Create or Change Scheduling Agreement Using Standard SAP BAPI

Applies to:
SAP ECC 6.0. For more information, visit the ABAP homepage.

Summary
The article describes the procedure to create or change scheduling agreements using BAPI – ‘BAPI_SAG_CREATE’ or ‘BAPI_SAG_CHANGE’ respectively.

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Author Bio
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Business Requirement

Create or change Scheduling Agreement using function module/BAPI.

[Note: Scenario considered for Item category as ‘K’ or ‘Blank’ only.]

1. Definition

Scheduling Agreement (SA) is a form of outline purchase agreement under which materials are procured on predetermined dates within a certain time period. It consists of a number of items and for each item a procurement type is defined.

Procurement types:
- Standard
- Subcontracting
- Consignment
- Stock transfer

For detailed information please check the below link:
http://help.sap.com/saphelp_erp60_sp/helpdata/EN/75/ee1fa755c811d189900000e8322d00/frameset.htm

2. Navigation

3. Transactions

SA create – ME31L/ME31
SA change – ME32L/ME32
SA display – ME33L/ME33
4. **Module**  
Material Management (MM)

5. **Functionality and its functionality**  
   “BAPI_SAG_CREATE” enables you to create a scheduling agreement. The BAPI uses the technology behind the SA creation transaction (ME31L).  
   “BAPI_SAG_CHANGE” enables you to change a scheduling agreement. The BAPI uses the technology behind the SA change transaction (ME32L).

6. **Step by step procedure**

   **7.1 For Creation**

   **7.1.1 HEADER and HEADERX:**
   
   Fill the header segment data.  
   i. Take a variable, say `w_last_item`, add '00010' to it for the line item number. Move this value in ‘ITEM_INTVL’ field.  
   ii. Get the company code for the given plant from ‘T001K’ table. Move this value to ‘COMP_CODE’.  
      [Note that this is an important field that needs to be filled compulsorily in header for SA create otherwise it will not create SA and give error message ‘Enter rate / USD rate type M for 04.03.2009 in the system settings’]  
   iii. Pass document type ‘LP’ or ‘ZLP’.  
      [Note that document type ‘LPA’ cannot be created using this BAPI. It will return error ‘Scheduling agreements with time-independent conditions are not supported’. Check the SAP note 1046794]  
   iv. Created date and time as system date and time.  
   v. Pass vendor code, payment terms, purchasing organization, purchasing group, currency, purchasing document date, validity start and end date and inco terms value.  
   vi. Set the update flags in ‘HEADERX’ table.  
      [This is very important as if the flag is not set then it will not create SA]

   **7.1.2 ITEM and ITEMX:**
   
   Fill the item segment data.  
   i. Move the line item number to the ‘ITEM_NO’ field. [Increment this value by adding ‘ITEM_INTVL’ value to it for next line items.]  
   ii. Pass material number in ‘MATERIAL’ and ‘EMATERIAL’ fields and its description in ‘SHORT_TEXT’ field.  
   iii. Pass plant, material group, target quantity, net price, price unit, order unit, order price unit, tax code, GR/IR indicator, confirmation control key, inco terms, PDT, firm zone, trade off zone values to their respective fields.  
   iv. For quantity conversion, i.e. if Order Price Unit is ‘EA’ and Order Unit is ‘BOT’ then quantity conversion needs to be maintained for the given line item. For instance, you need to maintain ‘1 BOT <-> 2 EA’ in item details for the respective line item. For this, set the ‘NUMERATOR’ value as ‘2’ and ‘DENOMINATOR’ as ‘1’. [Note that if this is not set then the ratio will always be 1:1.]
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Return Message:

PurchSchedAgreement 55000004358 has been created. External reference: SA for Planners created under the number 55000004358

SA: [Item category – Blank and so, net price value passed. Check points (v) and (vi)]

v. Set the item category as 'K' if info record needs to be created otherwise pass its value as blank.

vi. If item category is 'K' then do not pass net price value as the price and condition values will linked to info record. If item category is blank then pass net price value.

See below screen shot:
Conditions picked directly from Info record.

<table>
<thead>
<tr>
<th>Purchasing Doc.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5300004380</td>
<td>10 MATERIAL FOR NMR TEST - 5 180308</td>
</tr>
</tbody>
</table>

**Validity**

- **Valid From**: 06.08.2009
- **Valid to**: 31.12.9999

**Condition supplements**

<table>
<thead>
<tr>
<th>CntTy</th>
<th>Name</th>
<th>Amount</th>
<th>Unit</th>
<th>per</th>
<th>U.</th>
<th>DeletionID</th>
<th>Scales</th>
<th>Tests</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>P300</td>
<td>Gross Price</td>
<td>4.00</td>
<td>EUR</td>
<td>1</td>
<td>EA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOA1</td>
<td>Customers - %</td>
<td>10.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Info record: [Transaction: ME13 to display info records]**

**Display Info Record: General Data**

- **Purch. Org.** Data 1 | Conditions | Tests
  - Info Record: 5300004380
  - Vendor: 890000001
  - Material Num: 990008680
  - Material Group: 000000001
  - Description: CHEM INTERMEDIATE

**Validity**

- **Valid From**: 06.08.2009
- **Valid to**: 

**Condition supplements**

<table>
<thead>
<tr>
<th>CntTy</th>
<th>Name</th>
<th>Amount</th>
<th>Unit</th>
<th>per</th>
<th>U.</th>
<th>DeletionID</th>
<th>Scales</th>
<th>Tests</th>
<th></th>
</tr>
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</tr>
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<td>10.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**vii.** Set the respective fields update flags in ‘ITEMX’ table. **[This is very important as if the flag is not set then it will not create SA]**

**[Fill the item condition validity and item condition data only if SA is not of type consignment i.e. item category is not ‘2’]**
7.1.3 ITEM_COND_VALIDITY and ITEM_COND_VALIDITYX
Fill condition validity segment data.

i. Pass line item number, valid from date and valid to date to the table.

[Note ‘VALID_FROM’ date could be the system date and ‘VALID_TO’ date as ‘31.12.9999’]

ii. Set the respective fields update flags in ‘ITEM_COND_VALIDITYX’ table.

[This is very important as if the flag is not set then it will create SA but without conditions]

7.1.4 ITEM_CONDITION and ITEM_CONDITIONX
Fill the item condition table data.

i. Pass the line item number.

ii. For first condition i.e. ‘PB00’ or ‘PBXX’ [i.e. for Gross Price], pass condition count as ‘01’ and then increment this counter for the next conditions.

iii. Pass condition type value.

[Note for the first condition the condition type would be the Gross Price i.e. PB00 or PBXX. Next count, you can add other conditions too but first condition is always ‘Gross Price’ condition.]

iv. Pass price value in ‘COND_VALUE’ field.

v. Pass currency, condition price unit, condition unit [i.e. order price unit value] to their respective fields.

[Note, here condition unit is very important. If this value is not passed then the UOM value maintained for the material, will be maintained in the conditions, which will overwrite the value of OPU in the line item also.]

vi. For quantity conversion, [Point # 2.4] i.e. ‘1 BOT <-> 2 EA’ set the numerator and denominator values for the respective line item conditions. For this, set the ‘NUMERATOR’ value as ‘1’ and ‘DENOMINATOR’ as ‘2’.

[Note that if this is not set then the ratio will always be 1:1.]

Note: Quantity conversion is always ‘Order Unit: Purchase Order Price Unit’. In case of line item, Order Price Unit is linked to ‘Numerator’ and so, we pass the value of OPU (BOT) i.e. ‘2’ to ‘Numerator’. In case of conditions, OPU gets linked to the ‘Denominator’ and so, we pass the value of OPU (BOT) i.e. ‘2’ to ‘Denominator’. This will result in ‘1 EA <-> 2 BOT’ if you check in ‘Items  Details’.

vii. Pass change indicator as ‘I’ in case of inserting new conditions [pass ‘U’ in case of update and ‘D’ in case of delete].

[Note that this is very important field. If it is not passed then it will not insert new conditions, other than ‘PB00’ or ‘PBXX’.]

viii. Set the respective fields update flags in ‘ITEM_CONDITIONX’ table.

[This is very important as if the flag is not set then it will create SA but without conditions]
7.1.5 BAPI_SAG_CREATE

Finally, call BAPI 'BAPI_SAG_CREATE' to create SA.

```sql
** Create SA
CALL FUNCTION 'BAPI_SAG_CREATE'
  EXPORTING
    header = e_outhedrex
    headerx = e_outhedrex
  IMPORTING
    purchasingdocument = ch_ebeln
  TABLES
    return = ta_message
    item = i_ch_outitem
    itemx = i_ch_outitemx
    item_cond_validity = i_ch_outcondval
    item_cond_validityx = i_ch_outcondvalx
    item_condition = i_ch_outcond
    item_conditionx = i_ch_outcondx.
```

7.1.6 BAPI_TRANSACTION_COMMIT

After the BAPI execution, commit work by call FM 'BAPI_TRANSACTION_COMMIT' or writing statement 'COMMIT WORK AND WAIT'.

[This is very important. If not written then SA will be created but document could not be viewed or changed in ME33L/ME33 or ME32L/ME32 respectively. It will return an error 'Document does not exist'.]

7.1.7 OUTPUT

SA created in R3. Check in ME33/ME33L

**Header:**

<table>
<thead>
<tr>
<th>Agreement</th>
<th>5500324359</th>
<th>Company Code</th>
<th>ZY91</th>
<th>Purchasing Group</th>
<th>015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreement Type</td>
<td>ZLP</td>
<td>Purch. Organization</td>
<td>2004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vendor</td>
<td>900033EE1</td>
<td>SUB-E2P Vendor for Procter and Gamb</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Administrative Fields**

- **Agreement Date**: 06.03.2009
- **Validity Start**: 06.03.2009
- **Validity End**: 31.12.9999
- **Language**: EN

**Terms of Delivery and Payment**

- **Payment in**: 0 Days 0.000
  - **Ex Rate**: 1.00030
  - **Incoterms**: FOB GREYM City

**Reference Data**

- **Quotation Date**
- **Your Reference**
- **Our Reference**
- **Ship. Vendor**
- **Invoicing Party**: 990033EE1
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**Item:**

**Display Scheduling Agreement : Item Overview**

<table>
<thead>
<tr>
<th>Agreement</th>
<th>5500049350</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreement Type</td>
<td>ZLP</td>
</tr>
<tr>
<td>Vendor</td>
<td>306008991</td>
</tr>
<tr>
<td>Agent Date</td>
<td>08 08 2009</td>
</tr>
<tr>
<td>Currency</td>
<td>EUR</td>
</tr>
</tbody>
</table>

**Outline Agreement Items**

<table>
<thead>
<tr>
<th>Item</th>
<th>Material</th>
<th>Short Text</th>
<th>Target Obj</th>
<th>Nat.Price</th>
<th>Per</th>
<th>Mat. Grp</th>
<th>Prod</th>
<th>SLLoc</th>
<th>Ta</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>90068908</td>
<td>MATERIAL FOR NMR TEST 6 160308</td>
<td>5,699 DCT</td>
<td>4,391</td>
<td>EA</td>
<td>46881009</td>
<td>2251</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Conditions:**

**Display Gross Price Condition (PB00) : Condition Supplement**

<table>
<thead>
<tr>
<th>Variable key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing Doc.</td>
</tr>
<tr>
<td>5500049350</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid From</td>
</tr>
<tr>
<td>Valid to</td>
</tr>
</tbody>
</table>

**7.2 For Change**

Please note, for change BAPI ‘BAPI_SAG_CHANGE’, all the data remain the same. First fetch the SA data [based on SA number] using BAPI ‘BAPI_SAG_GETDETAIL’ and then accordingly update the SA header or line item details or create a new line item in existing SA.
Related Content
For more information, visit the ABAP homepage.
http://help.sap.com/saphelp_erp60_sp/helpdata/EN/75/ee1fa755c811d18990000e8322d00/frameset.htm
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