

# Task Scheduler

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## Discussion

**PATH:** *System Administration > Preferences > Task Scheduler*

**SEARCH TERM:** *Task Scheduler*

The Task Scheduler tool allows users to schedule and manage automated system tasks. For example, the Task Scheduler can be used to regulate and execute the following types of tasks:

- **Built-in system tasks** - maintenance, data exchange, Campus processes
- **Custom maintenance tasks** - user-created tasks (e.g., attendance, grading, user management)
- **Reporting** - including district, state, custom, SQL, etc.

Use the Task Scheduler tool to set the dates and times for running SQL queries or Prism URL calls from the Campus database. Recurring tasks may be set to run hourly, daily, weekly or on monthly rotations. One-time tasks may also be scheduled.

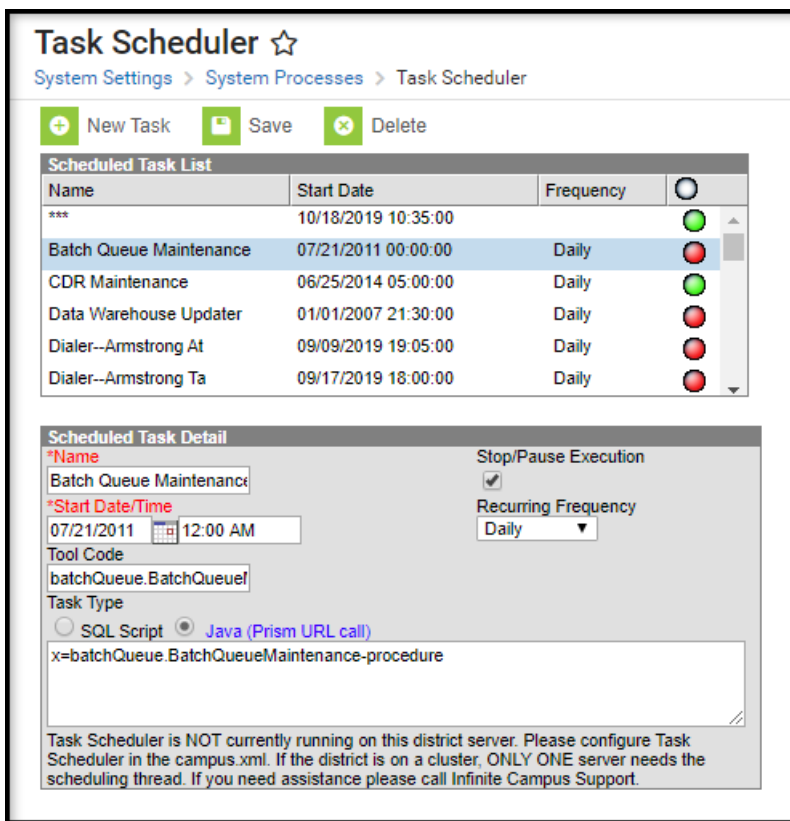


Image 1: Task Scheduler

Several areas of the Campus product rely on the *taskScheduler* for functional purposes, including:

- **Batch Queue** -- The **Batch Queue / Admin Queue** tools use the task scheduler for scheduled maintenance of batch reports.
- **Data Warehouse** -- The task scheduler is used to schedule and trigger periodic refreshes of the Data Warehouse tools.
- **Point of Sale** -- Districts using Point of Sale tools and functionality will see a scheduled task for messaging between the student system and the POS terminal application. This task updates balances to allow the POS terminals and a patron's journal account to reflect the same balance. This task is read-only and does not allow end user modifications; it is for viewing purposes only.
- **Voice and/or Email Messenger** -- The task scheduler allows scheduling and maintenance of message delivery. Attendance and behavior messages are scheduled and triggered by user-defined settings in the Task Scheduler tool.

## Technical Details and Integration

The Task Scheduler tool represents the *taskScheduler* element of the campus.xml file. The *taskScheduler* element executes a variety of system tasks required for optimal use of the Campus system. Infinite Campus Hosting staff enables the *taskScheduler* element and creates built-in tasks, as necessary for Campus system use.

When the *taskScheduler* is enabled, it allows a district to schedule and manage automated tasks through the System Administration > Preferences > Task Scheduler tool.

The *taskScheduler* is enabled when its value is set to "true" within the campus.xml file.

If using an application server pool, only one server in the pool should have *taskScheduler* enabled. Infinite Campus hosting generally enables *taskScheduler* on the first application server in a server pool.

## Tool Rights

**PATH:** *System Administration > User Security > Users/User Groups*

Users who define and schedule tasks in the Task Scheduler need full access rights (**RWAD**) to the tool.

Rights to the Task Scheduler tool should be restricted. Modifying Task Scheduler settings could seriously affect server performance and data processes. Preferably, only a system administrator should have rights to this tool.

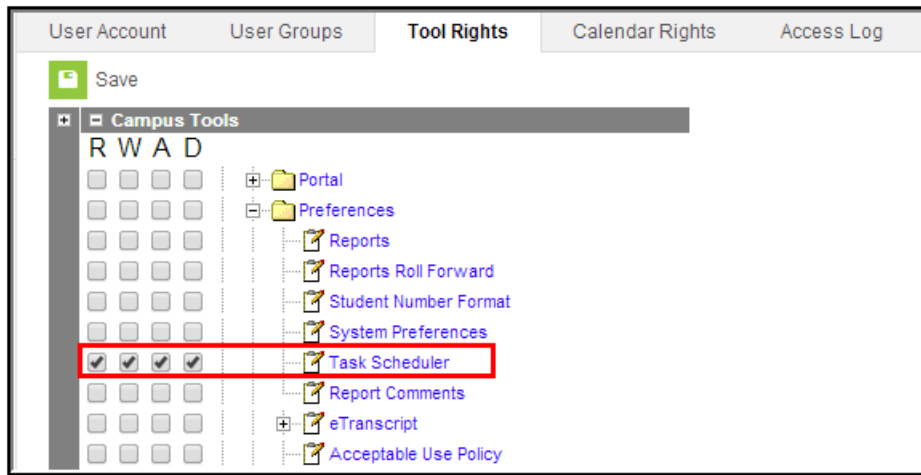


Image 2: Task Scheduler Tool Rights

## Scheduled Task List Editor

The Scheduled Task List editor on the Task Scheduler tool displays a list of existing, active and inactive tasks.

The task list displays a green or red circle to indicate the status of the task.

- A green circle indicates the task is currently active.
- A red circle indicates the task is currently inactive. If a task is red (inactive), the Stop/Pause Execution check box is flagged on the task or the *taskScheduler* is not enabled.

**Scheduled Task List**

Name	Start Date	Frequency	Status
AnchorageResidesExport	02/08/2012 08:00:00	Daily	Red
Batch Queue Maintenance	10/06/2010 00:00:00	Daily	Red
BehaviorMessenger--H	05/06/2010 13:03:00		Red
casedddd	04/05/2012 17:44:00		Red
<b>CDR Maintenance</b>	<b>12/23/2013 05:00:00</b>	<b>Daily</b>	<b>Green</b>
CleanupProcessInbox - Extra	08/19/2009 01:20:00	Daily	Red

**Scheduled Task Detail**

\*Name: CDR Maintenance  
 \*Start Date/Time: 12/23/2013 05:00 AM  
 Recurring Frequency: Daily  
 Stop/Pause Execution:

Task Type:  SQL Script  
 x=upload.Cloud-daily

Note: This task is locked and is not configurable using this interface.  
 Task Scheduler is NOT currently running on this district server. Please configure Task Scheduler in the campus.xml. If the district is on a cluster, ONLY ONE server needs the scheduling thread. If you need assistance please call Infinite Campus Support.

Image 3: Schedule Task List Editor

At the bottom of the Schedule Task Detail editor is a message that indicates whether or not the `taskScheduler` is enabled.

## Creating a New Task

In general, new tasks are only created for custom district/state procedures. Tasks needed for functionality of other Campus tools already exist within Campus.

Both custom and built-in tasks are shown in the Scheduled Task List editor. Certain built-in tasks are for viewing purposes only, and cannot be modified.

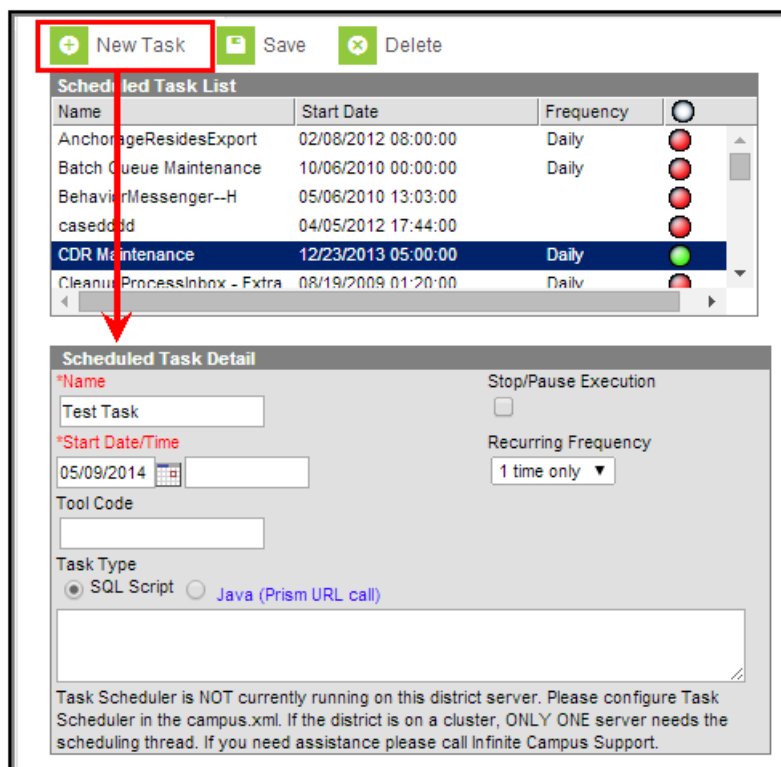


Image 4: Creating a New Task

### To create a new task:

1. Select the **New Task** icon from the action bar. The **Scheduled Task Detail** editor displays.
2. Enter information in the required **Name** and **Start Date/Time** fields. Indicate **AM** or **PM** for time field.
3. Select a **Task Type (SQL Script or Java)**.
4. Enter the commands/script in the text box below the **Task Type**.
5. Complete additional, non-required fields as necessary.
6. Click the **Save** button when finished.

# Field Definitions

Field	Definition
<b>Name</b>	The name identifying the scheduled task.
<b>Stop/Pause Execution</b>	<p>If flagged, checkbox indicates the task is not actively occurring.</p> <p>Inactive tasks will not occur, even if the current date is after the Start Date/Time set on the task and a Recurring Frequency has been set.</p>
<b>Start Date/Time</b>	<p>The time of day on which the task should be triggered for the first time. When a task is initially created, the time (and/or date) should be set at least five minutes in the future to avoid server clock discrepancies.</p> <p>Indicate AM or PM with a time, or set to military time.</p>
<b>Recurring Frequency</b>	<p>The pattern of repetition the task should follow. Options include:</p> <ul style="list-style-type: none"> <li>• Hourly</li> <li>• Daily</li> <li>• Weekly</li> <li>• Monthly</li> <li>• 1 Time Only (indicates task will not repeat)</li> </ul>
<b>Tool Code</b>	<p>This field is only for the auto-populated tool code of centralized printing tasks for reporting purposes.</p> <p>The user should not enter or modify anything in this field.</p>
<b>Task Type</b>	Indicates the type of task, either SQL Script or Java (Prism URL call).

## Batch Queue Maintenance Task

The Batch Queue Maintenance task is an automated task that deletes old reports from the [Batch Queue](#) / [Admin Queue](#) tools. If this task is applicable to a district/state, it will appear in the Task Scheduler.

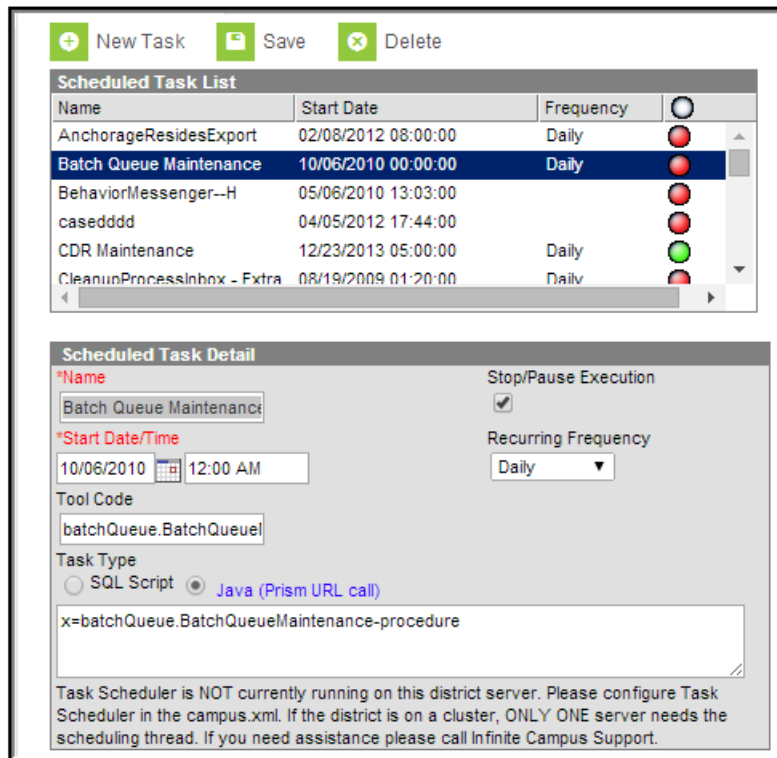


Image 5: Batch Queue Maintenance Task

This task will clear completed reports from the [Batch Queue / Admin Queue](#) tools after it has exceeded the maximum number of days for which it is allowed to remain. The maximum number of days is set in the **Batch Queue Expiration Days** field of the [System Preferences](#).

When a report is deleted from the [Batch Queue / Admin Queue](#) tools by this task, the details of its generation still appear on the [Batch Queue / Admin Queue](#) tools for tracking purposes (though the report itself was deleted).

The default setting of the Batch Queue Maintenance task sets it to execute every night at midnight. As necessary, execution settings for this task may be modified. This task can be deleted from the Scheduled Task List, however, it will be automatically rebuilt the next time the application server is restarted. If this task should be disabled, the **Stop/Pause Execution** checkbox should be marked.

## Viewing Reports Scheduled for Deletion

Each report displayed in the [Batch Queue / Admin Queue](#) tools will display its specific deletion date in the **Expires After** field of the Batch Queue Detail editor. This is the date the report will be removed from the queue, as long as the Batch Queue Maintenance task is executed on that date. If the maintenance task is not executed on that date, the report will be deleted the next time the maintenance task runs.

Batch Queue Detail		
Report Title		Status
Report		Completed
Queued Time		Get the report
09/02/2010	06:15:07 PM	
*Scheduled Time		Start Time
09/02/2010	06:17 PM	09/02/2010 06:17:01 PM
Expires After		End Time
09/17/2010		09/02/2010 06:17:06 PM
File Name		High Priority
SAAR.pdf		<input checked="" type="checkbox"/>
		Never Expires
		<input type="checkbox"/>
		Content Type
		User Name
		admin

Image 6: Example of a Report Scheduled for Deletion

Any report that has been manually excluded from the deletion process will NOT be deleted by the Batch Queue Maintenance task. These reports will have the **Never Expires** checkbox marked and the **Expires Date** crossed out within the Batch Queue Detail editor of the [Batch Queue / Admin Queue](#) tool.

When a report is deleted from the [Batch Queue / Admin Queue](#) tools by this task, the details of its generation will still appear on the [Batch Queue History](#) tab for tracking purposes (though the report itself was deleted).

## Data Warehouse Tasks

A scheduled task that assists data backup on behalf of the [Data Warehouse Settings](#) tools may exist within the Task Scheduler.

### Data Warehouse Updater Task

Users of data warehousing will see a read-only **Data Warehouse Updater** scheduled task. When applicable, Infinite Campus staff will insert this task for a customer.

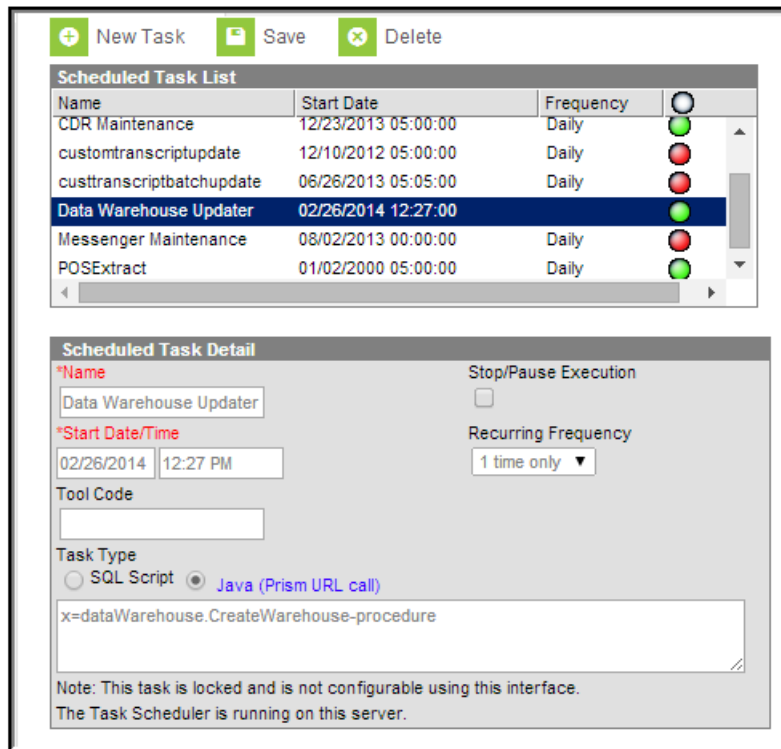


Image 7: Data Warehouse Updater Task

## Custom District Tasks

The following examples are custom district tasks that may be useful for Campus system administrators.

Infinite Campus highly recommends that these custom tasks be tested in a non-production site before implementing custom tasks on a live site.

This section includes example queries for the following custom district tasks:

- [Update Unknown Absences to Unexcused Absences](#)
- [Insert "NA" for Grading Scores](#)
- [Delete "NA" Grading Scores](#)
- [Update Custom Tabs with Custom District Data](#)
- [Hide Administrator Passwords](#)
- [Delete Scores from Grading Task](#)
- [Update Special Education Exit Dates with Enrollment Exit Dates](#)
- [Update the Special Education Exit Reason](#)
- [Remove Course from Transcript's Cumulative GPA](#)
- [Force Staff Password Changes](#)



## Update Unknown Absences to Unexcused Absences

This query can be used to update all existing unknown absences to unexcused absences.

The district must change the codes at the end of the SET/CASE statement to the codes appropriate to the district.

```
UPDATE a
SET a.excuseid = case COALESCE(x.status, a.status)
WHEN 'A' THEN (SELECT AE.excuseid FROM AttendanceExcuse AE WHERE a.calendarid = ae.calendarid AND ae.[code] = 'AU')
WHEN 'T' THEN (SELECT AE.excuseid FROM AttendanceExcuse AE WHERE a.calendarid = ae.calendarid AND ae.[code] = 'TU')
END
FROM dbo.Attendance a
LEFT OUTER JOIN dbo.AttendanceExcuse x ON x.excuseID = a.excuseID AND x.calendarID = a.calendarID
INNER JOIN calendar c ON c.calendarid = a.calendarid
INNER JOIN schoolyear sy on sy.endyear = c.endyear
WHERE (a.excuse is null and x.excuse is null)
AND sy.active=1
```

## Insert "NA" for Grading Scores

This query inserts "NA" for a score and a NULL percent for a specific task and calendar.

```
UPDATE gradingScore
SET score = 'NA', [percent] = NULL
WHERE taskID = '4' and calendarID = '38'
```

## Delete "NA" Grading Scores

This query deletes "NA" and NULL percent grading scores.

```
DELETE gradingscore
WHERE taskID = '4'
AND calendarID <> '38'
AND score = 'NA'
AND [percent] IS NULL
AND comments IS NULL
```

## Update Custom Tabs with Custom District Data

This query is an example of updating a custom tab with data from a custom district table (generally, this data is from another software application and has been inserted into the Custom District table by matching personIDs).

```
INSERT INTO customstudent (personid,attributeid,[value],[date])
SELECT personID,287,1,getdate()
FROM MyCustomStudentTable mcst
WHERE mcst.specificValue = 'M'
```

## Hide Administrator Passwords

This query sets the password to "REMOVE" for a specific list of users in the logged transaction file and hides the administrator passwords from people who have rights to user security tools.

```
UPDATE securityAccess
SET password = 'REMOVE'
FROM securityAccess
WHERE username IN ('AdminUser1','AdminUser2','AdminUser3','AdminUser3')
```

## Delete Scores from Grading Task

This query deletes all scores for a specific task; e.g., removing eligibility scores weekly so teachers can re-post to the same task without needing to create "W1 eligibility," "W2 Eligibility," "W3Eligibility" tasks.

```
DELETE
FROM GradingScore
WHERE taskID = '7'
```

## Update Special Education Exit Dates with Enrollment Exit Dates

This query updates special education exit dates with the enrollment exit dates for the current school year and a specific end status.

```
UPDATE enrollment
SET enrollment.spedExitDate = e.enddate
FROM enrollment e
INNER JOIN calendar c ON e.calendarID = c.calendarID
INNER JOIN schoolyear sy ON c.endyear = sy.endyear
WHERE e.enddate IS NOT NULL AND e.specialEdStatus = 1 AND e.spedExitDate IS NULL
AND sy.active = 1 AND e.endStatus NOT LIKE 'S%'
```

## Update the Special Education Exit Reason

This query updates the special education exit reason with specific codes depending on the enrollment end status.

```
UPDATE enrollment
SET enrollment.spedExitReason = Case e.endStatus WHEN 'W1' THEN '5'
WHEN 'W10' THEN '5' WHEN 'W9' THEN '5' WHEN 'W7' THEN '2' WHEN 'W8' THEN '4' WHEN 'W6' THEN '3' ELSE '7' END
FROM enrollment e INNER JOIN calendar c ON e.calendarID = c.calendarID
INNER JOIN schoolyear sy ON c.endyear = sy.endyear
WHERE e.enddate IS NOT NULL AND e.specialEdStatus = 1 AND e.spedExitReason IS NULL
AND sy.active = 1 AND e.spedExitDate = e.enddate AND e.endStatus NOT LIKE 'S%'
```

## Remove Course from Transcript's Cumulative GPA

This query gives a course a GPA weight of NULL so the course does not affect the transcript's cumulative GPA calculations.

```
UPDATE transcriptcourse
SET gpaweight = null
WHERE score IN ('P','F','6','8','9')
AND gpaweight IS NOT NULL
```

## Force Staff Password Changes

Updates the force change passwords for employees (other than the administrator account).

```
UPDATE ua
SET ua.forcechangepassword = 1
FROM useraccount ua
INNER JOIN EmploymentAssignment ea ON ea.personID = ua.personID
AND (ea.startdate <= GETDATE() AND (ea.enddate IS NULL OR ea.enddate >=GETDATE()))
WHERE 1=1
and (ua.homepage <> 'portal/main.xml' or ua.homepage is NULL) AND ua.username NOT IN ('AdminUser1','AdminUser2','AdminUser3','AdminUser3')
```