

Fusion: JavaScripting and Data Integration

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Class summary

Scripting Data between Workspaces

Auto-transition Workflows

Conditional Scripting to Utilize Outstanding Work

Integrating Data with Jitterbit

HTTP Requesting

Scripting Within Jitterbit

Key learning objectives

At the end of this class, you will be able to:

- Pass data between work spaces using Custom Scripts
- Allow certain Users to Push Workflow Transitions
- Use Library Scripts
- Build an HTTP Request
- Build Operations in Jitterbit environment
- INSERT/UPDATE data using Jitterbit



Setting Data in Workspace with JavaScript

Data Objects in Fusion

Front End

Project Number	PRJ01324
Job Number	X0877
House Order Number	
Job Name	Richmond
Customer Service	Meridith Kelly

Back End

Field name	<input type="text" value="Job Number"/>
Field ID	<input type="text" value="JOB_NUMBER"/>
Field description	<div></div>
Data Type	<div>Single Line Text</div>
Visible on preview	<input type="checkbox"/>



Setting Workspace Data with Script

- Access workspace Items using Dot Notation
- Field ID is used to access data object
- Set or Get data

Dot Notation

Access an objects properties or data

When referencing a data object use Dot Notation

Example:

Item.JOB_NUMBER;

Referencing Data Objects

Variables (var) used to easily access data or object

```
var today = new Date();
```

```
Item.SHIP_DATE = today;
```


Related Workspace

- Related workspaces easily pass data back and forth
- Tie all workspaces for job together
- Convenient access to all workspaces

▼ References (8 of 8)	
Related Customer Log	X0699 - METAL JUNKIES - Customer Log
Related Frame Building Quote	
Related Frame Building Order	X0699 - METAL JUNKIES
Related Schedule Process	SCD01204 - X0699 - METAL JUNKIES
Related Design Process	X0699 - METAL JUNKIES - DSP001094
Related Drafting Process	DRP001074 - X0699 - METAL JUNKIES

How to Relate Workspaces to One Another

1. Create a picklist of Related Workspace
2. Add a Field
3. Name the Field
4. Make it a PickList
5. Choose the Workspace in the PickList
6. Make sure it is a Link

Editing a Field		
<div>Save Cancel</div>		
Field name	<input type="text" value="Related Drafting"/>	The field name is used to identify the workspace field.
Field ID	<input type="text" value="RELATED_DRAFTING"/>	Automatic ID, and it must be unique.
Field description	<div></div>	Enter the description of the field. This description is visible to users who are creating the workspace.
Data Type	<div>Pick List</div>	Select a form type.
Visible on preview	<input type="checkbox"/>	If checked, the field is visible on the workspace preview.
Pick List Options	<div><div>[WS] BBS Drafting Process</div><div>New Picklist Edit Picklist</div><div>Item Descriptor</div><div><input checked="" type="checkbox"/> Display as link</div><div>Type: <div><div>Radio Button</div><div>Single Selection</div><div>Show first value as default</div><div>Retains Last Saved Label</div><div>With search filter</div><div>Multiple Selection</div><div>Latest Version</div><div>Filtered</div></div></div></div> <div>Select the Pick List. Select the workspace to be used as the default selection in the Pick List. Select a workspace from the available workspace list.</div>	

Working with Data located in Related Workspace

- Dot notation to set Related Workspace data
`item.RELATED_DRAFTING.JOB_NUMBER = "X0123"`
- Get Related Workspace Data
`var jobNum = item. RELATED_DRAFTING.JOB_NUMBER;`
- Get Related Workspace and set as variable
`var relDraft = item. RELATED_DRAFTING;`

Further down the line

- Using Related workspaces of Related Workspace
`item.RELATED_DRAFTING.RELATED_SCHEDULE.SHIP_DATE;`
- Use variables
`var relDraft = item. RELATED_DRAFTING;`
`var relSched = relDraft.RELATED_SCHEDULE;`

`relSched.SHIP_DATE;`

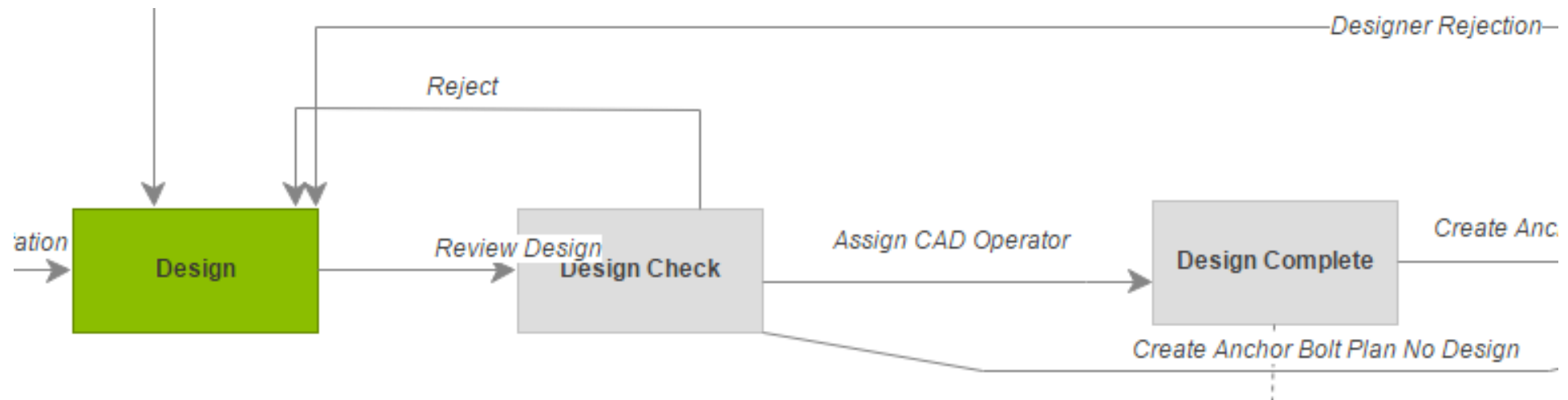
Requirements

- Data your setting is of same data type
- Field is not derived
- Related Workspace is editable by user running script
- Keep it simple

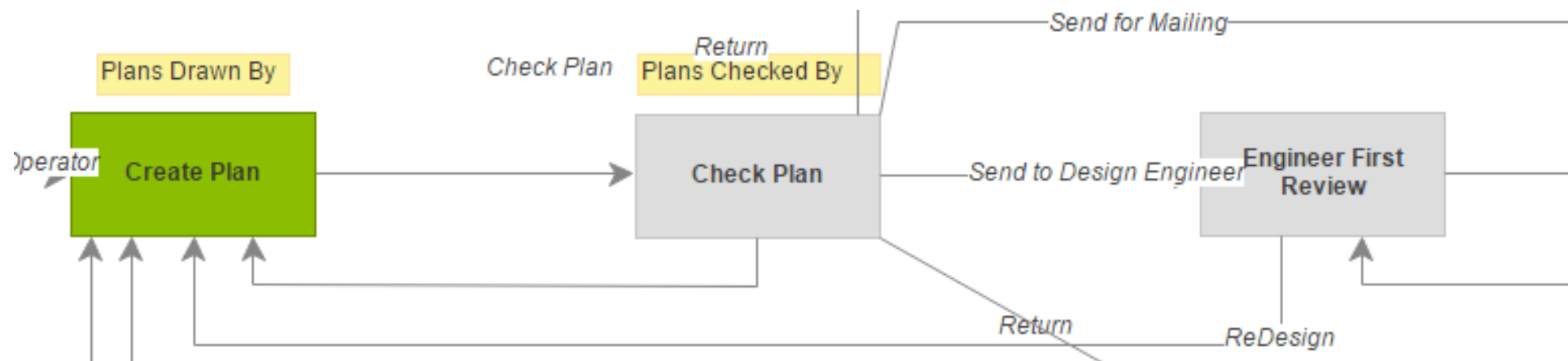
Scripting from Workflow

- Action scripts may Get or Set data
- Action scripts allow auto-transition
- Condition scripts inhibit users from pushing
- Condition scripts show in users outstanding work
- Validation allow push once conditions are met

Design Workspace



Drafting Workspace



Workflow Action Scripts

- Set Date of push in Workspace

```
var today = new Date();  
item.REVIEW_DATE.today;
```

- Push Related Workflow

```
var relDraft = item.RELATED_DRAFTING;  
var relTrans = relDraft.workflowActions[0].transition.transitionID;  
if(relTrans === 221){  
    relTrans.performWorkflowTransition(225, "Reviewed");  
}
```


Conditional script that allows certain user to push



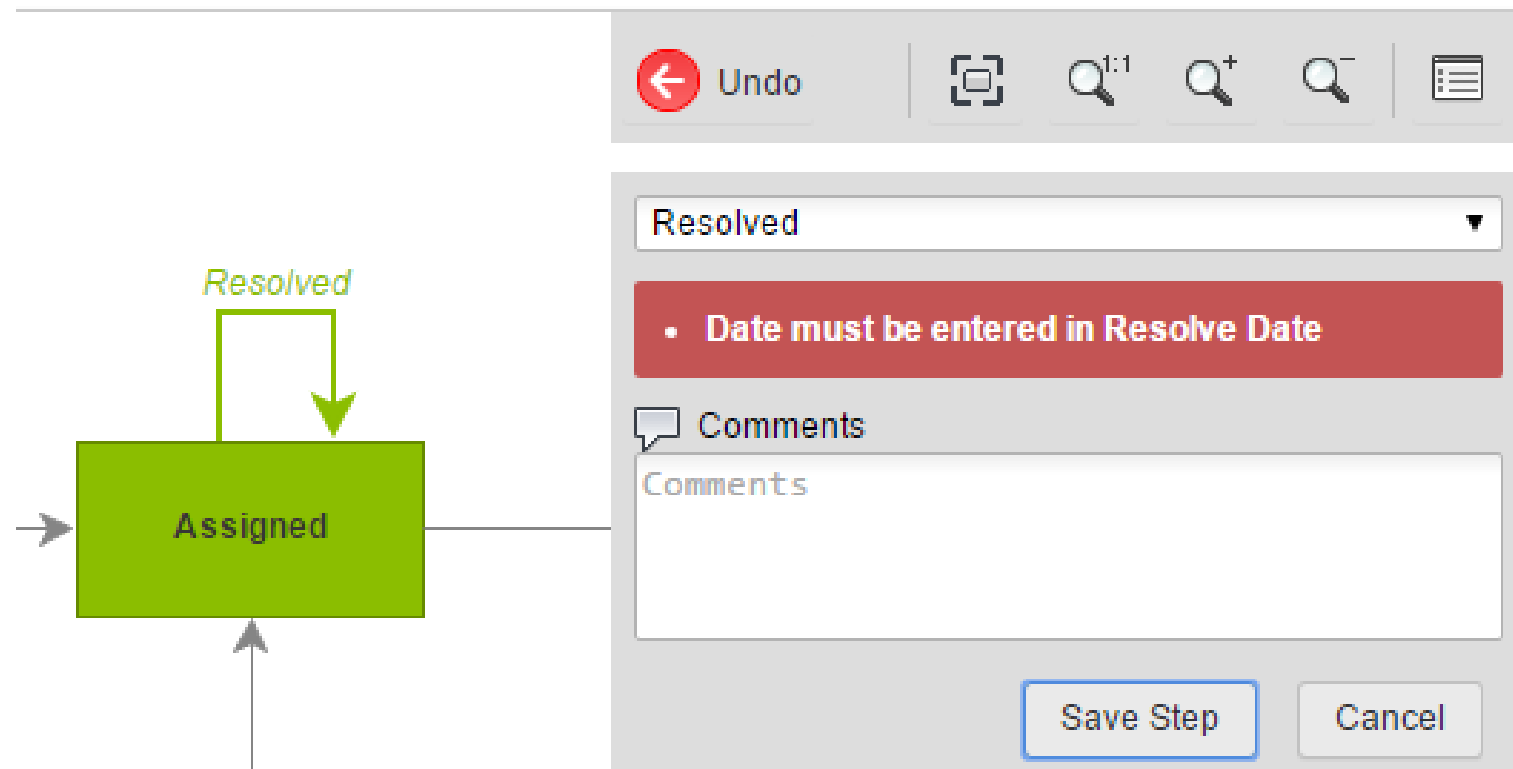
▼ General (2 of 8)

Project Status	Active
Branch	Columbus
Job Number	T00003
Sales Territory	
District Manager	
Customer Service Representative	Earley, Trenton
Customer Service Representative E-Mail	
Quoted by	Earley, Trenton
Quote Number	

Conditional Workflow Scripts

- Allow designated user to push
var allowedToPush = false;
var user = Security.loadUser(userID);
var username = user.lastName + ", " + user.firstName;
if(item.CSR == username){
 allowedToPush = true;
}
returnValue(allowedToPush);

Validation to not allow transition if conditions are not met














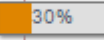


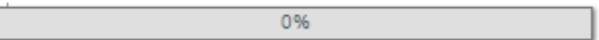
* Assigned To	Date Resolved
Earley, Trenton	
King, Tim	04/24/2016

Validation script in Workflow

- Allow transition if conditions are met
var message = [];
if(item.APPROVED_BY === null){
 message.push("Date Must be entered in Resolve Date");
}
returnValue(message);

Milestones Tab

▼ Project Items

#		Title/Item	Start	End	Duration	Pre	Status	% Complete	Timeline			
									Oct	Nov	Dec	Jan
1		 X0878 - Dean and Betty Boxberger	10/27/2016	10/29/2016	2d		Closed	100%				
2		 SCD01409 - X0878 - Dean and Betty Boxberger	10/28/2016	10/29/2016	1d		Review Project Dates	25%				
3		 OR001285 - X0878 - Dean and Betty Boxberger	10/29/2016	11/03/2016	6d		Final Approval	100%				
4		 X0878 - Dean and Betty Boxberger - DSP001287	11/04/2016	11/16/2016	12d		Anchor Bolt Plan Drafting Review	30%				
5		 DRP001263 - X0878 - Dean and Betty Boxberger	11/06/2016	01/12/2017	68d		Create Plan	0%				
Project Summary			10/27/2016	01/12/2017	78d			13%				



Setting Milestones

```
function createMileStones(WFstates, numDaysOffset, milestoneEvent, daysWarning){
    var today = new Date();

    var mStones = [];          //array to hold new milestones
    var mStoneDates = [];     //array to hold calculated milestone dates

    var i = 1; //increments the date offset multiplier

    //loop through the supplied workflow states and corresponding progress value
    for(var stateKey in WFstates){

        mStoneDates[stateKey] = new Date();
        mStoneDates[stateKey].setDate(today.getDate() + (numDaysOffset * i++));

        mStones[stateKey] = item.addMilestone();

        mStones[stateKey].setWorkflowState(stateKey);
        mStones[stateKey].milestoneType = milestoneEvent;
        mStones[stateKey].milestoneDate = mStoneDates[stateKey];
        mStones[stateKey].warnThreshold = daysWarning;
        mStones[stateKey].progress = WFstates[stateKey];
    }
    return;
```


createMilestonesStartDate()

```
if(item.milestones.length <=0){  
    var mStoneDef = [];  
  
    mStoneDef['Design'] = 30;  
    mStoneDef['Design Complete'] = 50;  
    mStoneDef['Mailing'] = 100;  
  
    var startDate = sched.DESIGN_START_DATE;  
    var completeDate = sched.DESIGN_COMPLETE_DATE;  
    var mailing = sched.ANCHOR_BOLT_PLAN_DATE;  
    createMilestonesStartDate(mStoneDef, startDate, completeDate, mailing, 0, 'ENTER', 1);  
}
```

```
function createMilestonesStartDate(WFstates, startDate, completeDate, mailing, numDaysOffset, milestoneEvent, daysWarning){
```

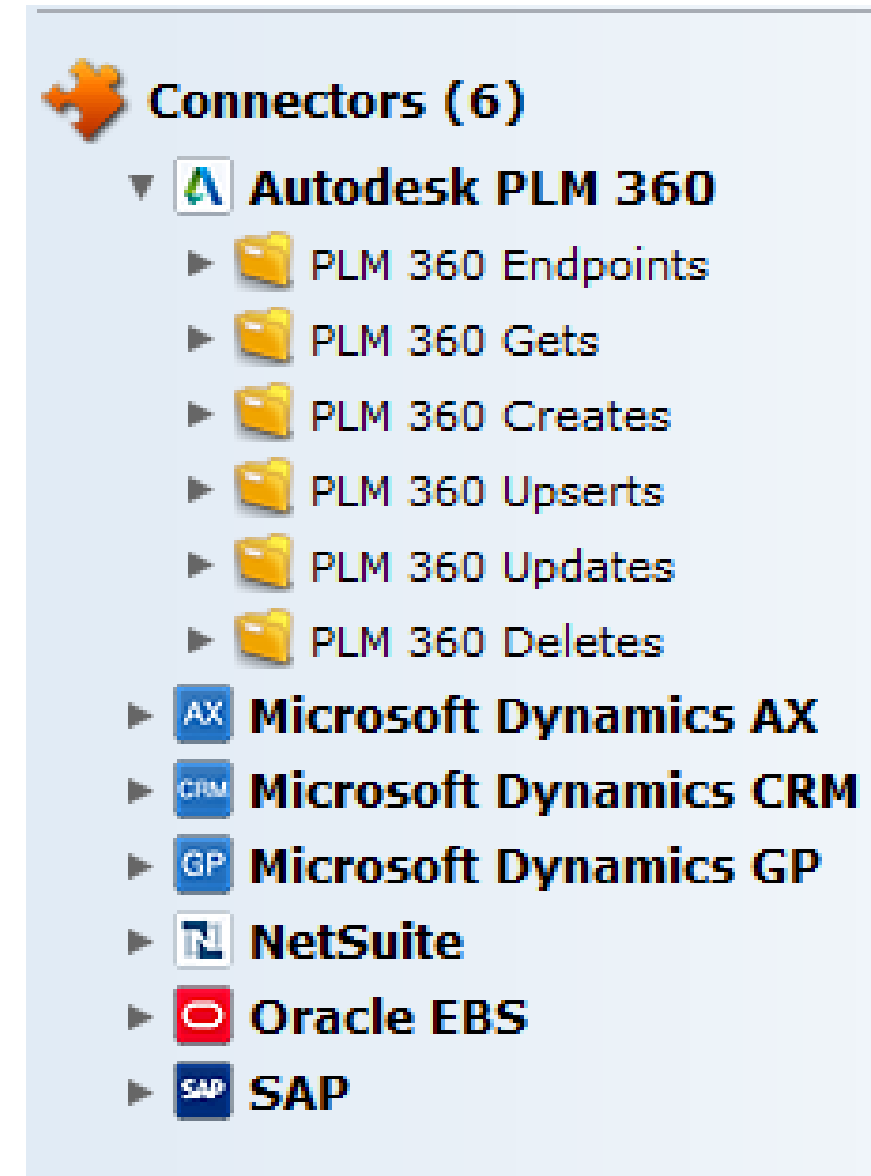
- Parameters passed to createMilestonesStateDate() function

Data Integration Using Jitterbit



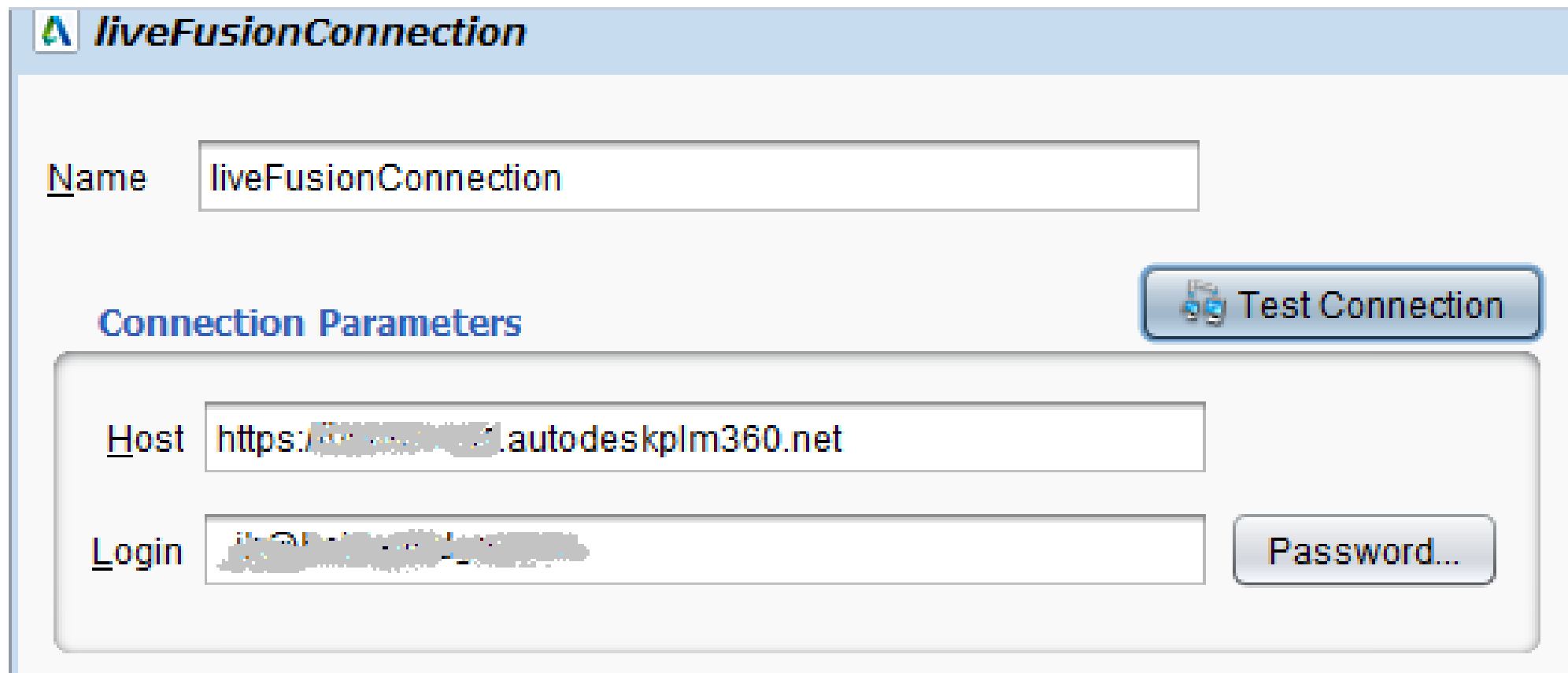
Jitterbit Connectors

- PLM 360 Connector
 - Left Hand Design Tree
- Connecting made easy



Endpoint

- User credentials to access tenant



The screenshot shows a dialog box titled "liveFusionConnection". It contains a "Name" field with the value "liveFusionConnection". Below this is a section titled "Connection Parameters" which contains a "Host" field with the value "https://[redacted].autodeskplm360.net" and a "Login" field with a redacted value. To the right of the "Login" field is a "Password..." button. Above the "Connection Parameters" section is a "Test Connection" button.

liveFusionConnection


Name


Connection Parameters

Host

Login

GET, UPSERT or UPDATE


 **Get Single Component Order Form Connector**

Status:  Valid

Name

Get Single Component Order Form Connector

Endpoint

 LivePLMEndpoint

Edit

Type

GET

Workspace name


BBS_Component Order Form


Workspace ID


102

Edit...

Use in an Integration


 Create Operation


 Create Request


 Create Response


Request structure

+

▼  [E] GetListSetting


▶  [E?] ListSetting


▶  [E?] SigleItem


▶  [E?] ItemsByAlias


Response structure

+

▼  [E] payload

▶  [E?] list

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Create Request For Fusion GET

- Select Source as None

Transformation Wizard

Name


Source ●

Target ● The target of the transformation is a request to  Get Single Component Order Form Connector

Create Response with Database as Target

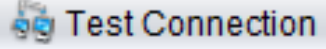
Transformation Wizard


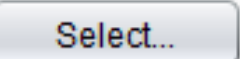
Name UPDATE_SINGLERECORD_ - Response (2)

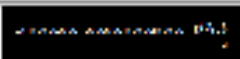
Source • The source of the transformation is a response from  UPDATE_SINGLERECORD_


Target • Database


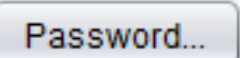
Connection Parameters

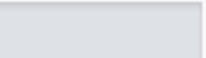


Driver MySQL [JDBC]  

Server Name 

Database Name 

Login  

Use default port ☒ **Port** 

Options ◀

Create Response using Database as Target

- Select table from list of tables

Available Tables

TABLES

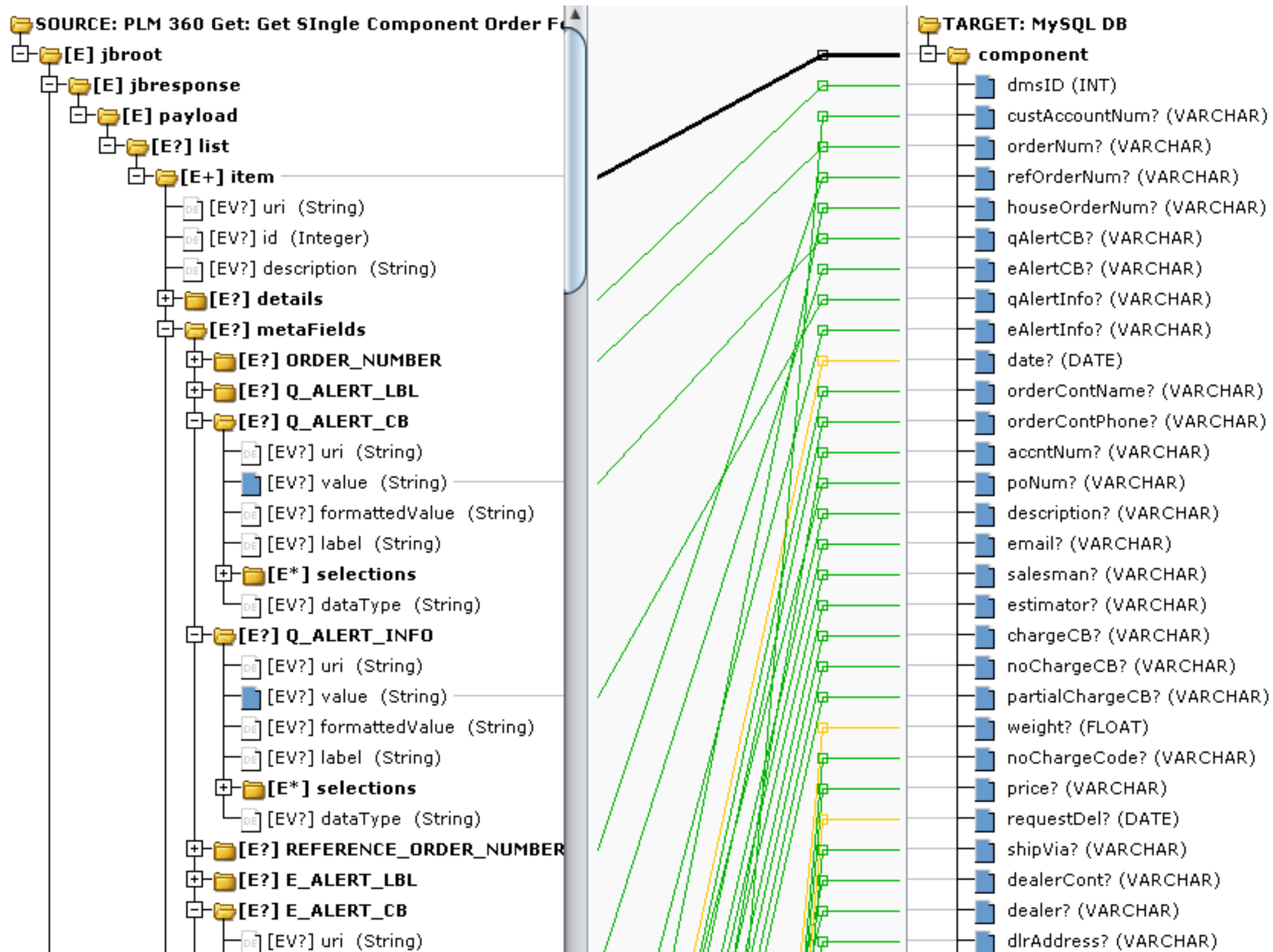
component
fbo
plm_dates_prod
plm_dates_test
plm_ecccoaddress_prod
plm_ecccoaddress_test
production
projectcentral

Selected Tables

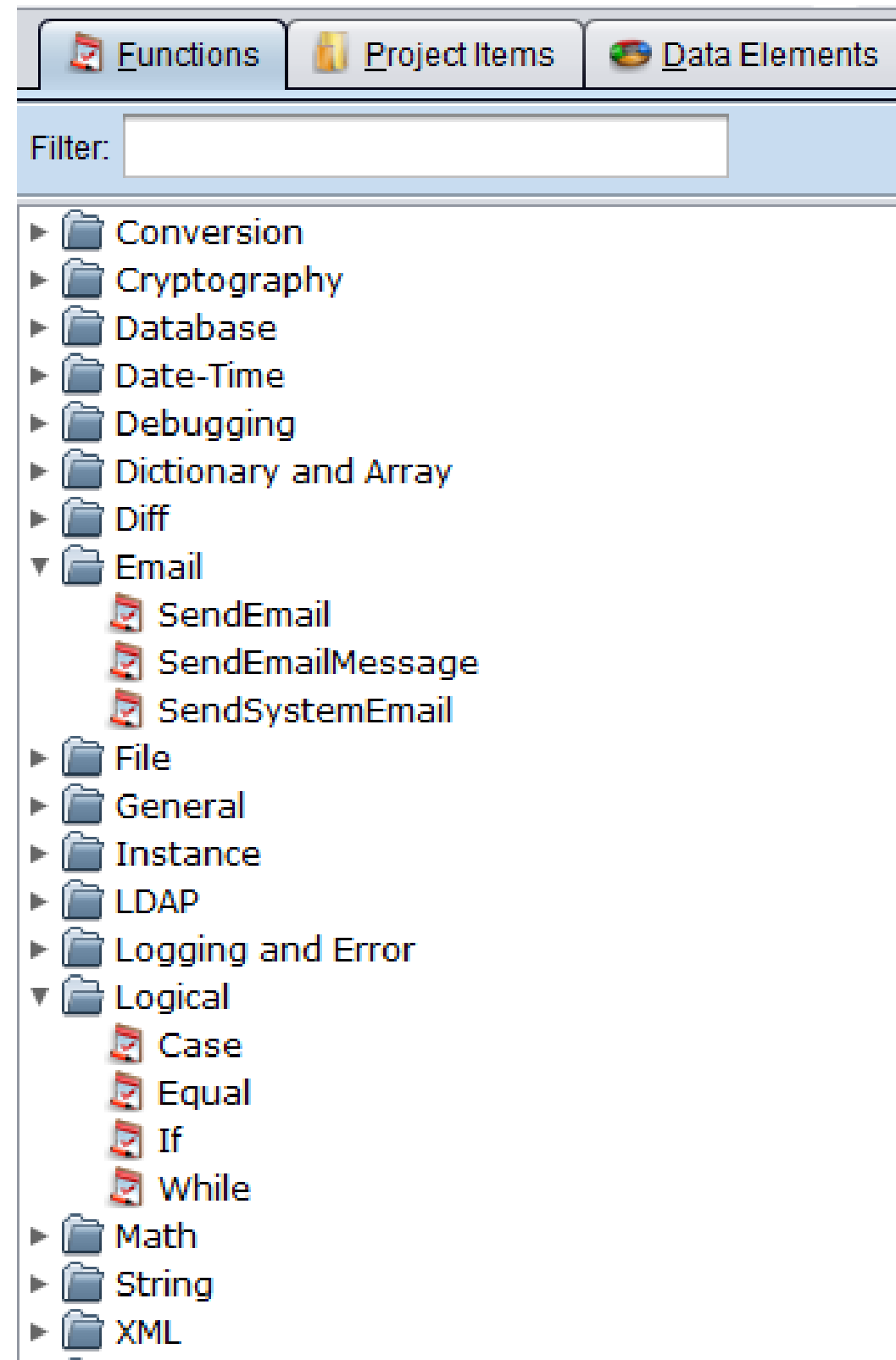
Table/View

plm_ecccoaddress_prod

Mapping Data



Scripting Within Jitterbit: Functions



Scripting Example

```
<trans>  
If($orderDate <= "12/31/2016" && $orderDate >= "01/01/2016",  
| "Product was ordered this year.", "Order was not places in 2016.");  
</trans>
```


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- PLM 360 Idea Station
 - <http://forums.autodesk.com/t5/plm-360-ideastation/idb-p/3>

Resources – Under the Hood

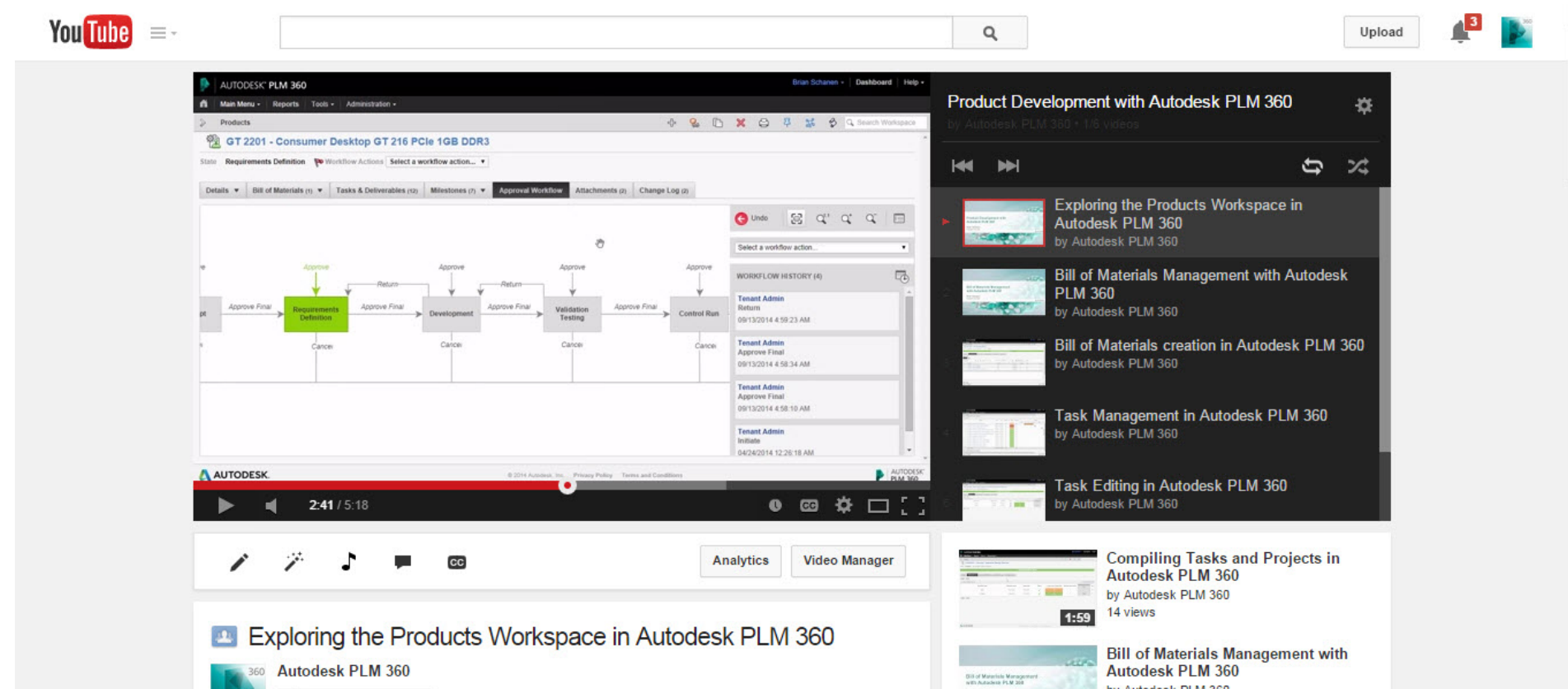
- Autodesk PLM 360 and Autodesk Vault
- Brian Schanen and Michelle Stone
- Great source of tips and tricks for Vault and PLM 360
- <http://underthehood-autodesk.typepad.com/blog/>



Resources – PLM TV



- Autodesk PLM 360 Tutorials for everyone
- Great source of tips and tricks for PLM 360
- <https://www.youtube.com/user/AutodeskPLM360>



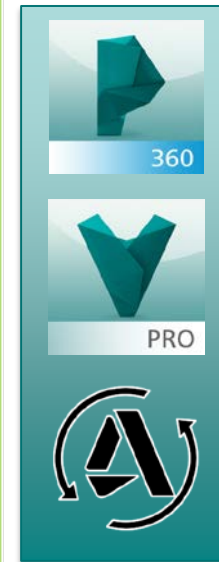
Voice of Customer

Be Heard and Win!

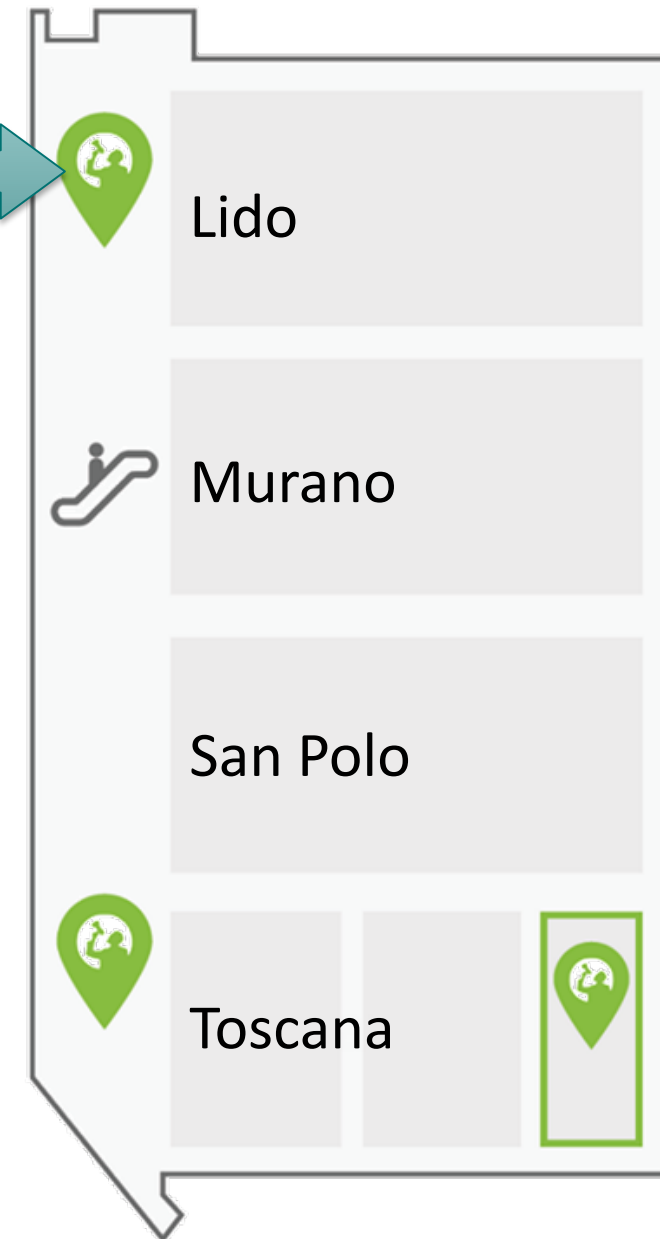
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