# LSS Getting Started To-Do List

 To get started using LSS to create schedules, you need to complete the following tasks.

* Verify a TLS/SSL certificate is present on the server before installing any additional application software.

Note: The person requesting the certificate will get the confirmation.

* [Enable the WebSocket Protocol](#topics_getting_started_enabling__4541).
* Install .net 6 if not already installed.
* [Install SFAS](http://usdca-lpsdv02/Guides/LPS2/install_SFAS.pdf) if not already installed.
* [Add LSS](#topics_getting_started_adding_ls_2699) users in SFAS.
* Install LSS using the installation wizard available on the Shop Floor FTP server at LPS3\LSS\Released\

Note: When installing LSS, is may appear to stall or hang. It is checking the server for the WebSocket protocol feature which may take up to five seconds.

* Verify the host and port for the connected applications (Efficiency Center, Dashboard, Stamping)
* Verify the host and port for SFAS.
* Set up the SFAS, LSS, and application data sources in the [LSS Monitor](#topics_monitor_config_setting_up_8508) configuration tool.
* Open the LSS application by clicking the LSS.Application short cut in the installation folder.
* [Verify the data source connections](#topics_getting_started_configuri_9061) in the LSS browser configuration.
* Select the application and engine in the [Application Selection](#topics_getting_started_selecting_6828) window.
* [Select the production lines](#topics_getting_started_selecting_5640) for which you are creating Efficiency Center schedules.
* [Set the effective dates and  expected and ideal values](#topics_efficiency_center_setting_9655) for each production line included in the associated Efficiency Center engine.
* Create [schedules](#_Adding_and_Maintaining) with or without breaks for collecting job production values.

## Related Topics

|  |  |
| --- | --- |
|  | [Adding a Schedule](#topics_schedules_adding_a_generi_3581) |
|  | [Adding an Efficiency Center Schedule](#topics_efficiency_center_adding__7895) |
|  | [Editing a Schedule](#topics_schedules_editing_a_sched_3927) |
|  | [Editing an Efficiency Center Schedule](#topics_efficiency_center_editing_3501) |

# Setting Effective dates and Expected & Ideal Values for an Efficiency Center Engine

Schedules send the start and end time and frequency for collecting jobs per hour information for an engine. Schedules also include the expected and ideal jobs per hour to be collected during that time period. The Configure > Engine Options of the Explorer enables you to set the values and which custom instruments should produce those numbers through the Engine Options pop-up window.

Note: You must define expected and ideal values before you can add any schedules. A reminder prompt is displayed if you haven't set any values.

You can add new expected and ideal values. You can also edit existing values.

To set expected and ideal values:

1. Click Configure > Engine Options in the Explorer. View?

The Engine Options window opens to display the production lines for the associated Efficiency Center engine.

Note: Efficiency Center engines that need attention are highlighted in red italics. A prompt identifying what needs to be reviewed is displayed at the top of the window.

1. Select the engine for which you are adding ideal and expected values from the drop-down list. The Add Effective Date button is displayed. Defined expected and ideal values for existing engines and their effective dates are displayed.

Note: You must have the correct change/edit LSS permissions in SFAS to see the Add Effective Date button.

If the effective dates for any production line have expired, an alert is returned. For example:

The expired record is inactive and will no longer be displayed. A temporary record is created with an expected and ideal value of 999 and new From and To dates.

* 1. Review the dates for those production lines in the Engine Options page and make any corrections as necessary.
  2. Close the alert window.
  3. Click Edit () for the engine to update to open the row in edit mode in the Engine Options page where you can update the effective dates, values, and custom instruments.

Note: You must have edit permissions in [SFAS](#topics_getting_started_adding_ls_2699) to see the Edit icon.

* 1. Click Save () to save your changes and return to the Engine Options page with the updated values present in the page grid. For example:

1. Click the Add Effective Date button to add a new set of dates and values. A new row is added to the Engine Options page.
2. Using the date widgets, select the From and To dates for which the expected and ideal values are valid.
   * You cannot select a From date earlier than the current date.
   * When you add a new set of dates and values for an engine, the From date defaults to the last To date plus one. If the latest To date is 9/23/2023, for example, the new set of effective dates defaults the From date to 9/24/2023. You can select the To date.
3. Enter or select the Expected and Ideal values for each production line.
   * The Ideal value must be greater than the Expected value if it the Expected value is greater than zero.
   * Zero is a valid value if the line is not expected to produce jobs during the effective dates.
4. Select the custom instruments that should use those values during the selected time frame.
5. Click the Save icon () to save your selections. The new dates and value selections are added to the Engine Options  grid for the engine.
6. If you select custom instruments in step 6, click the Submit to EC button in the upper right corner to push the values to Efficiency Center.

The Engine Options window is displayed to show the affected production lines, passed values, and affected custom instruments.

Note: Anytime you change the expected and ideal values for a production line for the current time frame, you must submit the changes to EC to make the changes effective there. All schedules present in the Scheduler are updated to Efficiency Center when you click Submit to EC.

# Prerequisites

## Requesting a TLS/SSL Certificate

A TLS/SSL certificate must be installed on the server where LSS will be installed. The certificate must be present before installing any LSS application software.

To request a TLS/SSL certificate:

1. Enter help.lear.com in your browser to access Ivanti.
2. Search for TLS/SSL in the Service Catalog.
3. Click the TSL/SSL tile that is returned.
4. Complete the TLS/SSL Certificate Request form as follows:
5. Click Review & Submit.

A confirmation will be sent to the certificate requestor when the certificate has been installed.

|  |  |
| --- | --- |
|  |  |

## Enabling the WebSocket Protocol

The WebSocket Protocol must be installed and enabled on the server to run LSS.

To install or enable the protocol:

1. From the Server Dashboard window, click Add Roles and Features.

The Before You Begin page is returned.

1. Click Next until you reach the Server Roles page.
2. Scroll down to the Web Server (IIS) check box and expand the selection.
3. Expand the Web Server option.
4. Expand the Application Development option.
5. Select the WebSocket Protocol check box if it is not already selected.
6. Click Install when the button is enabled.

# Getting Started with the LSS Application

## What is LSS and How Does it Work

Lear Scheduling System , or LSS, is a browser- based scheduling tool for LPS3 applications, including Dashboard, Efficiency Center, and Stamping. You use LSS to create schedules that define shift start times, end times, and how often to repeat the schedule.

### LSS and Efficiency Center

In addition to shift start and end times, LSS provides additional functionality for Efficiency Center schedules. It has access to the production lines in Efficiency Center through Engine Event data sources defined in EC. Both an expected and ideal jobs per hour value are defined for each data source in LSS   LSS also has access to custom instruments for each production line. Saved schedules are stored in the LSS data base and submitted to Efficiency Center. When you submit a schedule to Efficiency Center, it is saved in EC as a data source with the expected and ideal production values. A pop-up window opens to allow you to select which custom instruments will use this schedule (data source).

### LSS Data Flow

The diagram below is a high-level representation of how data is passed between LSS and the associated applications.  Efficiency Center differences are identified with an asterisk.

## LSS Getting Started To-Do List

 To get started using LSS to create schedules, you need to complete the following tasks.

### LSS To-Do List

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Note: The person requesting the certificate will get the confirmation.

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* Install LSS using the installation wizard available on the Shop Floor FTP server at LPS3\LSS\Released\

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* Verify the host and port for the connected applications (Efficiency Center, Dashboard, Stamping)
* Verify the host and port for SFAS.
* Set up the SFAS, LSS, and application data sources in the [LSS Monitor](#topics_monitor_config_setting_up_8508) configuration tool.
* Open the LSS application by clicking the LSS.Application short cut in the installation folder.
* [Verify the data source connections](#topics_getting_started_configuri_9061) in the LSS browser configuration.
* Select the application and engine in the [Application Selection](#topics_getting_started_selecting_6828) window.
* [Select the production lines](#topics_getting_started_selecting_5640) for which you are creating Efficiency Center schedules.
* [Set the effective dates and  expected and ideal values](#topics_efficiency_center_setting_9655) for each production line included in the associated Efficiency Center engine.

When you have completed these tasks, you can create schedules  with or without [breaks](#topics_maintaining_breaks_adding_2630) for collecting job production values.

## Requesting a TLS/SSL Certificate

A TLS/SSL certificate must be installed on the server where LSS will be installed. The certificate must be present before installing any LSS application software.

To request a TLS/SSL certificate:

1. Enter help.lear.com in your browser to access Ivanti.
2. Search for TLS/SSL in the Service Catalog.
3. Click the TSL/SSL tile that is returned.
4. Complete the TLS/SSL Certificate Request form as follows:
5. Click Review & Submit.

A confirmation will be sent to the certificate requestor when the certificate has been installed.

### Related Topics

|  |  |
| --- | --- |
|  | [LSS Getting Started To-Do List](#topics_getting_started_lss_getti_9109) |
|  |  |

## Adding LSS Users in SFAS

LSS application security is managed using the Lear SFAS application. Each user must have an account with an LSS role and permissions. Actions a user can perform in LSS depend on the user's SFAS account, roles, and permissions.

Directions for adding  accounts and assigning permissions in SFAS are available from the [SFAS User Guide](http://usdca-lpsdv02/Guides/LPS2/sfas/index.htm).

The images below shows available LSS roles in SFAS and permissions for the LSS Scheduler role.

### LSS Roles

### LSS Scheduler Permissions

## The LSS Application Window

When you log in to LSS, the Application Selection window is displayed.

The application window has three frames:

* [Function Bar](#topics_getting_started_the_lss_s_7806)
* [Explorer](#topics_getting_started_the_lss_s_1712)
* [Scheduler](#topics_getting_started_the_lss_s_894)

### Function Bar

The function bar at the top of the window contains the following buttons and functions:

* Hello <user name>
* Switch User. Return to the LSS login screen to switch users.
* Help. View the LSS User Guide.
* Logout. Log out of LSS.
* About. View LSS copyright information.

### Explorer

The Explorer in the left side of the window enables users to navigate through the application. It has the following destinations:

* Home. Display the scheduler for the current week.
* Configuration. [View the configuration window](#topics_getting_started_configuri_9061) where you can update configuration settings for applications using LSS.
* Production Line. [Select the production lines](#topics_getting_started_selecting_5640) for which you are maintaining schedules.

### Scheduler

The Scheduler is the [calendar view](#topics_getting_started_the_sched_3516) though which you can add and edit schedules and breaks. When you access LSS this frame includes drop-down fields to select a client (application) and an instance of the client. When you make the selections and click Show Scheduler, the schedule window is displayed in this frame.

## Configuring the LSS Browser

LSS connects to data sources for the following database and applications:

* Dashboard
* Efficiency Center
* Stamping
* LSS Database
* SFAS

The Configuration option in the LSS explorer enables you to update the properties for those entities as well as the System time out, based on your security options.

Note: You can also [add data sources on demand](#topics_data_sources_on_demand_ad_2873) in the Application Data Source Settings window.

Note: Data sources are added using the LSS Monitor [configuration tool](#topics_monitor_config_setting_up_8508).

To update data sources in LSS:

1. Click Configuration > Settings in the LSS explorer panel.

The Application Data Source Settings window opens to the LSS system settings. View?

1. Click Edit to enter Edit mode if the option is available.

Editable fields are identified.

Note: Edit mode and editable fields available to you are based on your security settings.

1. Make the necessary changes.
2. Click the Select Settings drop-down to view additional data sources to edit.

Note: Click the Refresh button to refresh the list of data sources. Any additions or deletions completed in the LSS Monitor will be updated in the list.

1. Click another data source to update, if necessary.

Note: The window stays in Edit mode until you click Save.

1. Make the necessary changes and click Save when you have completed all current data source updates.

The following properties may be displayed based on the setting you select:

|  |  |
| --- | --- |
| **Field** | **Explanation** |
| **App Client ID** | System-assigned ID. Visible for Efficiency Center and Stamping engines. Not editable. |
| **Host** | Enter the url for the application engines for which you are maintaining schedules. |
| **Port** | Enter the port that is listening for LSS messages. |
| **Application Instance Name** | Enter a name for the Stamping instance. |
| **Use Application Instance?** | Select this check box to enable communication with this Stamping instance. |
| **Minimum Connection Attempt Time** | Enter the minimum number of seconds to wait for a connection to SFAS. |
| **Maximum Connection Attempt Time** | Enter the maximum number of seconds to wait for a connection to SFAS. |
| **Setting Name** | System-assigned name for the settings. Not editable. |
| **Database Connection** | Click the plus sign to expand this field. |
| **Application Name** | Enter the application name if different than the default LSS. |
| **Server Name** | Enter the server name or url. |
| **Server Fail over Partner Name** | Enter the backup server name or url. |
| **Database Name** | Enter a database name if different than the default LSS. |
| **User Name** | Enter LSSDataGateway if it is not already there. |
| **Password** | Enter LSSDataGateway if it is not already there. |
| **Command Timeout** | Enter the number of seconds to wait for a message from the database before timing out. |
| **Enabled** | Select this check box, if it is not already selected,to enable the connection to the database. |
| **Guid** | This field displays the system-assigned GUID. |
| **Name** | Enter a name to identify the database in LSS. The default is LSS Database. |
| **Type Name** | System-assigned database type. Not editable. |
| **Scheduled** | Select this check box. |
| **Time Interval** | Enter the minimum number of minutes to wait before sending new messages to Efficiency Center from LSS. |
| **Force Recycle** | Select True to force the application engine to recycle when it receives messages from LSS. The default is False. |
| **Send Deletes Immediately** | Select this check box, if it is not already selected, to send delete messages to the application engine immediately. Select False to collect the delete messages and send them to the application when other changes are processed. |

## Adding a Data Source on Demand

Data sources connect LSS with the different applications that use schedule information. The data sources can be added in the LSS Monitor tool. They can also be added on demand.

Note: You must have the Can add data sources permission selected in SFAS to add data sources on demand within the LSS application.

To add a data source on demand:

1. Click Configuration>Settings in the Explorer.

The Application Data Source Settings window is returned.

1. Click the Add a new datasource setting drop-down list field, and click the type of data source to create.
2. Click Add New Database.

A confirmation message included the default data source name is returned. Click Close to continue.

1. Select the newly created data source in the System Settings drop-down list field.

The data source is displayed in read-only mode.

1. Click Edit to make the data source editable.
2. Update the fields as necessary for your data source.

You can add the following data sources:

* + Dashboard Client
  + Efficiency Center Client
  + Stamping Client
  + LSS Database Connection
  + SFAS Connection

1. Click Save to save your entries.

## Selecting an Engine or Application

The Application Selection screen is returned when you log into LSS or click Home in the Explorer.

Use this page to select the engine or application for which you are creating and maintaining schedules.

To select an application:

1. Click the Select LPS Client drop down list to view the available applications.

If the selected application has multiple instances, the Select Instance field is enabled.

* 1. Click the application for which you are managing schedules.
  2. Click the Select Instance drop-down to view the options.
  3. Click the instance for which you are viewing, adding, or editing a schedule.

1. Click Show Scheduler to view the current schedule for the selected application and instance.

Note: When you select Efficiency Center, a Submit to EC button is visible in the Schedule window.

# Setting Up LSS Data Sources in the LSS Monitor

## Setting Up Application Data Sources in the LSS Monitor

LSS connects to other LPS3 applications through data sources for each application engine. The data sources are defined in the Data Sources tab in the LSS Configuration tool in the LPS Monitor.

To use the LSS Configuration tool:

1. Click the LSS.Monitor short cut in the installation folder.

The LSS Monitor window is returned. View?

1. Click Tools>Configuration Editor.

The Configuration Editor window opens to the Data Sources tab.

1. Right-click in the window to view data source configuration options. View?

You can add the following data sources:

* + [Dashboard Client](#topics_monitor_config_adding_a_d_1920)
  + [Efficiency Center Client](#topics_monitor_config_adding_an__3148)
  + [Stamping Client](#topics_monitor_config_adding_a_s_8960)
  + [LSS Database Connection](#topics_monitor_config_adding_an__6858)
  + [SFAS Connection](#topics_monitor_config_adding_an__5492)

You can also:

* + [Copy a data source](#topics_monitor_config_copying_a__8311)
  + [Remove a data source](#topics_monitor_config_removing_a_6053)
  + [Test the database connection](#topics_monitor_config_testing_th_1215)
  + [Get the database version](#topics_monitor_config_checking_t_6999)

## Adding a Dashboard Client Data Source

A Dashboard Client data source is needed to share schedules with a dashboard client.

To add a dashboard client data source:

1. Click Add>Apps>Dashboard Client in the Data Source tab. View?

LPS Dashboard Client Data SourceN is displayed in the left panel where N is a system-assigned value.

1. The properties panel is updated. View?
2. Complete the properties panel:

|  |  |
| --- | --- |
| **Field** | **Explanation** |
| **Name** | Enter a name for this data source if different than the default. |
| **Enabled** | Select True, if it is not already selected,to  enable LSS to connect to this dashboard instance. |
| **Host** | Enter the url for the application engines for which you are maintaining schedules. |
| **Port** | Enter the port that is listening for LSS messages. |
| **Force Recycle** | Select True to force the dashboard to recycle when it receives messages from LSS. The default is False. |
| **Send Deletes Immediately** | Select True to send delete messages to the Dashboard as they occur. Select False to store delete messages and send when other changes are processed and sent. |

1. Click File>Save to save your entries.

## Adding an Efficiency Center Client Data Source

An Efficiency Center Client data source is needed to share schedules with an Efficiency Center client.

To add an Efficiency Center client data source:

1. Click Add>Apps>Efficiency Center Client in the Data Source tab. View?

LPS 3 Efficiency Client Data SourceN is displayed in the left panel where N is a system-assigned value. View

The properties panel is updated. View?

1. Complete the properties panel:

|  |  |
| --- | --- |
| **Field** | **Explanation** |
| **Name** | Enter a name for this data source if different than the default. |
| **Enabled** | Select True, if it is not already selected,to make this client instance available to LSS. |
| **Host** | Enter the url for the application engines for which you are maintaining schedules. |
| **Port** | Enter the port that is listening for LSS messages. |
| **Force Recycle** | Select True to force the Efficiency Center or Stamping engine to recycle when it receives messages from LSS. The default is False. |
| **Scheduled** | Select True to send data to Efficiency Center periodically. |
| **Time Interval** | Enter the minimum number of minutes to wait before sending new messages to Efficiency Center from LSS. |
| **Send Deletes Immediately** | Select True to send delete messages to the Efficiency Center as they occur. Select False to store delete messages and send when other changes are processed. |

1. Click File>Save to save your entries.

## Adding a Stamping Client Data Source

A Stamping Client data source and instance is needed to share schedules with LSS.

To add a Stamping client data source:

1. Click Add>Apps>Stamping Client in the Data Source tab. View?

LPS Stamping Client Data SourceN is displayed in the left panel where N is a system-assigned value. View

The properties panel is updated. View?

1. Complete the properties panel:

|  |  |
| --- | --- |
| **Field** | **Explanation** |
| **Application Instance Name** | Enter a name for this Stamping client instance. |
| **Use Application Instance?** | Select True to enable communication with this Stamping instance. |
| **Name** | Enter a name for this data source if different than the default. |
| **Enabled** | Select True, if it is not already selected,to make this client instance available to LSS. |
| **Host** | Enter the url for the application engines for which you are maintaining schedules. |
| **Port** | Enter the port that is listening for LSS messages. |
| **Force Recycle** | Select True to force the Stamping engine to recycle when it receives messages from LSS. The default is False. |
| **Send Deletes Immediately** | Select True to send delete messages to Stamping as they occur. Select False to store delete messages and send when other changes are processed. |

1. Click File>Save to save your entries.

## Adding a Dashboard Client Data Source

A Dashboard Client data source is needed to share schedules with a dashboard client.

To add a dashboard client data source:

1. Click Add>Apps>Dashboard Client in the Data Source tab. View?

LPS Dashboard Client Data SourceN is displayed in the left panel where N is a system-assigned value.

1. The properties panel is updated. View?
2. Complete the properties panel:

|  |  |
| --- | --- |
| **Field** | **Explanation** |
| **Name** | Enter a name for this data source if different than the default. |
| **Enabled** | Select True, if it is not already selected,to  enable LSS to connect to this dashboard instance. |
| **Host** | Enter the url for the application engines for which you are maintaining schedules. |
| **Port** | Enter the port that is listening for LSS messages. |
| **Force Recycle** | Select True to force the dashboard to recycle when it receives messages from LSS. The default is False. |
| **Send Deletes Immediately** | Select True to send delete messages to the Dashboard as they occur. Select False to store delete messages and send when other changes are processed and sent. |

1. Click File>Save to save your entries.

## Adding an LSS Database Connection

LSS scheduling information is stored in an LSS database. You must create a data source to connect the application and the database.

To create a database connection data source:

1. Click Add>Database Connection in the Data Sources tab. View?

Generic Database Connection Data SourceN is displayed in the left panel where N is a system-assigned number.

The properties window is updated. View?

1. Complete the properties window:

|  |  |
| --- | --- |
| **Field** | **Explanation** |
| **Name** | Enter a name for the data source if different than the default. |
| **Database Connection** | Click the plus sign to expand this field. |
| **Application Name** | Enter the application name if different than the default LSS. |
| **Command Timeout** | Enter the number of seconds to wait for a message from the database before timing out. |
| **Database Name** | Enter a database name if different than the default LSS. |
| **Password** | Enter LSSDataGateway if it is not already there. |
| **Server Fail over Partner Name** | Enter the backup server name or url. |
| **Server Name** | Enter the server name or url. |
| **User Name** | Enter LSSDataGateway if it is not already there. |
| **Enabled** | Select this check box, if it is not already selected,to enable the connection to the database. |

1. Click File>Save to save your entries.

## Adding an SFAS Data Source

LSS security is managed through SFAS. You need to create an SFAS Data Source to enable the communication.

To add an SFAS data source:

1. Click Add>SFAS Connection in the Data Sources tab. View?

SFAS Data SourceN is displayed where N is a system-assigned number.

The properties panel is updated. View?

1. Complete the properties window:

|  |  |
| --- | --- |
| **Field** | **Explanation** |
| **Name** | Enter a name to identify the data source if different than the default. |
| **Enabled** | Select True to enable communication between LSS and SFAS. |
| **Host** | Enter the url for SFAS. |
| **Minimum Connection Attempt Time** | Enter the minimum number of seconds to wait for a connection to SFAS. |
| **Maximum Connection Attempt Time** | Enter the maximum number of seconds to wait for a connection to SFAS. |
| **Port** | Enter the port that is listening for LSS messages. |

1. Click File>Save to save your entries.

## Copying a Data Source

You may want to copy a data source if it contains most of the content you need for another data source. You can copy the existing data source to a new name and make the necessary changes for the new data source.

To copy a data source:

1. Highlight the data source to copy in the left panel.
2. Right-click, then click Copy in the in the drop-down menu. View?

N is added to the selected data source name, where N is a system-generated number.

1. Select the copied data source to display the properties in the right-panel.
2. Update the properties as needed.
3. Click File>Save in the menu bar to save your entries.

## Removing a Data Source

You can remove a data source if it is no longer needed.  You may want to disable the data source instead so that it can be reused later if necessary.

To remove a data source:

1. Highlight the data source in the left panel of the Data Sources tab.
2. Right-click in the tab, then click Remove. View?

A confirmation prompt is displayed. View?

1. Click Yes to continue.

The data source is no longer available in the left panel.

Note: If the data source has dependencies, an alert listing the dependencies is displayed and you cannot remove the tag.

Click OK to continue. You must remove the dependencies before deleting the data source.

1. Click File>Save in the menu bar to save your entries.

To disable a data source:

1. Highlight the data source in the left panel to display the data source properties.
2. Select False in the Enabled field.
3. Click File>Save in the menu bar to save your entries.

## Testing the Database Connection

To test the LSS database connection:

1. Right-click the database data source to test, then click Test DB Connection. View?

A window displays the result of the query. View?

1. Click OK to close the window.

## Checking the Database Version

To identify the LSS database version being used:

1. Right-click a database connection data source in the Data Sources tab, then click Get DB Version Info. View?

The Versions window displays the query result. For example:

1. Click OK to close the window.

# Adding and Maintaining Schedules and Breaks

## The Scheduler Window and Features

The Scheduler is the calendar view through which you can add and edit schedules, and [add breaks](#topics_maintaining_breaks_adding_2630) in a schedule.

It has the following features:

* A color key to quickly identify the schedule type. (**1**)
  + A schedule that lasts less than 24 hours but occurs multiple times is a recurring event and is displayed in blue. Schedules that are all day events are gold even if they occur multiple days or weeks.
  + Efficiency Center Simple Throughput Custom Instruments are all day schedules.
  + A selected schedule is highlighted in red.
* Navigation buttons to scroll to past days or future days. (**2**)

The scheduler scrolls based on the selected filter. That is, if Day is selected, the view moves one day. If Week is selected, the view moves one month. If Month is selected, the view moves one month.

* Day, week, and month filters. (**3**)

Click a button to filter the view by that time period.

* Day and date column labels (**4**)
* Hour labels (**5**)

## Adding a Schedule

A schedule (event or appointment) identifies the time period for which data is collected.

To add a schedule:

1. Click Home in the Explorer.

The Application Selection page is returned. View?

1. Select an LPS client from the drop-down list field.

If the client has multiple instances (i.e., Stamping), select the instance in the Select Instance drop-down field.)

1. Click Show Scheduler.

The [Scheduler](#topics_getting_started_the_sched_3516) window is displayed.

1. Double-click the cell for the schedule time and date you want to add.

The Event pop-up window is returned. View?

1. Complete the window.
   1. Enter a title for the schedule. This value is displayed in the Scheduler.

Note: This name is also selectable in the System Settings drop-down in the Application Data Source Settings window, which is displayed when you click Configuration in the Explorer.

* 1. Select the Start and End date and time.

Use the calendar widgets to adjust the dates and times, which default to the selected cell properties.  
If the schedule is for the entire day, select the All Day Event check box.

* 1. Select how often to repeat the schedule using the Repeat field buttons.

The following additional fields are displayed based on your selection:

* + - Repeat every. Select how many times to repeat the schedule based on the selected time period. For example, to repeat the schedule every day, month, week, or year, select 1; every other, select 2; every third, select 3; etc.
    - Repeat on. Select when in the time period to repeat the schedule.
    - End. Select when to end the schedule. You can end the schedule after a number of occurrences or a specific date. You can also repeat the schedule indefinitely by clicking Never in the End field.
  1. Enter a description of the schedule, if needed.
  2. Click Save.

The schedule is displayed in the Scheduler. View? The value entered in the Tile field is displayed at the top of the schedule.

1. [Add breaks](#topics_maintaining_breaks_adding_2630), if appropriate.

## Editing a Schedule

Plants may need to alter a schedule for many reasons such as unexpected shutdowns, special holidays, weather-related maintenance. Schedules can be changed whenever needed.

To edit a schedule:

1. Click Home in the Explorer.

The Application Selection page is returned. View?

1. Select an LPS client from the drop-down list field.

If the client has multiple instances (i.e., Stamping), select the instance in the Select Instance drop-down field.)

1. Click Show Scheduler.

The [Scheduler](#topics_getting_started_the_sched_3516) window is displayed.

1. Double-click the schedule to change.

The Edit Recurring Appointment pop-up window is displayed. View?

1. Select what appointment in the schedule to edit.
   * Click Edit current occurrence to change only the selected schedule occurrence.

The Event window for the selected schedule is displayed.

* + Click Edit the series to change all instances of the schedule.

The Event window for the entire series is displayed.

1. Edit the schedule values, as needed.
   * To associate the schedule with an engine, right-click the schedule and click [Maintain Engines](#topics_schedules_adding_a_schedu_2776) in the drop-down menu.
   * To associate a stamping schedule with presses, right click the schedule and click [Maintain Machines (Stamping)](#topics_schedules_adding_a_stampi_4771) in the drop-down menu.
2. [Add](#topics_maintaining_breaks_adding_2630), [edit](#topics_maintaining_breaks_changi_1428) or [delete](#topics_maintaining_breaks_deleti_6008) schedule breaks, as needed.
3. Click Save.

## Adding a Schedule to Different Presses

You can associate a Stamping schedule with different presses using the Maintain Machines (Presses) right-click menu option.

To associate a schedule with presses in the Scheduler window:

1. Right-click in the schedule in the Scheduler window.
2. Click Maintain Machines (Stamping) in the drop-down menu. View?

The Stamping Machines selection window is returned. View?

1. Select or clear the press check boxes as needed.
2. Click Close when finished.

## Adding a Schedule to a Production Line

You can associate an existing schedule for a production line using the Maintain Engines right-click menu option.

To associate a schedule with an engine in the Scheduler window:

1. Right-click in the schedule in the Scheduler window.
2. Click Maintain Engines in the drop-down menu. View?

The Production Lines selection window is returned. View?

1. Select or clear the production line check boxes as needed.
2. Click Close when finished.

## Maintaining Efficiency Center Schedules

### Setting Effective dates and Expected & Ideal Values for an Efficiency Center Engine

Schedules send the start and end time and frequency for collecting jobs per hour information for an engine. Schedules also include the expected and ideal jobs per hour to be collected during that time period. The Configure > Engine Options of the Explorer enables you to set the values and which custom instruments should produce those numbers through the Engine Options pop-up window.

Note: You must define expected and ideal values before you can add any schedules. A reminder prompt is displayed if you haven't set any values.

You can add new expected and ideal values. You can also edit existing values.

To set expected and ideal values:

1. Click Configure > Engine Options in the Explorer. View?

The Engine Options window opens to display the production lines for the associated Efficiency Center engine.

Note: Efficiency Center engines that need attention are highlighted in red italics. A prompt identifying what needs to be reviewed is displayed at the top of the window.

1. Select the engine for which you are adding ideal and expected values from the drop-down list. The Add Effective Date button is displayed. Defined expected and ideal values for existing engines and their effective dates are displayed.

Note: You must have the correct change/edit LSS permissions in SFAS to see the Add Effective Date button.

If the effective dates for any production line have expired, an alert is returned. For example:

The expired record is inactive and will no longer be displayed. A temporary record is created with an expected and ideal value of 999 and new From and To dates.

* 1. Review the dates for those production lines in the Engine Options page and make any corrections as necessary.
  2. Close the alert window.
  3. Click Edit () for the engine to update to open the row in edit mode in the Engine Options page where you can update the effective dates, values, and custom instruments.

Note: You must have edit permissions in [SFAS](#topics_getting_started_adding_ls_2699) to see the Edit icon.

* 1. Click Save () to save your changes and return to the Engine Options page with the updated values present in the page grid. For example:

1. Click the Add Effective Date button to add a new set of dates and values. A new row is added to the Engine Options page.
2. Using the date widgets, select the From and To dates for which the expected and ideal values are valid.
   * You cannot select a From date earlier than the current date.
   * When you add a new set of dates and values for an engine, the From date defaults to the last To date plus one. If the latest To date is 9/23/2023, for example, the new set of effective dates defaults the From date to 9/24/2023. You can select the To date.
3. Enter or select the Expected and Ideal values for each production line.
   * The Ideal value must be greater than the Expected value if it the Expected value is greater than zero.
   * Zero is a valid value if the line is not expected to produce jobs during the effective dates.
4. Select the custom instruments that should use those values during the selected time frame.
5. Click the Save icon () to save your selections. The new dates and value selections are added to the Engine Options  grid for the engine.
6. If you select custom instruments in step 6, click the Submit to EC button in the upper right corner to push the values to Efficiency Center.

The Engine Options window is displayed to show the affected production lines, passed values, and affected custom instruments.

Note: Anytime you change the expected and ideal values for a production line for the current time frame, you must submit the changes to EC to make the changes effective there. All schedules present in the Scheduler are updated to Efficiency Center when you click Submit to EC.

### Selecting Production Lines

An Efficiency Center engine can support multiple production lines. For example, an engine can have a separate production line for the front row and second row. Data for each production line is associated with its own Engine Event data source inside Efficiency Center.

1. Click Production Lines in the Explorer to display a drop-down window of the Engine Event data sources for the associated engine. View?
2. Select the data sources for the production lines (engine event data sources) for which you are adding schedules.

Click Select All to select all production lines.

Once you have selected the production lines, you can [set the engine options](#topics_efficiency_center_setting_9655).

### Adding an Efficiency Center Schedule

A schedule (event or appointment) identifies the time period for which data is collected.

To add an Efficiency Center schedule:

1. Select Efficiency Center in the Application Selection window.
2. Click Show Scheduler.

The Scheduler window is returned.

1. [Select the production line](#topics_getting_started_selecting_5640) for which you are creating a schedule. View?
2. [Set the Expected and Ideal values](#topics_efficiency_center_setting_9655) for the engine.
3. Re-display the Scheduler.
4. Double-click the cell for the schedule time and date.

The Event pop-up window is returned. View?

1. Complete the Event window.
   1. Enter a title for the schedule.

This value is displayed in the Scheduler and is the name assigned to the data source in Efficiency Center.

* 1. Select the Start and End date and time.

Use the calendar widgets to adjust the dates and times, which default to the selected cell properties.

If job production numbers should be collected all day, select All Day Event check box.

* 1. Click the button that identifies how often to repeat the schedule in the Repeat field.

The following additional fields are displayed based on your selection:

* + - Repeat every. Select how many times to repeat the schedule based on the selected time period. For example, to repeat the schedule every day, month, week, or year, select 1; every other, select 2; every third, select 3; etc.
    - Repeat on. Select when in the time period to repeat the schedule.
    - End. Select when to end the schedule. You can end the schedule after a number of occurrences or a specific date. You can also repeat the schedule indefinitely by clicking Never in the End field.
  1. Enter a description of the schedule, if needed.
  2. Click Save.

The Event window is closed and the schedule is displayed in the Scheduler with the value entered in the Title field above.

1. Click the Submit to EC button in the upper right corner to add the schedule to Efficiency Center as a data source to the selected custom instruments.

A confirmation message is returned.

Note: All schedules present in the Scheduler are updated to Efficiency Center when you click Submit to EC.

1. [Add breaks](#topics_maintaining_breaks_adding_2630), if appropriate.

### Editing an Efficiency Center Schedule

Plants may need to alter a schedule for many reasons such as unexpected shutdowns, special holidays, weather-related maintenance. Schedules can be changed whenever needed.

1. Select Efficiency Center in the Application Selection window.
2. Click Show Scheduler.

The Scheduler window is returned.

1. [Select the production line](#topics_getting_started_selecting_5640) for which you are editing a schedule and click Show Scheduler.

The Scheduler window is returned.

1. [Set the Expected and Ideal values](#topics_efficiency_center_setting_9655) for the engine.
2. Re-display the Scheduler.
3. Double-click a cell in the schedule you are updating.

The Edit Recurring Appointment pop-up window is displayed. View?

1. Select what appointment in the schedule to edit.
   * Click Edit current occurrence to change only the selected schedule occurrence.

The Event window for the selected schedule is displayed.

* + Click Edit the series to change all instances of the schedule.

The Event window for the entire series is displayed.

1. Edit the schedule values as needed.
   * To associate the schedule with an engine, right-click the schedule and click [Maintain Engines](#topics_schedules_adding_a_schedu_2776) in the drop-down menu.
2. [Add](#topics_maintaining_breaks_adding_2630), [edit](#topics_maintaining_breaks_changi_1428) or [delete](#topics_maintaining_breaks_deleti_6008) schedule breaks, as needed.
3. Click Save.
4. Click Submit to EC to update the changes to the Efficiency Center.

Note: All schedules present in the Scheduler are updated to Efficiency Center when you click Submit to EC.

## Maintaining Breaks

### Adding Breaks to a Schedule

Breaks can be added to a schedule as needed. They should be added to represent when production is not expected to be completed.

To add a break to a schedule:

1. Display the Scheduler if it is not already displayed.

To display the Scheduler, click Home or Scheduler in the Explorer.

1. Right click in the schedule to which you are adding breaks.

A maintenance drop-down menu is displayed.

1. Click Maintain Breaks. View?

The Schedule Break - <schedule name> pop-up window. View?

1. Complete the window.
   1. Click Add in the upper left corner to add a new line to the pop-up. View?
   2. Enter a description for the break
   3. Select the start and end times.

To change a time, click the hour, minute, second, or AM/PM. Then scroll to the correct value.   
You can also click the Calendar icon in the Start and End fields to display the calendar widget.

1. Click the Save icon to save the break. The break start time and description is added to the top of the schedule.

Saved breaks are added to all instances of the schedule in LSS. View?

1. Repeat steps 4 and 5  as needed to add all breaks for the schedule. View?
2. Click Submit to EC if this is an Efficiency Center event.

The change is not implemented in that application until you click the button.

1. Click Close when you have added all breaks for the schedule.

### Changing a Schedule Break

Breaks can be adjusted as needed.

To adjust a break in a schedule:

1. Display the Scheduler if it is not already displayed.
2. Right click in the schedule from which you are deleting a break, and click the Maintain Breaks button.

The Schedule Break - <schedule name> pop-up window is displayed.

1. Click the Edit icon () for the break you want to change.

The break enters edit mode.

1. Make the necessary changes.
2. Click the Save icon ().
3. Click Close to close the break window.

### Deleting a Break for a Schedule

Breaks can be deleted from a schedule as needed.

To delete a break from a schedule:

1. Display the Scheduler if it is not already displayed.
2. Right click in the schedule from which you are deleting a break, and click the Maintain Breaks button.

The Schedule Break - <schedule name> pop-up window is displayed.

1. Click the Delete icon ( )for each break you want to delete. View?

The break is immediately removed from the schedule in LSS.

1. Click Close to close the break window.
2. Click Submit to EC to update the change to Emergency Center.

The change is not implemented in that application until you click the button.