

SKILLBUILDERS SCHEDULE

AN ITEM PLUG-IN FOR ORACLE APPLICATION EXPRESS (APEX)

Table of Contents

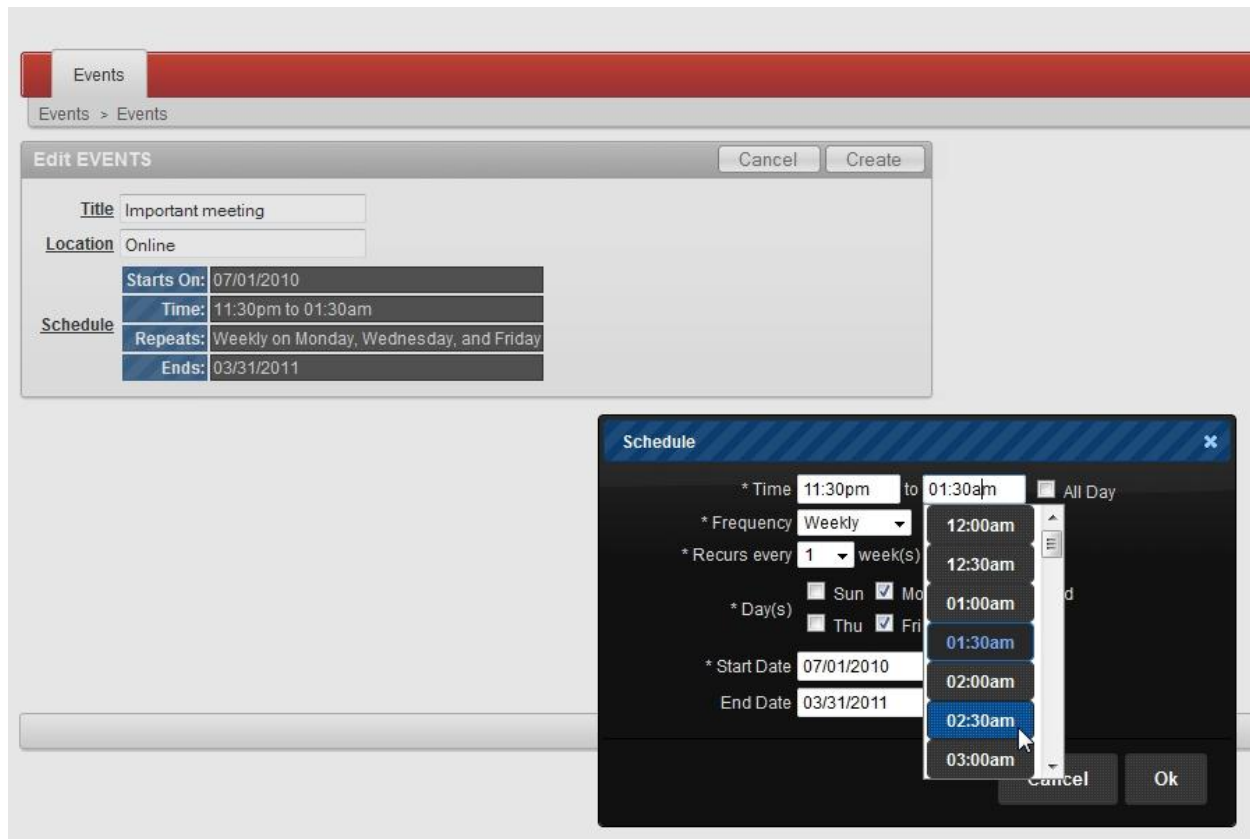
Overview	3
Intro.....	3
Features at a Glance	4
Early Adopter Releases	4
License.....	5
Legal Disclaimer	5
Installation and Configuration	6
Intro.....	6
DB Prep	6
Installation	6
Configuration	6
Installing the PL/SQL API.....	7
Using the PL/SQL API	8
Intro.....	8
Using SBIP_SCHEDULE.DATES in SQL and PL/SQL.....	8
Performance Considerations	9

Overview

Intro

Event scheduling is a common task that developers repeatedly face when creating applications. The types of events can vary greatly as can their configuration options. Some events are simple, occurring only once while others are more complex and can repeat indefinitely with varying frequencies.

Developers may choose to save time by supporting only the types of schedules that the requirements dictate. This often results in “one-off” configurations with custom logic that cannot be reused very easily. The SkillBuilders Schedule item plug-in was designed to greatly simplify and standardize event scheduling in APEX applications.



The SkillBuilders Schedule item plug-in supports single occurrence events as well as those that recur daily, weekly, monthly, and yearly. Its options can easily be customized via a declarative interface to meet specific requirements and its UI has been skinned using jQuery UI themes so customizing the look and feel to match your APEX theme is as simple as changing one word in the item’s configuration settings.

Anyone that has worked with events in the past is aware that it all comes down to dates. To that end, the SkillBuilders Schedule item plug-in comes with a PL/SQL package based API that can be used for various functionality, including the ability to extract the dates over which an event will occur.

Features at a Glance

The SkillBuilders Schedule item plug-in is packed with features that make working with events in APEX easier than ever before. Here are just a few of “bigger” features:

- Rich client-side user interface
- Skinned with jQuery UI themes (currently 25 themes to choose from)
- Custom time pickers
- jQuery UI date pickers
- Support for recurrence
 - Daily
 - Weekly
 - Monthly
 - Yearly
- Single APEX item to table column mapping
- PL/SQL Package API to work with values stored

Early Adopter Releases

The SkillBuilders Schedule item plug-in is a highly interactive plug-in with a lot of functionality. As such, we will be releasing the plug-in over three early adopter (EA) releases. Each EA release will focus on fixing bugs and adding new functionality to the plug-in. If you use the plug-in during one of these EA releases, please report any and all bugs to support@skillbuilders.com.

Actually, if you wouldn't mind dropping us an email letting us know what you did or did not like about the plug-in, we would love to hear from you.

Here's what to expect with future EA releases...

EA 2 (12/08/2010)

- Bug fixes
- Oracle based date formats
- Start time change shifts end time
- Built in client side validations

EA 3 (~03/01/2010)

- Bug fixes
- Built in server side validations
- Additional Configuration Options
 - Use time (select parts)
 - Use frequencies (select which)

License

The SkillBuilders Schedule item plug-in is currently available for use in all personal or commercial projects under both MIT and GPL licenses. This means that you can choose the license that best suits your project and use it accordingly. Both licenses have been included with this software.

Legal Disclaimer

The program(s) and/or file(s) are supplied as is. The author disclaims all warranties, expressed or implied, including, without limitation, the warranties of merchantability and of fitness for any purpose. The author assumes no liability for damages, direct or consequential, which may result from the use of these program(s) and/or file(s).

Installation and Configuration

Intro

Installation of the SkillBuilders Schedule item plug-in can be broken into 4 easy steps:

1. DB Prep
2. Plug-in Installation
3. Configuration
4. API Installation

DB Prep

Storing event schedules will always require some kind of database changes. The SkillBuilders item plug-in captures 4 different pieces of information:

1. Start date w/time
2. End date w/time
3. Duration in seconds
4. Calendar string in DBMS_SCHEDULER format

The SkillBuilders Schedule item plug-in maps these 4 pieces of information back to a single APEX item as a pipe delimited string. A single VARCHAR2(500) column should do (and allow for enough space to handle any future enhancements to the product).

Installation

With this installation package there is a plug-in installation file named:

- item_type_plugin_com_skillbuilders_sbip_schedule.sql.

Navigate to “Shared Components > Plug-ins” and click **Import** >. From there you can follow the menu to upload and install the plug-in using the file above. After installing the plug-in you will be redirected to the plug-in edit screen. Stay there for the first step in configuration.

Configuration

The EA 2 release has two configuration options:

1. jQuery UI Theme – application level
2. Date Format – component level

Component level options are configured at the plug-in edit screen. If you are not on that screen, navigate to “Shared Components > Plug-ins > SkillBuilders Schedule”. From there, you can change the jQuery UI Theme found under Settings. Click the label of the item to view help which includes a listing of possible values.

Note: To learn more about jQuery UI themes, visit: <http://jqueryui.com/themeroller/> (click the “Gallery” tab).

Once you’ve set the application level setting(s) you can configure the item at the page level. If you do not yet have an item that maps back to the new column you added in “DB Prep”, create one by creating a new form or adding a new item to an existing form. Configure the item that maps back to the new column as follows:

- Display as: SkillBuilders Schedule [Plug-in]
- Date Format: “A valid format string”

Your new SkillBuilders Schedule should now be working.

Note: Oracle date format strings are converted to jQuery UI date format strings automatically. As such, some date formats are not supported.

Installing the PL/SQL API

With this installation package there are two files that make up the PL/SQL API:

1. sbip_schedule.pks – package spec
2. sbip_schedule.pkb – package body

Compile these files in the order listed above. You can use the “SQL Workshop > SQL Scripts” feature of APEX or any other DB tool you’re comfortable with.

Note: You will need the CREATE PROCEDURE privilege for this.

Using the PL/SQL API

Intro

The PL/SQL package based API has a number of functions designed to work with the data created by the client side UI. The package is named SBIP_SCHEDULE and it contains the following functions:

1. `dates` – returns the dates over which an event will occur in an array
2. `start_date` – returns the start date of an event
3. `end_date` – returns the end date of an event (start of last occurrence)
4. `duration_seconds` – returns the duration of an event in seconds
5. `calendar_summary` – returns a “summary” of the recurrence schedule

Note: The number of functions will likely increase with EA releases 2 and 3.

Using SBIP_SCHEDULE.DATES in SQL and PL/SQL

The dates function can be used in PL/SQL or in SQL alone using the old Oracle join syntax.

Example in PL/SQL:

DECLARE

```
l_events_rec EVENTS%ROWTYPE;  
l_dates      SBIP_SCHEDULE.DATE_NTT;
```

BEGIN

```
SELECT *  
INTO l_events_rec  
FROM events  
WHERE id = :PX_ID;
```

```
l_dates := sbip_schedule.dates(l_events_rec.schedule);
```

```
FOR 1 .. l_dates.count  
LOOP  
    <<DO WORK>>;  
END LOOP;
```

END;

Example in SQL:

```
SELECT evts.title AS display,  
      dts.column_value  
FROM events evts,  
      TABLE(sbip_schedule_item.dates(schedule)) dts
```

Performance Considerations

Although SBIP_SCHEDULE allows for use in SQL, evaluating calendar expressions on the fly is not the most performant option. If performance matters, consider running queries against a separate table with the dates “exploded” ahead of time (one date per row). The table can be maintained via triggers that utilize the SBIP_SCHEDULE API when data in the main table is inserted, updated, or deleted.