASFile	Reference	Default	DataAdministration.Course	DataExtraction.SASFile	
Course_SecondaryUnit	Reference	Default	DataAdministration.Course	DataAdministration.Unit	
Course_SubCategory	Reference ...	Default	DataAdministration.Course	DataAdministration.SubCategory	
Course_TaggingContainer	Reference	Default	DataAdministration.Course	Registration.TaggingContainer	
CourseDocument_Course	Reference	Default	DataAdministration.CourseDocument	DataAdministration.Course	
CoursePrereq_Course	Reference	Default	DataAdministration.CoursePrereq	DataAdministration.Course	

Access rights **XPath constraint**

XPath constraint (used to constrain read, write and delete rights)

Append constraint:

```
[DataAdministration.Course_CourseCreator='[%CurrentUser%]'  
or  
System.owner='[%CurrentUser%]'  
or DataAdministration.OtherCourseOwner_Course/DataAdministration.OtherCourseOwner/DataAdministration.OtherCourseOwner_Account = '[%CurrentUser%]']
```

A screenshot of a web application interface. At the top, a breadcrumb trail shows a folder icon followed by the text "[Course, caller of the page]". Below this, a large orange-bordered box contains the text "{2} - {1}". The main content area features a sidebar on the left with a folder icon and a list of tabs: "Course", "Instances", "Assign Participant", and "Manage". The "Course" tab is selected. The main content area displays a snippet titled "[DataAdministration.CourseContent_Snippet]" with a small icon. Below the title, there is a "View" button. A "Details" section is visible, containing two entries, each with a blue icon and the text "BootstrapTooltip".

Edit Action Button 'actionButton13' of Data Grid 'grid12'

General
 Caption: Edit...
 Tooltip:
 Icon: (none) Select...
 Button style: Default
 Is default button: ☒ Yes ☐ No
 Visibility: Default Edit...

Events
 On click: ☐ Do nothing ☐ Show a page ☒ Call a microflow
 Microflow: Select... Show
 Microflow settings: Edit...

Common
 Name:
 Class:
 Style:

OK Cancel

Modeler - Page Creation

[ExternalPartnerEntity, caller of the page]

25%	75%
Affiliate Group Name	[PartnerEntityName]
Affiliate Description	[PartnerEntityDescription]

[AffiliateEmailDomains, over association 'AffiliateEmailDomains_ExternalPartnerEntity']

New

Edit (default)



Email domain

[EmailDomain]

100%

(10 more rows)

Edit Text Box 'textBox5'

General Common

General

Show as password ☐ Yes ☒ No

Input mask

Maximum length ☒ Attribute length ☐ Unlimited ☐ Custom

Custom maximum length

Placeholder text

Required ☐ Yes ☒ No

Required message

Data source

Attribute (path)

Label

Show label ☒ Yes ☐ No

Label caption

Editability

Editable ☒ Never (inherited)

Visibility

Visible

Events

On change

On change settings

On enter

On enter settings

On leave

On leave settings

Save

Cancel (close)

Modeler - XPath Constraints

Ex: Only show orders to the Financial Admin of that department and order is not cancelled:

```
[Registration.Registration_Order/Registration.Registration.Registration_Course/DataAdministration.Course/DataAdministration.Course_Department/DataAdministration.Department/DataAdministration.FinancialOfficer_Department/DataAdministration.FinancialOfficer/DataAdministration.FinancialOfficer_Account = "[%CurrentObject%"]]
```

```
[OrderStatus != 'Cancelled']
```

The screenshot shows the 'Edit Template Grid' dialog box in SAP SuccessFactors. The 'Data source' tab is active, showing the following configuration:

- Data source Type:** Database (selected), Association, Microflow
- Entity (path):** DataAdministration.Course
- Show search bar:** Always
- Wait for search:** Yes (selected), No
- XPath constraint:**

```
[Status = 'Active']
[Visibility = 'Publish_to_Public_Course_Catalog']
```
- Apply context:** Yes, No (selected)

The dialog also includes a table for error reporting with columns 'Line', 'Column', and 'Error', and buttons for 'OK' and 'Cancel'.

```
[RegistrationEndDate >= '[*EndOfCurrentDay*]']
[StartDateDisplay >= '[*EndOfCurrentDay*]' or (StartDateDisplay < '[*EndOfCurrentDay*]' and Format = 'Online' )]
[HasWolffwareComponent = false() or (HasWolffwareComponent = true() and WolffwareSetupComplete = true())]
[Visible = 'Publish_to_Public_Course_Catalog']
[Status = 'Active']
```

Modeler - Microflows

Retrieve Objects

Retrieve

Source ☒ By association ☐ From database

Association `$AccountPasswordData/AccountPasswordData_Account`

Output

Type `UserManagement.Account`

Name `Account`

Exclusive Split

Common

Caption `Passwords equal?`

Exclusive Split Type ☒ Expression ☐ Rule

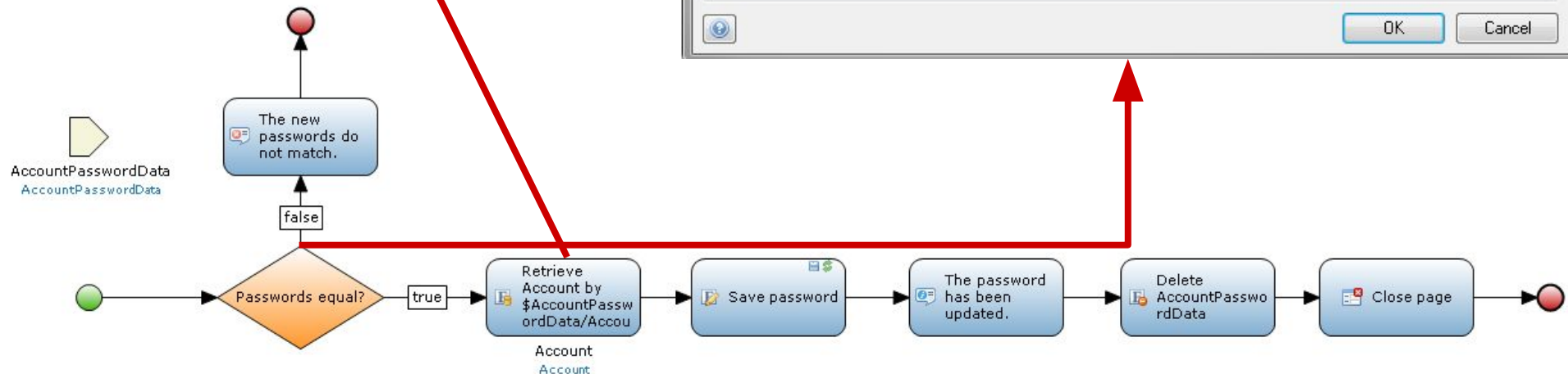
Expression

`$AccountPasswordData/NewPassword = $AccountPasswordData/ConfirmPassword`

Expression wizard...

Line	Column	Error
------	--------	-------

OK Cancel



REPORTER Challenges using Mendix in the Cloud

- No direct access to the database
 - Created custom data reports online and will be using SAS for ad-hoc reporting.
 - Data can be pulled real-time using web-services
 - Data updates done via online pages or special microflow processes
- Branch management
 - Staying in sync as the development team grows and changing priorities.

Mendix Going Forward @ NCSU

- June 2016 - Bought additional licenses to support new applications. NCSU has the right to mix and match these environment sizes:
 - Small - ≤ 250
 - Medium - ≤ 3000
 - Large - unlimited users
- Lab Management Application
 - Working with ORIED and several laboratory managers, started the discovery sessions on an application for scheduling, billing and managing research labs on campus.
 - Working with UPenn, where they are live with a similar application.
- Mendix 7 - Browser based Modeler.
 - <https://www.mendix.com/application-platform-as-a-service/mendix-7-release/>

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