Understanding the Two-Week Online Build Cycle for SWP-GREEN

Monday, June 01, 2015 9:00 AM

The "Green" Indicator

SWP-GREEN is called for [RC] (Release Candidate) builds. The QA [RC] was a Devel [RC] at one time before.

Example Automated Testing Cycle for Online

Test Plan: PA3 auto-accounts

Day of Week	Build	Automation Account	VMs Stage	HTML Reports	Caccess	Appx. Start Time	Need to update SWP	IsRegressionJob	IsLateRegressionJob
Wed	Online-2013.8 I	FDSQAR_C	Devel	Devel	LargesetCaccess	07:00 AM ET Wed	Yes - Devel Default	1	0
Fri	Online-2013.8 I	FDSQAR_C	QA	Staging	LargesetCaccess	12:35 AM ET Fri	Backwards Compatibility	1	0
Tue	Online-2013.8 I	FDSQAR_C	QA	Staging	LargesetCaccess	19:00 PM ET Tue	Default	0	1

(From Cron scheduling spreadsheet)

Rules Applied:

- 99% of the case they want the jobs to run on Wednesday against default config and on Friday against Backwards Compatibility (there will be a separate job for each config)
- Some of the online jobs, specifically PA3 jobs, need to run also on Tuesdays against previous week's SWP.
  Note: To mark those as "late" regression jobs we set isLateRegressionJob flag to 1 below.

SWP-GREEN Data and Log Entry Format

QAI will pass the SystemID, SWP Build ID, and Label properties to SWP-GREEN.

Example log entry is as follows:

```
[2015-08-11 13:12:53] Received: { "BuildId" : 19105, "SystemId" :0,
"Label":"online_2015_08_11_002"} From: iswebb03.pc.factset.com (164.55.87.72)
```

The BuildId is the SWP build ID of QAI. The SystemId is the System ID of QAI. Online system ID is 0.

The indicator is received on `2015-08-11`, which is a Tuesday.

Example Cycle Walk Through

We will walk through two actual build cycles.

SWP-GREEN Log entries

The following are SWP-GREEN log entries for a two-week Online cycle:

```
[2015-08-11 13:12:53] Received: { "BuildId" : 19105, "SystemId" :0,
"Label":"online_2015_08_11_002"} From: iswebb03.pc.factset.com (164.55.87.72)
```

=> Note: This is `[QA]` stage; Tuesday.

```
[2015-08-21 07:57:08] Received: { "BuildId" : 19194, "SystemId" :0,
"Label":"online_2015_08_11_002"} From: isweba03.pc.factset.com (164.55.28.227)
```

=> Note: This is `[Released]` stage; Friday.

Note:

- SWP-GREEN is called only for **`[QA]`** and **`[Released]`** builds in this example. But at one point the [QA] build was a `[Devel] [RC]`
- The "`online_2015_08_11`" in Label says that the target QA date is 8/11/2015.

Corresponding SWP Builds in QAI UI

The following are the corresponding Status Web Page builds for the same cycle in QAI:

```
<option value="19074">08/20/2015 v123: online_2015_08_07_003 [Devel]</option>

<option value="19097">08/20/2015 v123: online_2015_08_10_001 [Devel]</option>

<option value="19102">08/20/2015 v123: online_2015_08_10_002 [Devel]</option>

<option value="19105">08/20/2015 v123 [RC]: online_2015_08_11_002 [QA]</option>

<option value="19194">08/20/2015 v123 [RC]: online_2015_08_11_002 [Released]
</option>
```

The QA and Released [RC] builds are highlighted in yellow.

Note:

- All texts begin with "`08/20/2015`", which is the target Online Release Date.
- [QA] and [Released] builds have text "`online_2015_08_11`", which is the target QA build date, but the [Devel] builds have text "online…" with the build creation date.
- All have same version "`v123`"
- The `value` attribute is the SWP Build ID (corresponding to `BuildId` in SWP-GREEN)
- The SWP build IDs are ***unique***

Corresponding Justifier API series

The following Justifier API Query shows the SWP Builds,

http://is.factset.com/justifier/api/Builds?$filter=(active%20eq%20true%20and%20Template/BuildSystem/Id%20eq%200)&$select=Id,DisplayName,OnlineReleaseDate,BuildStage/Name&$format=json

Output:


```
[
...
    {
        "$id": "3109",
        "BuildStage": {
            "$id": "3110",
            "Name": "Devel"
        },
        "Id": 19074,
        "DisplayName": "08/20/2015 v123: online_2015_08_07_003 [Devel]",
        "CreatedDate": "2015-08-07T11:21:09.87",
        "OnlineReleaseDate": "2015-08-20T00:00:00"
    },
    {
```

```
        "$id": "3111",
        "BuildStage": {
            "$id": "3112",
            "Name": "Devel"
        },
        "Id": 19097,
        "DisplayName": "08/20/2015 v123: online_2015_08_10_001 [Devel]",
        "CreatedDate": "2015-08-10T13:07:06.617",
        "OnlineReleaseDate": "2015-08-20T00:00:00"
    },
    {
        "$id": "3113",
        "BuildStage": {
            "$id": "3114",
            "Name": "Devel"
        },
        "Id": 19102,
        "DisplayName": "08/20/2015 v123: online_2015_08_10_002 [Devel]",
        "CreatedDate": "2015-08-10T20:22:07.473",
        "OnlineReleaseDate": "2015-08-20T00:00:00"
    },
    {
        "$id": "3115",
        "BuildStage": {
            "$id": "3116",
            "Name": "QA"
        },
        "Id": 19105,
        "DisplayName": "08/20/2015 v123 [RC]: online_2015_08_11_002 [QA]",
        "CreatedDate": "2015-08-11T12:42:50.583",
        "OnlineReleaseDate": "2015-08-20T00:00:00"
    },
    {
        "$id": "3125",
        "BuildStage": {
            "$id": "3126",
            "Name": "Released"
        },
        "Id": 19194,
        "DisplayName": "08/20/2015 v123 [RC]: online_2015_08_11_002 [Released]",
        "CreatedDate": "2015-08-21T07:57:05.49",
        "OnlineReleaseDate": "2015-08-20T00:00:00"
    }
]
```


The last two builds are `QA` and `Released` builds, as highlighted in yellow.

Note:

- The `CreatedDate` matches the receive date in SWP-GREEN

Overlapping Cycles and Days of Week Configuration

There are multiple concurrent cycles that overlap. That is, the second week of a two-week cycle may overlap the first week of another cycle.

For example, the following Justifier API entries are for the cycle with Online Release Date 8/27/2015:


```
[
...
    {
        "$id": "3117",
        "BuildStage": {
            "$id": "3118",
            "Name": "Devel"
        },
        "Id": 19155,
        "DisplayName": "08/27/2015 v124: online_2015_08_16_001 [Devel]",
```

```
        "CreatedDate": "2015-08-16T11:35:51.383",
        "OnlineReleaseDate": "2015-08-27T00:00:00"
    },
    {
        "$id": "3119",
        "BuildStage": {
            "$id": "3120",
            "Name": "Devel"
        },
        "Id": 19156,
        "DisplayName": "08/27/2015 v124: online_2015_08_16_002 [Devel]",
        "CreatedDate": "2015-08-16T17:07:48.62",
        "OnlineReleaseDate": "2015-08-27T00:00:00"
    },
    {
        "$id": "3121",
        "BuildStage": {
            "$id": "3122",
            "Name": "Devel"
        },
        "Id": 19164,
        "DisplayName": "08/27/2015 v124: online_2015_08_17_004 [Devel]",
        "CreatedDate": "2015-08-17T11:01:53.787",
        "OnlineReleaseDate": "2015-08-27T00:00:00"
    },
    {
        "$id": "3123",
        "BuildStage": {
            "$id": "3124",
            "Name": "QA"
        },
        "Id": 19172,
        "DisplayName": "08/27/2015 v124 [RC]: online_2015_08_18_001 [QA]",
        "CreatedDate": "2015-08-18T18:28:59.75",
        "OnlineReleaseDate": "2015-08-27T00:00:00"
    },
    {
        "$id": "3137",
        "BuildStage": {
            "$id": "3138",
            "Name": "Released"
        },
        "Id": 19271,
        "DisplayName": "08/27/2015 v124 [RC]: online_2015_08_18_001 [Released \\ Active]",
        "CreatedDate": "2015-08-27T19:20:55.703",
        "OnlineReleaseDate": "2015-08-27T00:00:00"
    }
]
```


The Week# below shows the weeks that we are tracking. The Week #2 highlighted in blue in the two tables below are the same week.

Builds of Online Cycle v123 for Release Date 8/20/2015:

Week#	Day of Week	Date	Stage
0	Fri	8/7/2015	Devel
1	Mon	8/10	Devel
1	Mon	8/10	Devel
1	**Tue**	8/11	QA
2	**Fri**	8/21*	Released

*Note: The target release date for this cycle was 8/20, but the actual release date was 8/21.

Builds of Online Cycle v124 for Release Date 8/27/2015:

Week#	Day of Week	Date	Stage
2	Sun	8/16/2015	Devel
2	Sun	8/16	Devel
2	Mon	8/17	Devel
2	**Tue**	8/18	QA
3	**Thu**	8/27	Released

Week #2 is the second week of the v123 cycle, and the first week of the v124 cycle, as highlighted in blue.

So the jobs for Online cycles could be configured with the following days of week:

The Thursday and Friday would be the [Released] build. The Tuesday would be the [QA] build.

At the time of job creation, there might not be a SWP Build, so the user could leave that empty.

SWP-GREEN Actions

When SWP-GREEN is called (by QAI), it should get the jobs configured to run on today's day of week. It will create job instances for those jobs' recurrence, including rows in CalendarEvent table in DB, STAF Cron jobs, and the corresponding <groupID>.html.

- Get today's day of week. For example, today is a Tuesday.
- Tuesday corresponds to Day2=1 in CalendarParent table (Day0 is Sunday), so query:

```
-- System ID 0 is Online
SELECT ParentID,…
FROM CalendarParent
WHERE JustifierSystemID = 0 AND RecurType IS NOT NULL AND Day2 = 1
AND IsDeleted = 0
```

- Call CalendarModel::generateInstancesForParent, for example:

```
list($event, $types) = self::canonicalFields($request, CalendarModel::
$parentDef, $customDefs['']);
$generatedEvents = CalendarModel::generateInstancesForParent($event, $to,
$dbh, $types, "", $parent);
```

  where,
  - `$parent` is a row from CalendarParent table.
  - `$to` is the UNIX timestamp; it will generate up to but no including that time. In this case, it would be tomorrow, so that it will only generate an event instance for today.
  - `$dbh` is the database handle (PDO object).
  - `$types` is column data type definitions, such as PDO::PARAM_INT.

Reference

Current Workflow to add a new test plan to Online Regression