ODTUG Kscope19

SEATTLE, WASHINGTON • JUNE 23-27

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SEATTLE

Washington State Convention Center

Calculation Manager Treasure Chest

Tips for Creating Leaner, Flexible Business Rules

Kscope 2019 | Seattle, WA

06/24/2019

Agenda

What We'll Cover Today

1. Introduction
2. Custom Templates
3. Loop Command
4. @RETURN Function
5. Dynamic Selection of Members
6. Q&A

About Ebony Hypolite

- Senior Manager in the Business Performance Management practice at SC&H Group
- Oracle-Hyperion Certified Consultant
- Certified Public Accountant
- 12 years of experience designing, deploying, and maintaining Oracle-Hyperion EPM applications for organizations across various industries
- Specializes in budgeting and forecasting solutions
- Karaoke lover (“Message in a Bottle” by The Police is a go-to)
- Beyhive member and one of Mariah’s lambs

About SC&H Group

TREASURE Application

- EPM Planning application in the cloud.
- Labor form to plan labor by the following elements:
  - Project (5 characters)
  - Work program (8-character combination of the 5-character project and the 3-character work breakdown structure)
  - Org (business groups associated with employees)
  - Employee
  - Regular units or overtime units (SM or hours)
  - Labor category
  - Site (onsite or offsite)

TREASURE Application

- Upon save of the Labor form, a Calc_Labor business rule runs which performs the following calculations:
  - Convert staff months to hours
  - Calculate labor dollars (hours x rate)
- Ability to copy project plan data (Plan → Working) to the corporate forecast container (Forecast → Working) for quarterly forecasts.
  - Project plan can cover multiple years
  - Corporate forecast is for the current year only

Custom Templates

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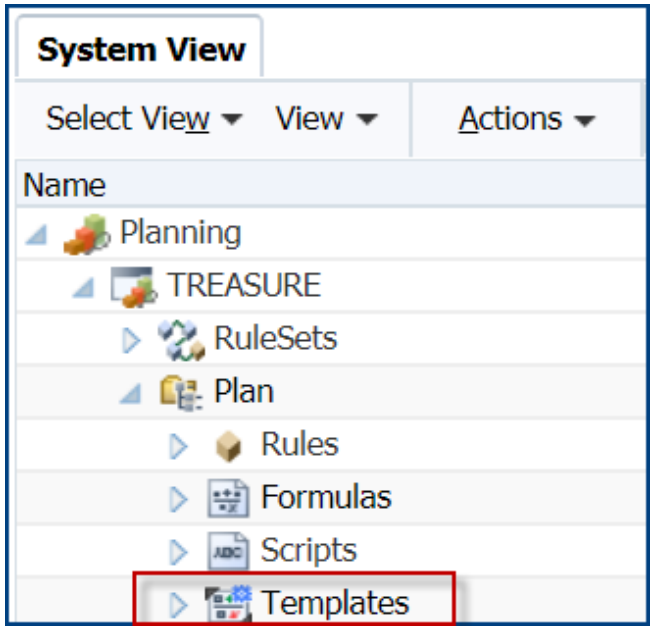
Custom Templates

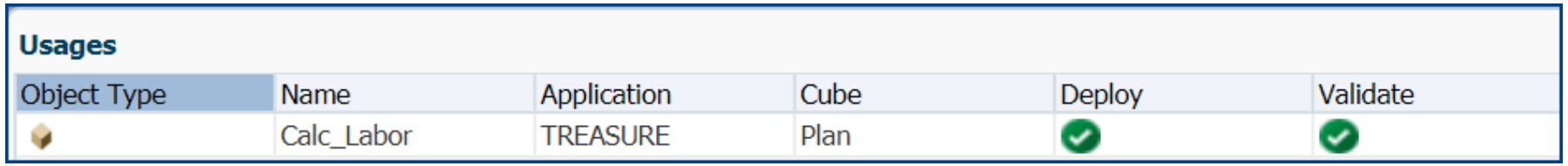
- Created by administrators to use in business rules.
- A node in calc manager under the plan type.



- Consider using templates if you notice that a large piece of code is being used frequently across multiple business rules or even within the same business rule.

Custom Templates

- Right-click on the template to see what business rules are using it and the deploy/validation status of those business rules.



Usages

Object Type	Name	Application	Cube	Deploy	Validate
	Calc_Labor	TREASURE	Plan	✓	✓

- To call a template in a business rule, use the following syntax:

%Template (name := "*NameofTemplate*", application := "*NameofApplication*", plantype := "*NameofPlanType*", dtps := ())

```
%Template (name := "Calc_Labor_Template", application := "TREASURE", plantype := "Plan", dtps := ())
```

Loop Command

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Loop Command

- The LOOP command specifies how many times to repeat calculations.
- Syntax:

  LOOP (integer, [break])

  Calculation commands;

  ENDLOOP

- If you put an integer of 2, the calculations within the loop will execute twice.

Loop Command

- A really nice feature of the LOOP command is leveraging the optional Break setting to indicate whether or not the calculation should even run.
  - Setting the break must be done using a temporary variable.
  - Setting the variable to a value of 0 means that the loop will execute for the number of specified iterations without breaking. 0 is the default.
  - Setting the variable to a value of 1 means that the loop will break and the calculations will not run.

Loop Command

Use Case

- A “Calc_Labor” business rule is to run on save of the Labor form.
  - The calculation will run for January of the Start Year through December of the End Year if the user has selected the Plan scenario.
  - The calculation will run for the first open period of the Forecast through December for the Forecast year if the user has selected the Forecast scenario.
- By default, the calculation for the Plan will run (var vPlanLoop = 0) and the calculation for the Forecast will not run (var vForecastLoop = 1).

```
/*By default, will run the Plan portion of the code and skip the Forecast portion of the code*/
var vForecastLoop = 1;
var vPlanLoop = 0;
```

Loop Command

Use Case (continued)

- An evaluation is performed on the scenario that is selected by the user on the Labor form. If the selected scenario is Forecast, then the calculation for the Forecast will run (vForecastLoop = 0) and the calculation for the Plan will not run (vPlanLoop = 1).

```
/*Will run the Forecast portion of the code and skip the Plan
portion of the code if the selected scenario is Forecast*/
FIX ({rtp_Project}, {rtp_Scenario}, {rtp_Version}, "NoWorkProgram",
"NoEmployee", "NoOrg", "FY19", "BegBalance", "NoMeasure")
    "NoCostElement" (
        IF (@ISMBR("Forecast"))
            vForecastLoop = 0;
            vPlanLoop = 1;
        ENDIF
    )
ENDFIX
```

Loop Command

Use Case (continued)

- The code below will only run if the selected scenario is Forecast (vForecastLoop = 0). If the selected scenario is not Forecast (vForecastLoop = 1), this code will be skipped.

```
/* This Loop only runs if the selected scenario is Forecast */
LOOP (1, vForecastLoop)
/* Fixes on the current open period through December for the current Forecast year.
This prevents actuals data from getting overriden in the Forecast */
FIX (&ForecastCurrentPeriod : "Dec", &ForecastYear)
    %Template (name := "Calc_Labor_Template", application := "TREASURE", plantype := "Plan", dtps := ())
ENDFIX
ENDLOOP
```

Loop Command

Use Case (continued)

- The code below will only run if the selected scenario is not Forecast (vPlanLoop = 0). If the selected scenario is Forecast (vPlanLoop = 1), this code will be skipped.

```
/* This Loop only runs if the selected scenario is not Forecast (default) */
LOOP (1, vPlanLoop)
/* Fixes on all months for the StartYear through the EndYear user variable. */
FIX ({rtp_StartYear}:{rtp_EndYear})
    %Template (name := "Calc_Labor_Template", application := "TREASURE", plantype := "Plan", dtps := ())
ENDFIX
ENDLOOP
```

@RETURN Function

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@RETURN Function

- The @RETURN function is used to exit a business rule under specified conditions.
- Practical Use #1 – Exit a business rule and produce an error if the user has not made the correct selections.

```
IF (NOT @ISLEV(WorkProgram, 0))
    @RETURN("You selected a parent member in the Work Program dimension. Please select a valid base 8-character
    Work Program that begins with the first 5 characters of the selected project.", ERROR);
ENDIF
```

@RETURN Function

- Practical Use #2 – Execute the business rule only if the user types in words confirming to move forward.

```
"NoCostElement"(
    IF(@hspstringcompare({rtp_UserConfirmation},"REPLACE MY FORECAST"))
        vUserConfirmation = 0;
    ELSE
       @RETURN("The business rule will not be executed and your Forecast will remain unchanged.", ERROR);
    ENDIF
    )
```

Dynamic Selection of Members

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Dynamic Selection of Members

Use Case – Automatically Associate a Named Employee to an Org

- Every employee is associated with an org. The orgs are always 3 characters.
- Orgs must be maintained in a separate dimension because 1) non-labor data also needs to be captured by org and 2) history must be maintained.
- When adding a named employee to the labor plan, users wanted the system to automatically associate that employee to his or her current org designation.
- The alias of the employee is the Preferred First Name, the Last Name, and the Org in parentheses.

Adele Adkins (ABP)
Celine Dion (ABS)
Rihanna Fenty (ABS)

Dynamic Selection of Members

Use Case – Automatically Associate a Named Employee to an Org (continued)

- Requirement: Add Beyoncé Knowles who is in the ITS org to the labor plan.
- Use the @CalcMgrTextLength function to determine the starting position and ending position in the employee alias where the org is located.

```
"Units-SL" (
    /* Finds the Starting position for the Org name. */
    vOrg = @CalcMgrTextLength(@NAME(@ALIAS({rtp_Employee}))) - 4;
    /* Finds the Ending position for the Org name. */
    vOrg2 = @CalcMgrTextLength(@NAME(@ALIAS({rtp_Employee}))) - 1;
    )
```

Dynamic Selection of Members

Use Case – Automatically Associate a Named Employee to an Org (continued)

- The alias is **Beyonce Knowles (ITS)** which has 21 characters. Subtracting 4 from 21 gives us the starting position of 17 (corresponds to character 18 when using StartPosition in @SUBSTRING function).
  - Character 18 is “I”.
- Subtracting 1 from 21 gives us the ending position of 20 (corresponds to character 20 when using EndPosition in @SUBSTRING function).
  - Character 20 is “S”.

Dynamic Selection of Members

Use Case – Automatically Associate a Named Employee to an Org (continued)

- The function @SUBSTRING needs the following:
  - **String** - Alias of the employee which is **Beyonce Knowles (ITS)**
  - **Starting position** where 0 is character 1, 1 is character 2, etc. Starting position is 17 which is character 18 – "I".
  - **Ending position** where 1 is character 1, 2 is character 2, etc. Ending position is 20 which is character 20 – "S".
  - The result of @SUBSTRING in this example gives us **ITS**.

```
"Units-SL" (
    /* Creates the Org name based off the Start and End positions, which were determined above.
    The Populates the Units Smart List with SM. */
    @MEMBER(@CONCATENATE(@SUBSTRING(@NAME(@ALIAS({rtp_Employee})), vOrg, vOrg2), "_Org")) = 1;
)
```

Dynamic Selection of Members

Use Case – Automatically Associate a Named Employee to an Org (continued)

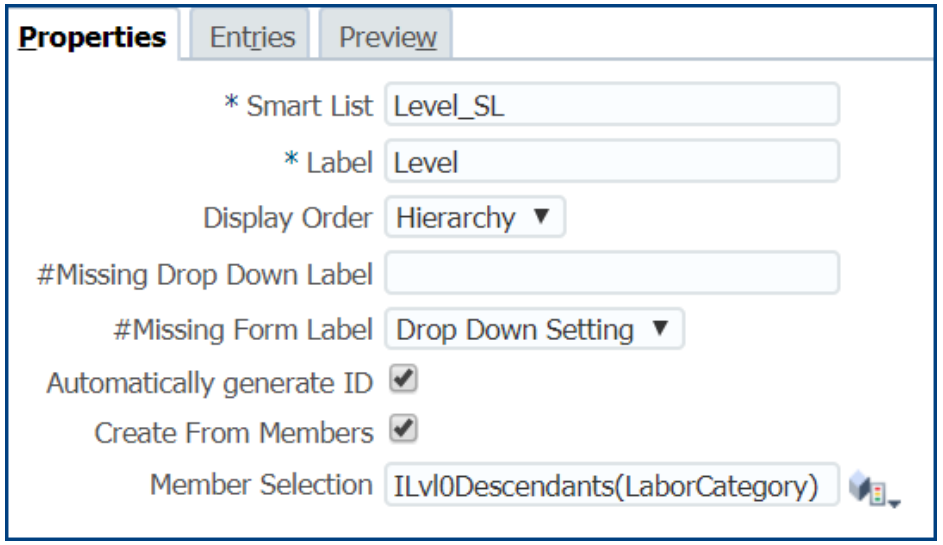
- The naming convention in the Org dimension is the 3-character Org followed by a suffix of "_Org".
- Use the @CONCATENATE function to concatenate **ITS** with **_Org**.
- Use the @MEMBER function to convert **ITS_Org** from a string to a member.

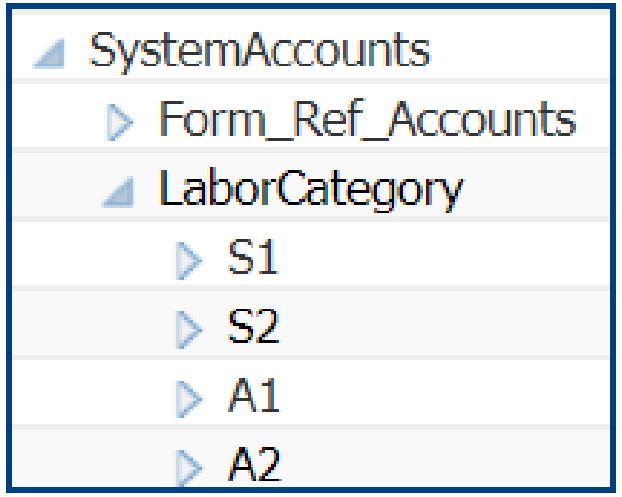
```
"Units-SL" (
    /* Creates the Org name based off the Start and End positions, which were determined above.
    The Populates the Units Smart List with SM. */
    @MEMBER(@CONCATENATE(@SUBSTRING(@NAME(@ALIAS({rtp_Employee})), vOrg, vOrg2), "_Org")) = 1;
)
```

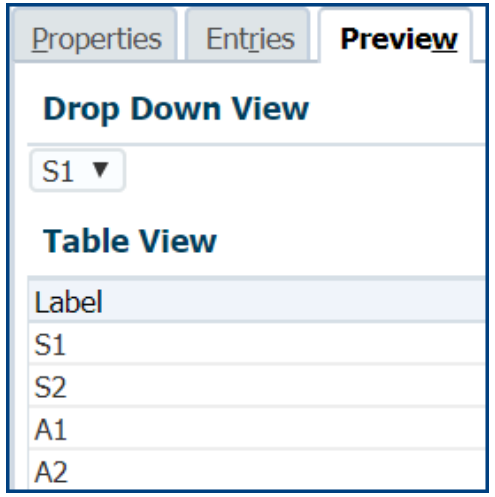
Dynamic Selection of Members

Use Case – Use Smart List Selections to Determine Labor Account

- For each labor line, a user selects the labor category and the site via Smart Lists.
- The Smart List options are dynamically created from members in the Account dimension.







Dynamic Selection of Members

Use Case – Use Smart List Selections to Determine Labor Account (continued)

- Create temporary variables and set them equal to where the Smart Lists are set by the user.

```
var vOTUnitSL;
var vRegUnitSL;
var vOTLevelSL;
var vRegLevelSL;
var vOTSiteSL;
var vRegSiteSL;
```

```
"Regular_Units" (
    vOTUnitSL = "Overtime_Units"->"BegBalance"->"Units-SL"->"FY19";
    vRegUnitSL = "Regular_Units"->"BegBalance"->"Units-SL"->"FY19";
    vOTLevelSL = "Overtime_Units"->"BegBalance"->"Level-SL"->"FY19";
    vRegLevelSL = "Regular_Units"->"BegBalance"->"Level-SL"->"FY19";
    vOTSiteSL = "Overtime_Units"->"BegBalance"->"Site-SL"->"FY19";
    vRegSiteSL = "Regular_Units"->"BegBalance"->"Site-SL"->"FY19";
```

Dynamic Selection of Members

Use Case – Use Smart List Selections to Determine Labor Account (continued)

- Use the @HSPNUMTOSTRING function to convert the numeric ID associated with the Smart List value to a string.
- Use the @CONCATENATE function to concatenate **HSP_ID_** with the numeric ID that has been converted to a string.
- Use the @MEMBER function to convert the numeric ID concatenated with a prefix of **HSP_ID_** to a member (e.g. **HSP_ID_53548** evaluates to member **S1**).

Dynamic Selection of Members

Use Case – Use Smart List Selections to Determine Labor Account (continued)

- If Beyoncé Knowles is in the labor plan as a **S1** for the labor category and **On** for the site, her regular hours will be loaded to the account **On_Lbr_S1_Reg**.

- **The following code puts it all together:**

```
                @MEMBER(@CONCATENATE(@CONCATENATE(@CONCATENATE(@NAME(@MEMBER(@CONCATENATE("HSP_ID_", @HSPNUMTOSTRING(vRegSiteSL)))),
"_Lbr_"), @NAME(@MEMBER(@CONCATENATE("HSP_ID_", @HSPNUMTOSTRING(vRegLevelSL))))), "_Reg")) = "Regular_Units";
```

Questions?

Let’s Catch Up

Ebony Hypolite

Senior Manager

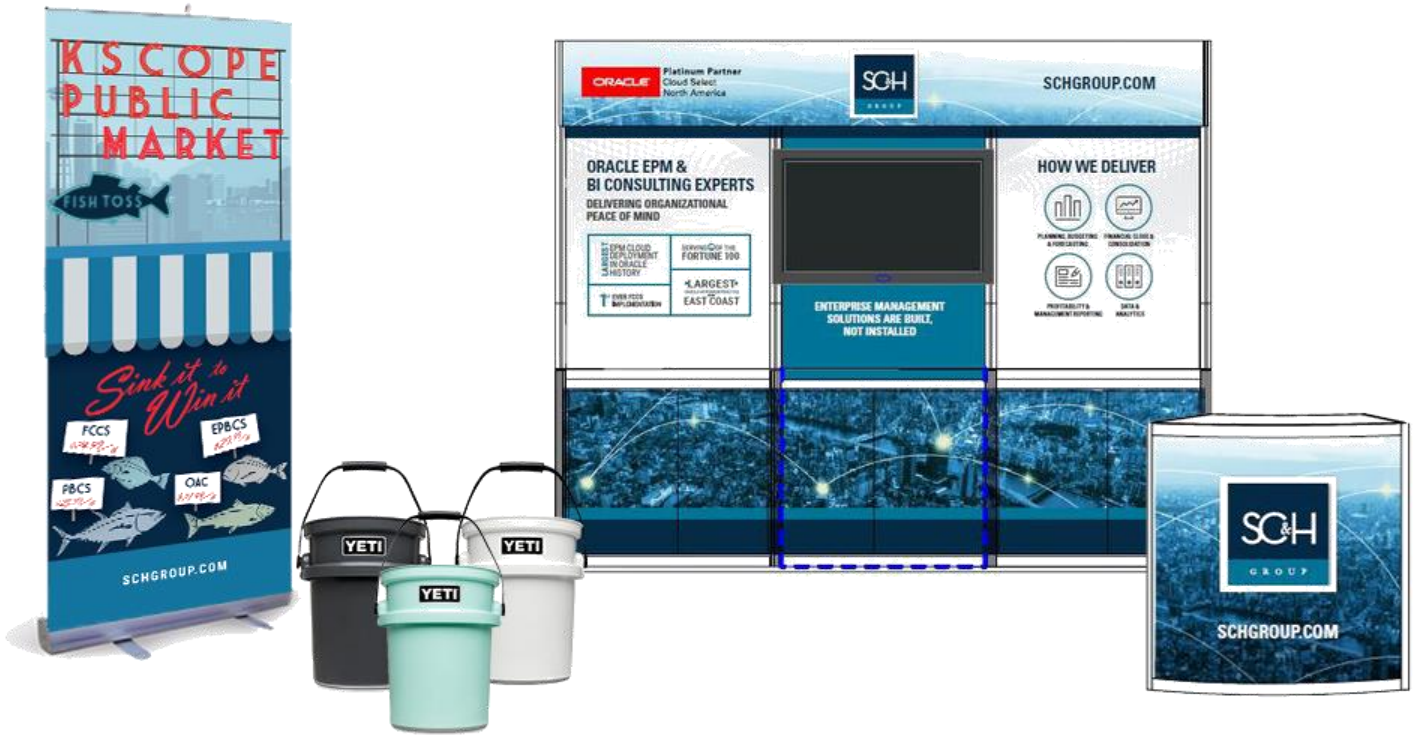
SC&H Group

ehypolite@schgroup.com

410-988-1354

Stop By and See Us in the Exhibit Hall!

SC&H @ Booth #110



"Live" Fish Toss Contest

Make 3 Shots:

- Win Starbucks Gift Card
- Entered for Chance to Win 1 of 3 Yeti Buckets

Boat Keychains!
Swedish Fish!
Koozies!

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