DI-SCHEDULER

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DI-SCHEDULER

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DI-SCHEDULER

Chapter 1 Introduction

DI-Scheduler allows you as an administrator to automate tasks related to Dimensional Insight products, including building Models and running Data Integrator scripts. This program helps you manage jobs, events, and tasks, as well as allowing you to view their current status and history.

Using the DI-Scheduler Manual

This manual is separated into four chapters:

- **Chapter 1, Introduction** - contains an overview of the manual, a description of DI-Scheduler's usage, a list of helpful terms, and installation and startup steps for the software.
- **Chapter 2, The DI-Scheduler Environment** - explains the DI-Scheduler interface and menus.
- **Chapter 3, Creating and Editing Jobs** - describes the DI-Scheduler job creation process.
- **Chapter 4, DISCH** - covers the usage of the `disch` command-line executable.

Additional Documentation

This manual is intended for users who are already familiar with the Builder, Data Integrator, and DiveLine software. Companion manuals are as follows:

- ***Builder 5.1*** - contains more information about creating the Model build description files (`.dsc`) that can be run using DI-Scheduler.
- ***Data Integrator 5.1*** - contains additional information about creating the data manipulation scripts (`.int`) that can be run using DI-Scheduler.
- ***DiveLine 6.4*** - contains additional information about DiveLine server software installation and configuration.
- ***DI-Broadcast 6.4*** - contains information about executing DI-Broadcast jobs using DI-Scheduler events.

Support

Customer support is available from 7:00 AM to 5:00 PM (Central Time).

Table 1-1: Technical Support Contact Information

Customer Type	Phone	Fax	Email
Domestic Users	920-436-8299	920-433-2378	support@dimins.com
International Users	+1-920-436-8299	+1-920-433-2378	international@dimins.com

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Useful Definitions

Build description (`.dsc`) - a DI Object Language file created for the Builder that specifies how a Model should be built.

Integrator script (`.int`) - a DI Object Language file created for the Data Integrator that specifies how the data should be manipulated.

Job - As used in this manual, a job is a DI-Scheduler process predefined by the user that builds a Model, runs an Integrator script, or posts an Event. DI-Scheduler can run up to ten (10) simultaneous jobs.

DI-Scheduler Requirements

DI-Scheduler is supported on Microsoft Windows XP SP3, 2003 Server, 2008 Server, 2012 Server, 7, and 8. The following requirements must be met for DI-Scheduler to run successfully:

- DiveLine must be running on the server.
- Builder must be installed to run Model builds.
- Data Integrator must be installed to run data manipulation scripts.

DI-Scheduler configuration information can be found below under **Configuring DiveLine for use with DI-Scheduler**.

If the default port 2130 is not being used, you can specify an alternate port using the format <servername>:<portnum>. For example, diveline:6400.

Configuring DiveLine for use with DI-Scheduler

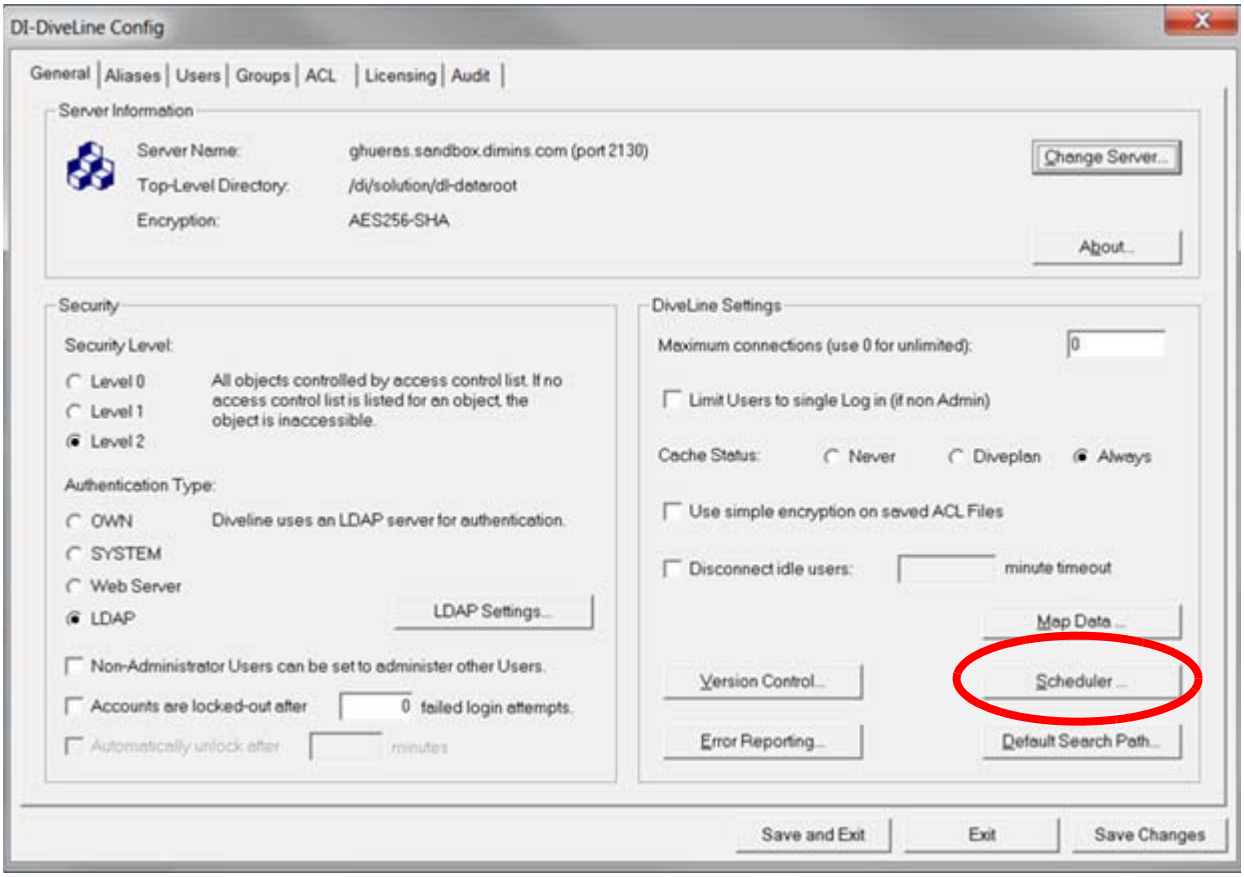
There are two options for configuring DI-Scheduler: configuration within DI-Config or manual configuration. Configuration within DI-Config is the recommended method.

Using DI-Config

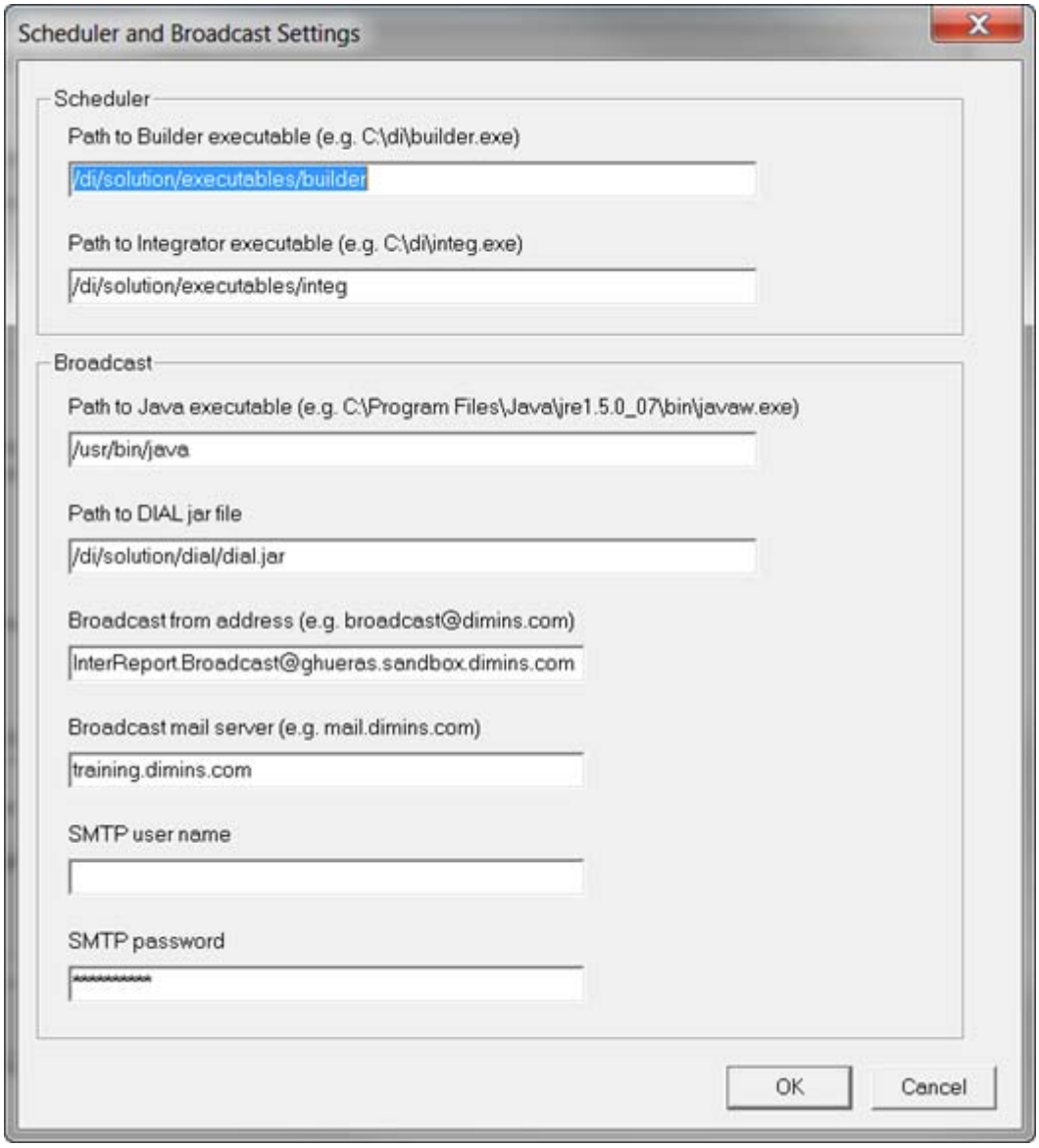
The DI-Config program installed with DiveLine allows you to configure the DiveLine server for DI-Scheduler. Information on using DI-Config can be found in the *DiveLine* manual.

1. Locate DI-Config on your system (di-config.exe).
2. **Double-click** it to launch the software.
3. Enter the DiveLine **Server Name** to connect to and click **Select**. If you are not using the default port 2130, you can also enter a new port number here, using the format <servername>:<portnum>. For example, mydiveline:6400.
4. Enter your administrator **Username** and **Password**.
5. Click **OK** to connect.

6. On the General tab of DI-Config, click the **Scheduler...** button.



The **Scheduler and Broadcast Settings** dialog is presented:



7. Enter the DI-Scheduler variables, each of which is described below:

   Path to Builder executable - specifies the system path to the command-line Builder executable.

   Path to Integrator executable - specifies the system path to the Data Integrator executable.

8. Optionally, if you wish to send e-mail alerts from DI-Scheduler (e.g., job failures), enter the following DI-Broadcast variables:

   Path to Java executable - specifies the system path to the Java executable.

   Path to DIAL jar file - specifies the system path to the dial.jar file.

   Broadcast from address - specifies the address that DI-Scheduler should use for sending e-mail alerts.

   Broadcast mail server - specifies the server that DI-Scheduler should send e-mail from.

   SMTP user name - specifies a valid login user name for the DI-Scheduler server.

   SMTP password - specifies a valid login password for the DI-Scheduler mail server.

9. Click **OK** to accept the changes and exit the dialog.
10. Click **Save and Exit** to commit the changes and exit DI-Config.
11. Create a new directory named **security** in the \di_solution\dl-dataroot directory.
12. Create two blank files named **scheduler-builder** and **scheduler-integrato**r in this new **security** directory. Do not give either of the new files a file extension.
13. **Restart** the DiveLine service according to your installation environment. Refer to the *DiveLine* manual for more information on restarting DiveLine on different platforms.

Performing Manual Configuration Steps

The directions below outline the process for configuring the DiveLine server for use with DI-Scheduler:

1. **Stop** the DiveLine service (di-service.exe) according to your installation environment (for information specific to your platform, please refer to the *DiveLine* manual).
2. **Open** the \dl-dataroot\config\atlcfg.cfg file in a text editor.
3. **Copy** the following lines into the atlcfg.cfg file:

   builder_exe_path="C:\\<soultion path>\\builder.exe",

   integrator_exe_path="C:\\<solution path>\\integ.exe",

   java_exe_path="C:\\<java path>\\java.exe",

   dial_jar_path="C:\\<solution path>\\dial.jar",

broadcast_from_address=“Broadcast@dimins.com”,

broadcast_mail_server=“<mail servername>.<domain>”,

smtp_auth_username= “username”,

smtp_auth_password= “password”,

scheduler_max_simultaneous_jobs=“enter number”,

The optional scheduler_max_simultaneous_jobs parameter restricts the number of simultaneous DI-Scheduler jobs that can be run.

4. **Modify** these lines to work with your system, for example:

   builder_exe_path=“C:\DI_Solution\executables\builder.exe”,

5. **Save** the modified atlcfg.cfg file.

   The beginning portion of the modified atlcfg.cfg file should look similar to the sample below:

   version “1”;

   // Computer generated object language file

   object 'ACFG' “main” {

   auth_scheme=“own”,

   security_level=2,

   builder_exe_path=“C:\\DI_Solution\\executables\\builder.exe”,

   integrator_exe_path=“C:\\DI_Solution\\executables\\integ.exe”,

   java_exe_path=“C:\\Program Files\\java\\jdk1.6.0_14\\bin\\java.exe”,

   dial_jar_path=“C:\\DI_Solution\\executables\\dial.jar”,

   broadcast_from_address=“Broadcast@dimins.com”,

   broadcast_mail_server=“mail.domain.com”,

   smtp_auth_username= “username“,

   smtp_auth_password= “password”,

   scheduler_max_simultaneous_jobs=“enter number”,

   maxusers=100,

Although not required to use DI-Scheduler, the broadcast_from_address, broadcast_mail_server, smtp_auth_username, and smtp_auth_password lines are necessary if you want DI-Scheduler to send e-mail alerts.

6. Create a new directory named **security** in the \DI_Solution\dl-dataroot directory.

7. Create two blank files named **scheduler-builder** and **scheduler-integrator** in this new **security** directory. Do not give either of the new files a file extension.

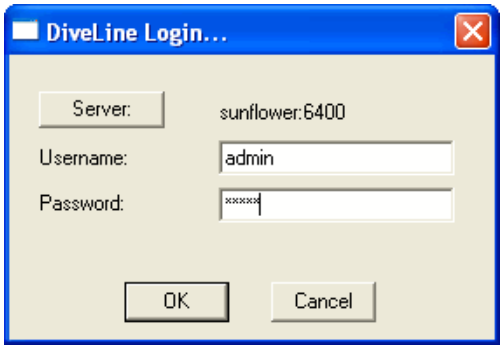
8. **Restart** the DiveLine Service (di-service.exe).

Starting DI-Scheduler

You must be an administrative user in DiveLine to log in to DI-Scheduler. To start using DI-Scheduler:

1. Locate and double-click the **scheduler.exe** file.
2. From the Open File - Security Warning dialog, verify DI is the publisher, and then click **Run**.
3. You will be prompted to enter the DiveLine Server to connect to, as shown below. Enter a **Server Name** and **port number** (if the default port 2130 is not being used), and click **Select**.

4. Enter your DiveLine **Username** and **Password** and click **OK** to connect.

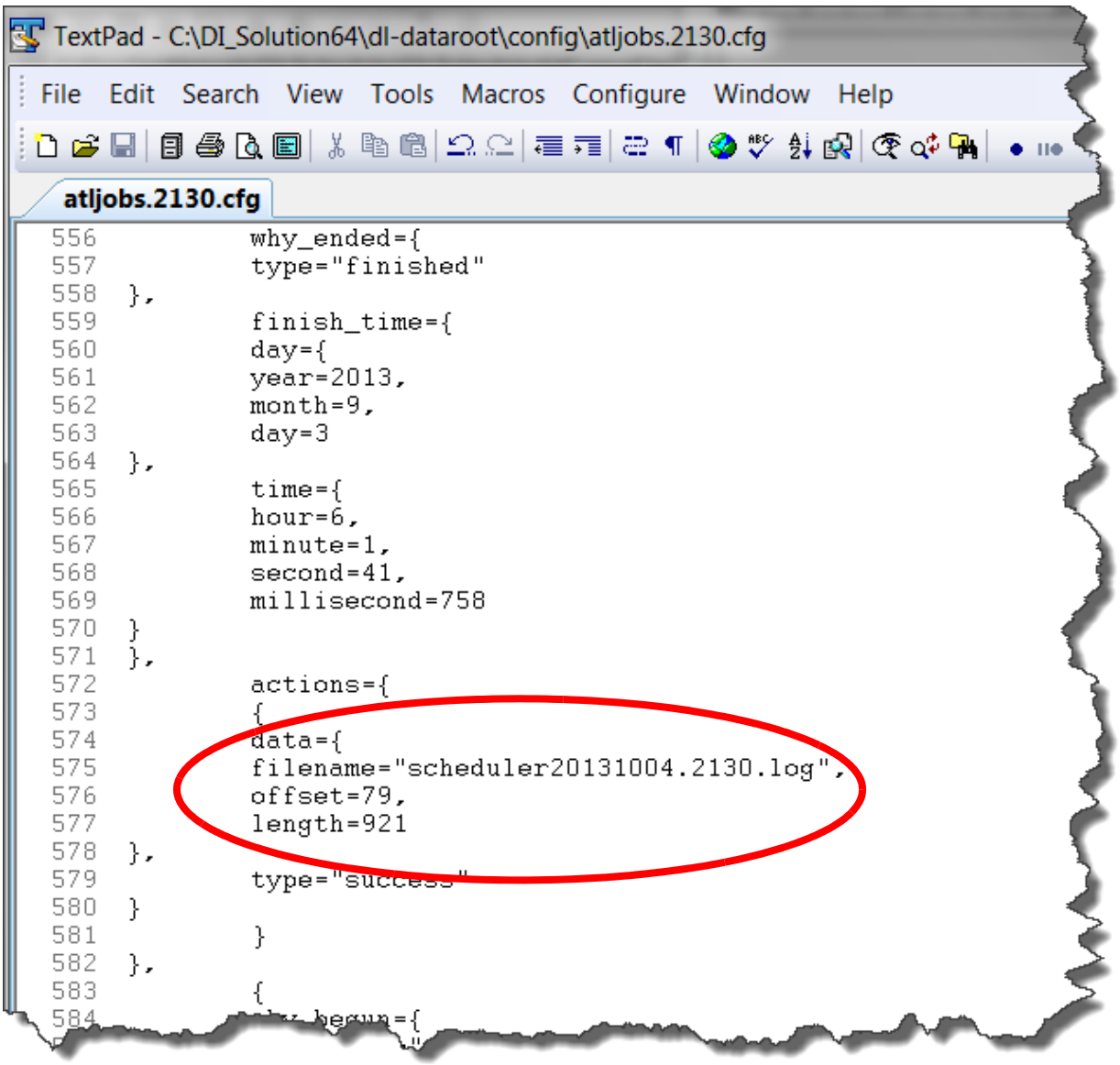


Do not run DiveLine as a local system (localhost) if DI-Scheduler will be running Data Integrator scripts with ODBC or FTP commands.

Log Files

When a job is executed in DI-Scheduler, the atljobs.cfg file is updated with execution information. Information for a job can accumulate over time—that is, DI-Scheduler keeps information for the most recent runs up to the max_occurrences number. See **Number of logs to keep on page 3-26**.

The atljobs.cfg file is stored in the \DI_Solution\dl-dataroot\config\ directory. Look for atljobs.xxxx.cfg, where xxxx is the port number—for example, atljobs.2130.cfg. A backup of the atljobs.cfg file (atljobs.xxxx.cfg.bak) also appears in this folder. Shown below is an excerpt from a Job List object in a typical altjobs.cfg file:



Note the filename attribute that points to a log file stored in \DI_Solution\dl-dataroot\temp. This file is called scheduler<yyyymmdd>.<port>.log. DI-Scheduler produces one log file per day, with a maximum size of 16 MB. The log file describes the status of all jobs on the date in the log file name (October 4, 2013 in the file named above). These daily activity logs show job additions, executions, and output.

Troubleshooting DI-Scheduler

When running a DI-Scheduler job, if you receive the following error message:

> "Action failed: The 'Integrator' Scheduler action is disabled for security reasons. This action can be enabled by the server administrator. [Error Number 100206] (jobprocess.c:991)"

please review your configuration steps to verify that the configuration is correct.

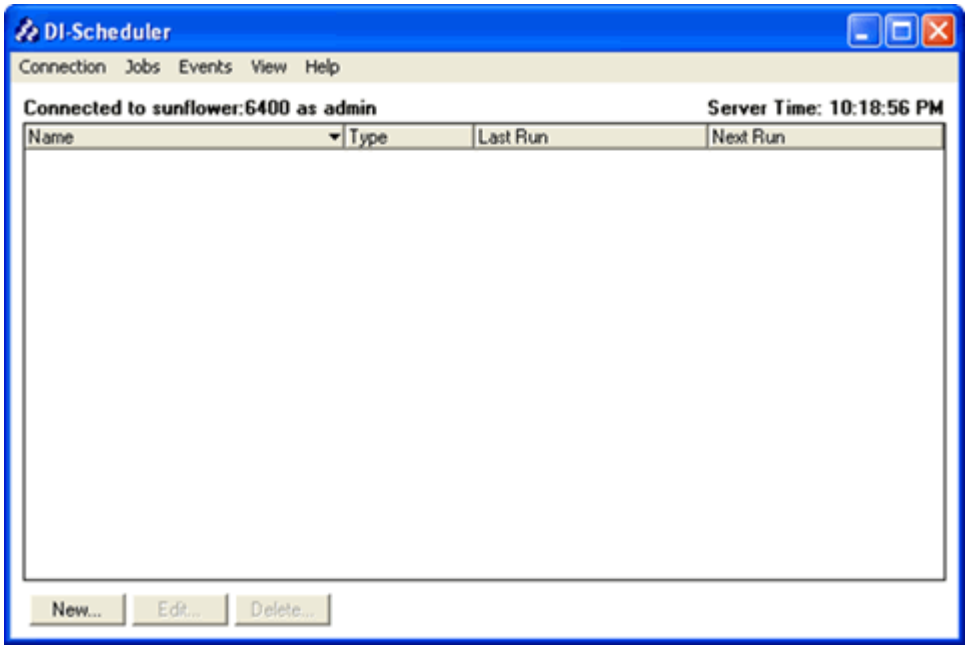
Also, if the atljobs.cfg file becomes corrupted, it can be replaced with the backup file. Open the backup file (extension `.bak`) to make sure it is not corrupt, and then resave it without the `.bak` extension.

Chapter 2
The DI-Scheduler Environment

This chapter describes the interface used to create and maintain DI-Scheduler jobs. It includes a description of the main DI-Scheduler dialog and details each DI-Scheduler menu item.

The DI-Scheduler Startup Dialog

At startup, the main DI-Scheduler dialog shown below is displayed. An explanation of each area of the main dialog and each menu follows.



Connected to/as

This area displays the name of the DiveLine server that you are connected to, as well as the username you are connected as.

Server Time

The **Server Time** displays the current time on the DiveLine server that you are connected to. The time is given in the format hh:mm:ss AM/PM.

Name

The **Name** column shows the names of the DI-Scheduler jobs that are currently configured. This list will include all of the currently configured jobs, or only the jobs for the currently logged on user, depending on whether “All jobs” or “My jobs only” has been selected from the View menu. The default selection is “My jobs only”.

Type

This column specifies the type of schedule being followed by the named job. Schedule types include Hourly, Daily, Weekly, Monthly, Yearly, Once, Event, and Never, each of which is explained in detail in **Chapter 3, Creating and Editing Jobs**.

Owner

The **Owner** column lists the named user the job belongs to. The Owner column is only displayed when the “All Jobs” option is selected from the View menu.

Last Run

This column lists the date and time the job was last executed successfully. The date is given in the format yyyy/mm/dd and the time in the format hh:mm:ss (24-hour clock).

Next Run

This column lists the date and time the named job is scheduled to run. The date is given in the format yyyy/mm/dd and the time in the format hh:mm:ss (24-hour clock).

New

The **New** button opens the New Job dialog, allowing you to create a new DI-Scheduler job.

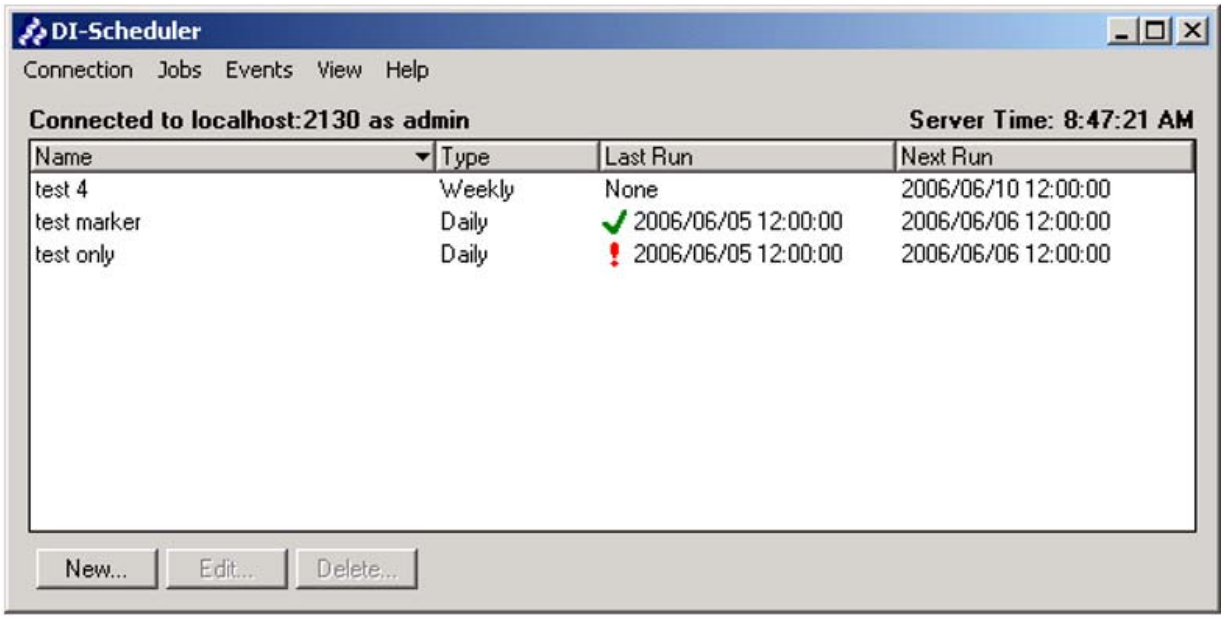
Edit/Examine

The **Edit** button opens the Edit Job dialog, allowing you to change the configuration of the currently highlighted job.

When a job is locked, “Edit” becomes “Examine”. When **Examine** is displayed, the job can be opened and viewed, but changes cannot be made. A job is locked when another user already has that job open in Edit mode in a different DI-Scheduler connection or when the job is running.

Delete

The **Delete** button permanently removes the currently highlighted job from DI-Scheduler.



Menus

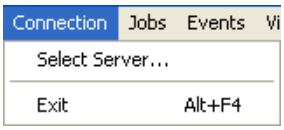
DI-Scheduler has the following menus to assist you in server connection, job creation, and job maintenance:

- Connection Menu
- Jobs Menu
- Events Menu
- View Menu
- Help Menu

Each menu item is described in the following sections.

Connection Menu

The **Connection** menu allows you to specify the DiveLine server you are connecting to or exit the software.



Select Server...

The **Select Server** menu item allows you to choose another server to connect to. You will be asked to commit any job changes made before the connection is switched.

Exit

This menu option closes DI-Scheduler. You will be asked to commit any job changes made before exiting.

Jobs Menu

The **Jobs** menu provides options needed to create, edit, run, review, and remove jobs in DI-Scheduler.

New job...

The **New job** option opens a dialog allowing you to configure a new DI-Scheduler job. See **Chapter 3, Creating and Editing Jobs** for detailed information on new job configuration.

Edit/Examine job...

The **Edit job** option allows a user to open a previously configured job and change or update its current settings.

When a job is locked, “Edit job...” becomes “Examine job...”. When **Examine job** is displayed, the job can be opened and viewed, but changes cannot be made. A job is locked when another user already has that job open in Edit mode in a different DI-Scheduler connection or when the job is running.

Delete job...

Delete job allows you to remove the currently selected job from DI-Scheduler. You will be presented with the Delete confirmation dialog. Once you confirm the deletion, the job will be removed permanently. If the job is needed later, it has to be recreated.

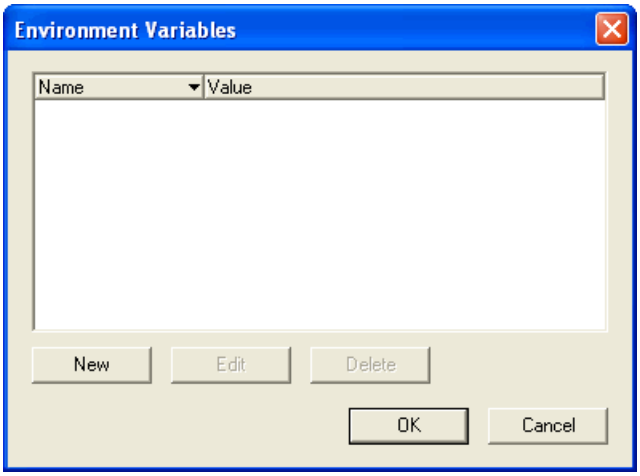
Copy job...

Copy job allows you to copy all of the properties of the currently selected job. When this menu item is selected, it launches the New Job dialog with all properties of the copied job already set.

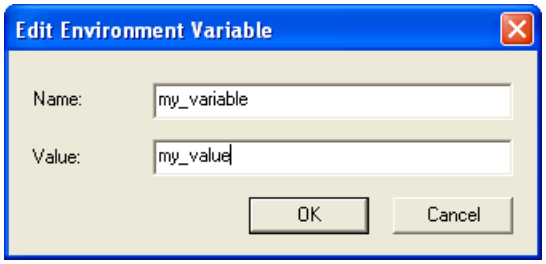
Environment Variables...

The **Environment Variables** option lets you pass variables to DI-Scheduler jobs, allowing Integrator scripts to pull in these variables specific to DI-Scheduler jobs, but not the entire operating system. For example:

1. Start DI-Scheduler.
2. Select **Jobs > Environment Variables**.



3. Click **New**.
4. In the **Name** field, type a variable name, e.g. “my_variable”.
5. In the **Value** field, type the correct value, e.g. “my_value”.



6. Click **OK** twice.
7. Create a DI-Scheduler job that will make use of this new environment variable. For this example, schedule a job to run an Integrator script that includes the following parameter object:

```
object 'PARM' “parms” { parms = { { name=“my_variable”,
default=“some_other_value”, type=“string”, environment=“true” } } };
```

Later in the script, there is a line that makes use of this parameter:

filename = `env_var_test_$my_variable.txt`,

When this Integrator script is run through DI-Scheduler, the filename resolves to:

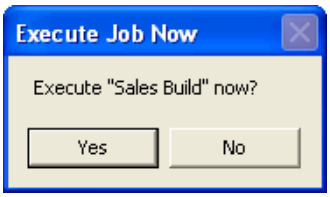
env_var_test_my_value.txt

When run outside of DI-Scheduler without using a parameter, the filename resolves to:

env_var_test_some_other_value.txt

Execute job...

Execute job allows you to run the currently selected job. You will be presented with the Execute confirmation dialog shown below:



Once you select “Yes”, the job will run immediately.

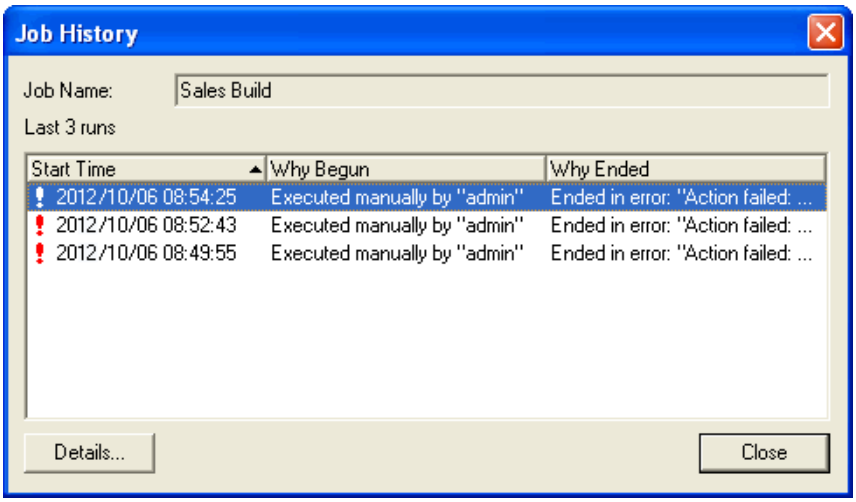
Cancel job...

Cancel job allows you to stop any job that is currently running.

Review job history...

Select **Review job history** to open the dialog below, allowing you to review the success or failure of attempted runs of the selected job.

The Job History dialog only displays the last eight job run attempts. There is no scroll bar for the display of additional history.



Job Name

The **Job Name** area shows the name of the job being reviewed.

Last “x” runs

The **Last “x” runs** line specifies the number of run attempts being shown in the Job History dialog.

Start Time

Start Time displays the date and time when the job began. The date is displayed in yyyy/mm/dd format and the time is displayed in hh:mm:ss format.

Why Begun

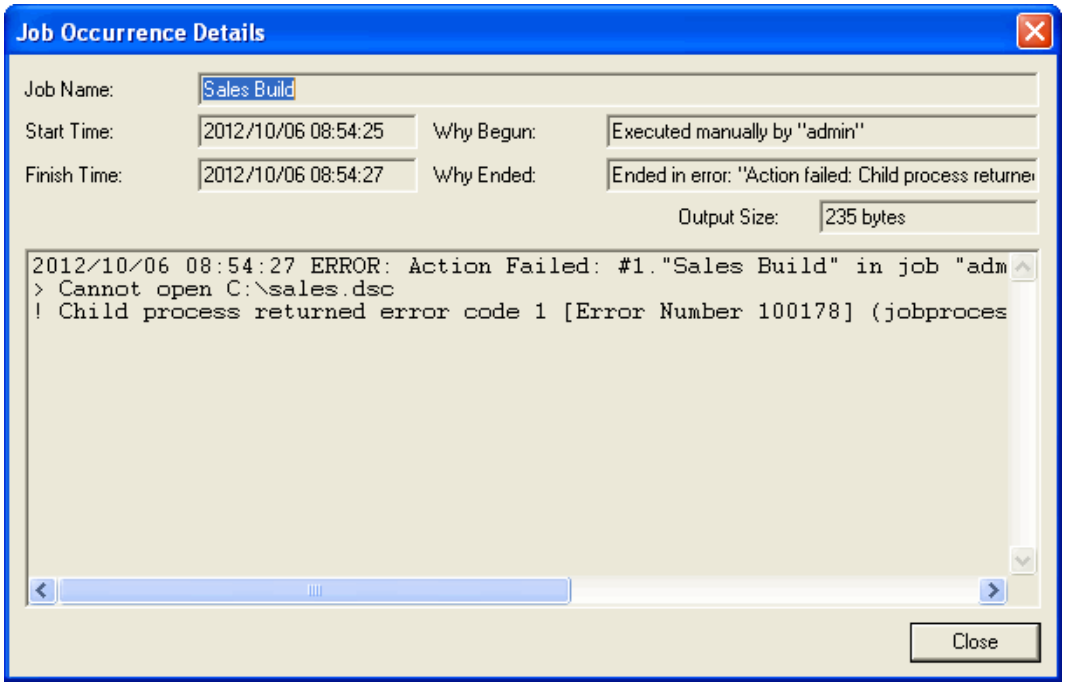
The **Why Begun** column shows what triggered the job to run.

Why Ended

The **Why Ended** column shows that a job finished successfully or, if a failure occurred, why it failed.

Details...

The **Details** button will be active if the job has failed for any reason. Select this option to open the Job Occurrence Details dialog shown below:



In this example, the Sales Build job failed because the build description file could not be opened.

Close

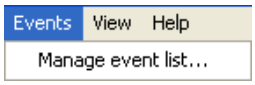
The **Close** button exits the Job History dialog and returns to the main DI-Scheduler interface.

Save Job Report...

Save Job Report allows you to save a simple, tab-delimited text file with the contents of the job table. Depending on your needs, the report can be loaded into Excel for formatting or manipulated by the Data Integrator.

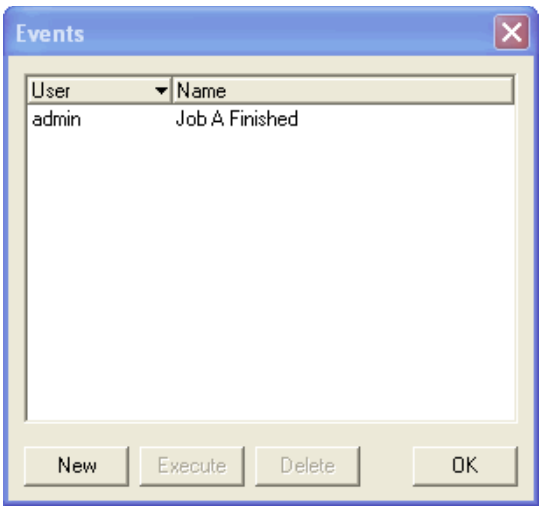
Events Menu

The **Events** menu allows you to create, manage, and execute DI-Scheduler trigger events.



Manage event list...

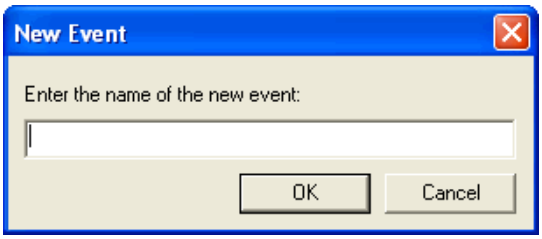
The **Manage event list** menu item opens the Events dialog shown below:



This dialog shows a list of all abstract triggers, called events, that have been defined in either DI-Broadcast or DI-Scheduler. It also allows you to create a new event. An event is a flag that tells DI-Broadcast or DI-Scheduler to start a job based on the occurrence of the specified event. It is important to note that a job can only wait for one event. The event can be triggered manually, from a batch file, or by posting an event. More information about using events in a job can be found under **Event on page 3-10** and **Event Settings on page 3-18**.

New

Click **New** to open the New Event dialog, allowing you to specify the name of the new event. Enter the desired name, and click **OK** to accept the name or **Cancel** to return to the Events dialog. Multiple events created by the same user cannot have the same name.



Execute

Execute allows you to manually trigger the selected event.

Delete

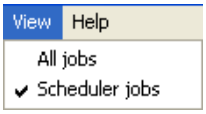
Delete removes the selected event from the list.

OK

OK closes the Events dialog.

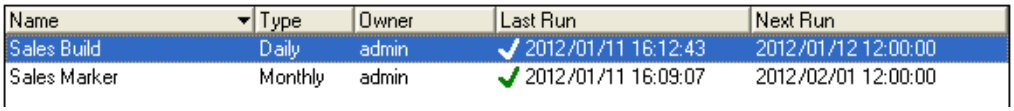
View Menu

The **View** menu allows you to view jobs created in DI-Broadcast and DI-Scheduler.



All jobs

When selected, the **All jobs** menu option displays all defined jobs in both DI-Broadcast and DI-Scheduler. In the example below, Sales Build is a DI-Scheduler job and Sales Marker is a DI-Broadcast job.



Name	Type	Owner	Last Run	Next Run
Sales Build	Daily	admin	2012/01/11 16:12:43	2012/01/12 12:00:00
Sales Marker	Monthly	admin	2012/01/11 16:09:07	2012/02/01 12:00:00

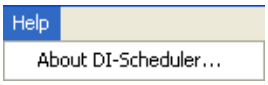
Scheduler jobs

The **Scheduler jobs** menu option displays only those jobs created in DI-Scheduler. Notice below that when “Scheduler jobs” is selected, the Owner column is not present.

Name	Type	Last Run	Next Run
Sales Build	Daily	2012/01/11 16:09:07	2012/02/01 12:00:00

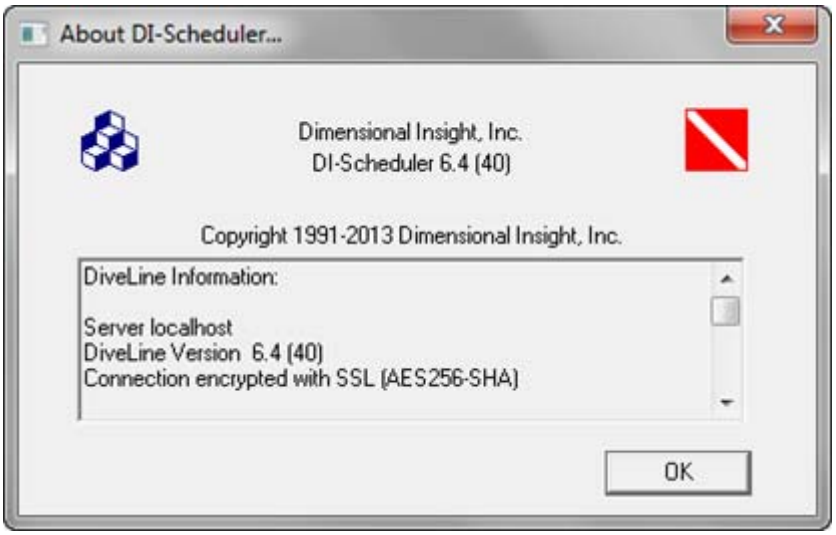
Help Menu

The **Help** menu provides information about the DI-Scheduler software.



About DI-Scheduler

The **About DI-Scheduler** dialog displays the version of DI-Scheduler in use, the DiveLine version, server name, and port number, the type of user that is connecting (admin or non-admin), and which DI-Broadcast and DI-Scheduler capabilities have been configured on the DiveLine server.



When fully scrolled, the text in the About DI-Scheduler dialog appears as follows:

DiveLine Information:

Server localhost
DiveLine Version 6.4 (40)
Connection encrypted with SSL (AES256-SHA)

Additional Information:

Authentication information:
  User is an administrator
Scheduler Engine information:
  Can broadcast email.
  Can run Builder.
  Can run Integrator.
  Can send error reports.
  Can wait for file as an action.

Chapter 3
Creating and Editing Jobs

DI-Scheduler is used to control the flow and execution of Data Integrator and Builder scripts used to prepare the backend Model files that support the front end DI-Clients such as ProDiver and DivePort. Typical usage is to break the flow into three jobs:

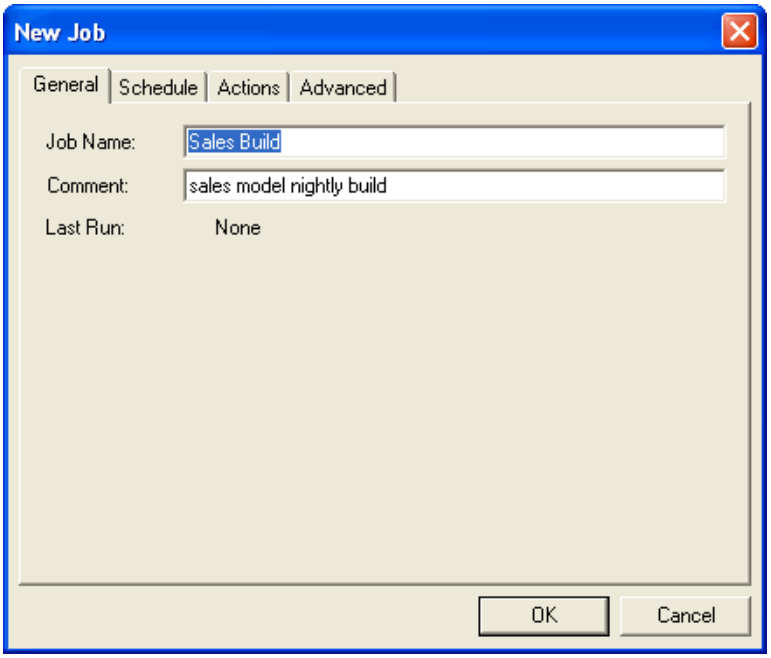
- Data Extraction job(s)
- Data Transformation job(s)
- Data Load job(s)

Business constraints for your environment may require you to expand this basic profile into something much more complex. DI-Scheduler supports more complex logic and flow by employing flexible scheduling along with triggering and wait events.

Creating a new job in DI-Scheduler is a simple process described in the paragraphs that follow. To begin creating a new job, go to **Jobs > New job...** or click **New** in the main DI-Scheduler interface to open the **New Job** dialog. DI-Scheduler can have up to ten simultaneous jobs at a time. If more are scheduled for the exact time, the eleventh will wait until one finishes, and so on. The Edit Job dialog mirrors the New Job dialog described below.

General Tab

The first area displayed in the New Job dialog is the **General** tab shown below:



Job Name

Enter the name of the job being created on the **Job Name** line. Give the job a name that is related to the job's purpose—for example, "Sales Build" or "Month-to-Date Build". Job names are limited to 64 characters.

Comment

The **Comment** area can be used to enter additional information about the job. For example, if the name of a job is "Sales Build", the Comment line might say "Nightly Sales Model Build process" to further describe the job being created.

Last Run

The **Last Run** line lists when the job ran last. When creating a new job, this line will say "None". When editing a job, it will give the date and time of the last run in yyyy/mm/dd and hh:mm:ss formats.

OK

When you have finished configuring or editing a job, click **OK** to save the changes or newly created job and close the **New Job** dialog.

Cancel

Cancel closes the **New Job** dialog without saving the new or edited DI-Scheduler job.

Schedule Tab

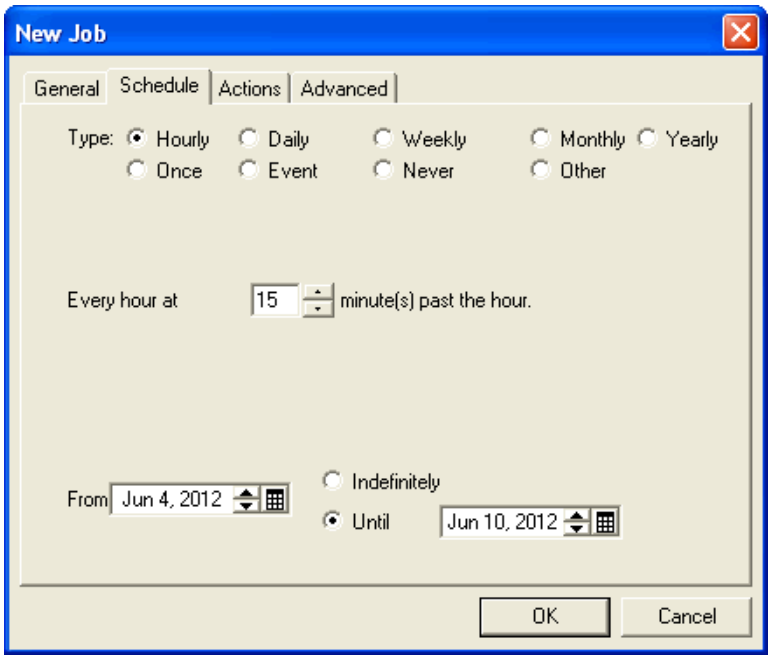
The second area of the New Job dialog is the **Schedule** tab. The appearance of this tab varies, depending on the Schedule Type chosen.

Type

The **Type** area of the Schedule tab allows you to specify how frequently a job should be run. Options are as follows:

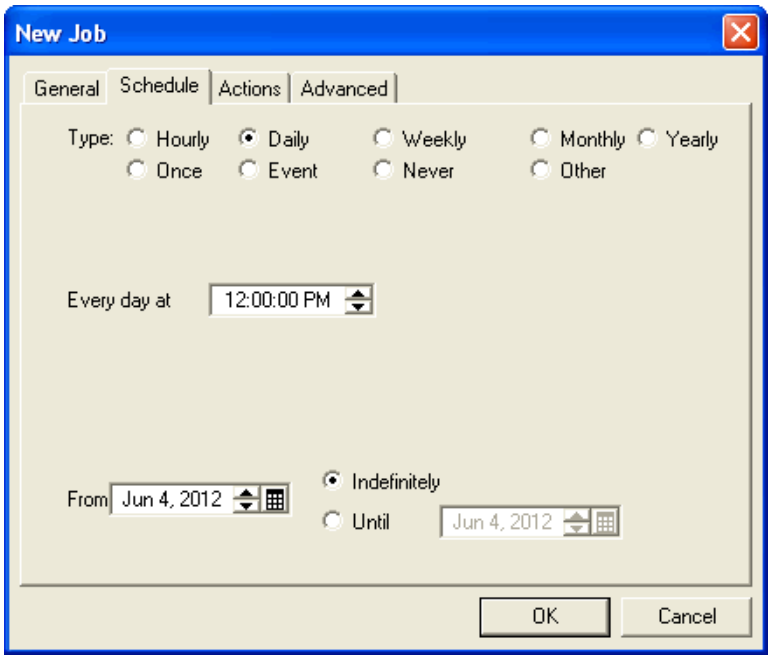
Hourly

When the **Hourly** option is selected, you can specify the minute past the hour that the job should run and a window of time in which the job should run. For example, if the job should run at fifteen minutes past every hour for one week starting on June 4th, 2012, you would enter or select 15 in the **Every hour at** box, Jun 4, 2012 in the **From** box, and Jun 10, 2012 in the **Until** box. This option is useful when building incremental Models throughout the course of the day.



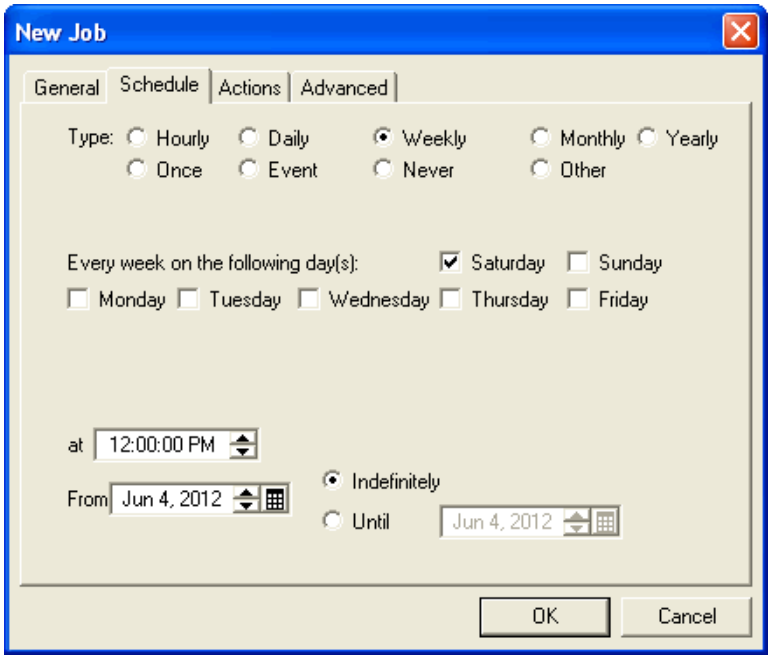
Daily

The **Daily** option allows you to specify the hour of the day that the job should run, by entering or selecting the desired hour from the **Every day at** box, when the job should begin running (**From**), and how long it should run for (**Indefinitely** or **Until**). This option is useful when running daily Data Integrator scripts or building a daily Model.



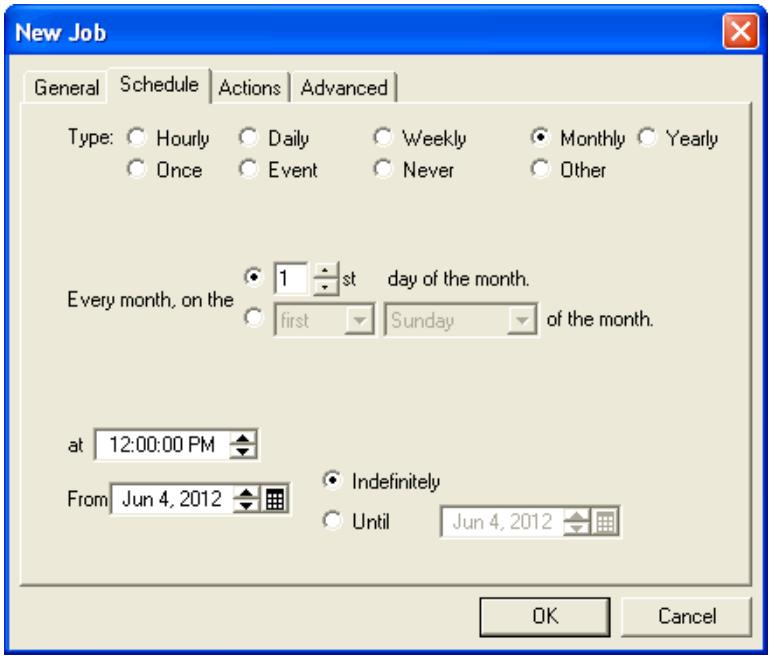
Weekly

The **Weekly** schedule type allows you to select a specific **day of the week** to run the job on, a specific time of day to run the job (**at**), when the job should begin running (**From**), and how long it should run for (**Indefinitely** or **Until**). This option may be used to build a weekly sales Model on the weekend.

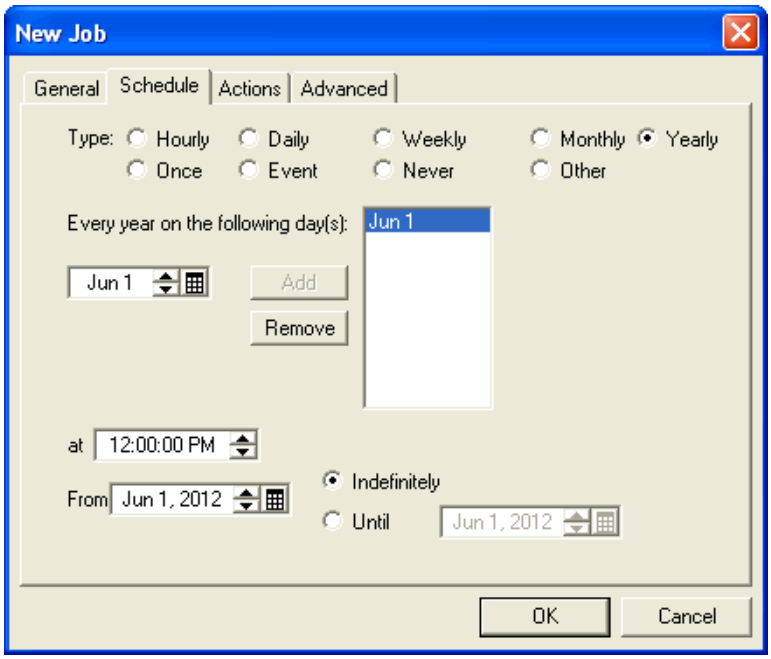


Monthly

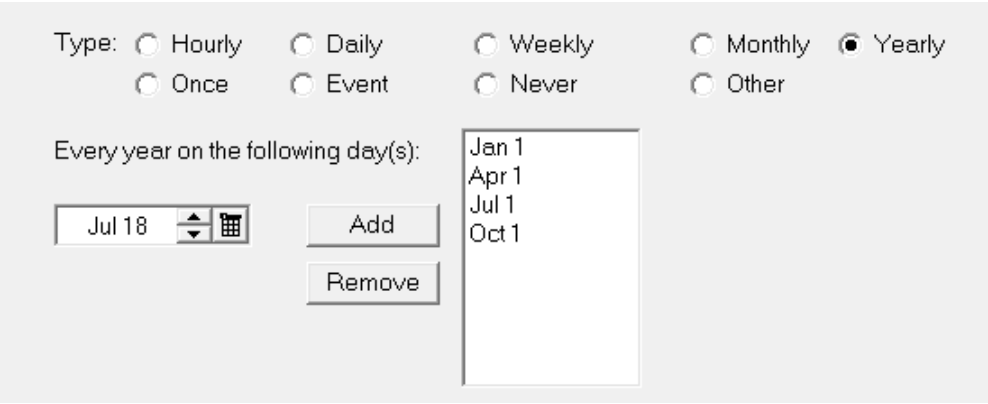
A **Monthly** schedule allows you to select either a specific **day of the month** or the **first day of the month**, the time of day that a job should run (**at**), when the job should begin running (**From**), and how long it should run for (**Indefinitely** or **Until**). Monthly jobs are commonly used for Monthly Model builds, such as a Month-End Model.



A **Yearly** schedule allows you to execute a job once per year on the specified day or days, starting at the specified time and running **Indefinitely** or **Until** a given end date. A Yearly schedule might be used to run scripts and build Models containing Year-End or Quarter-End data.

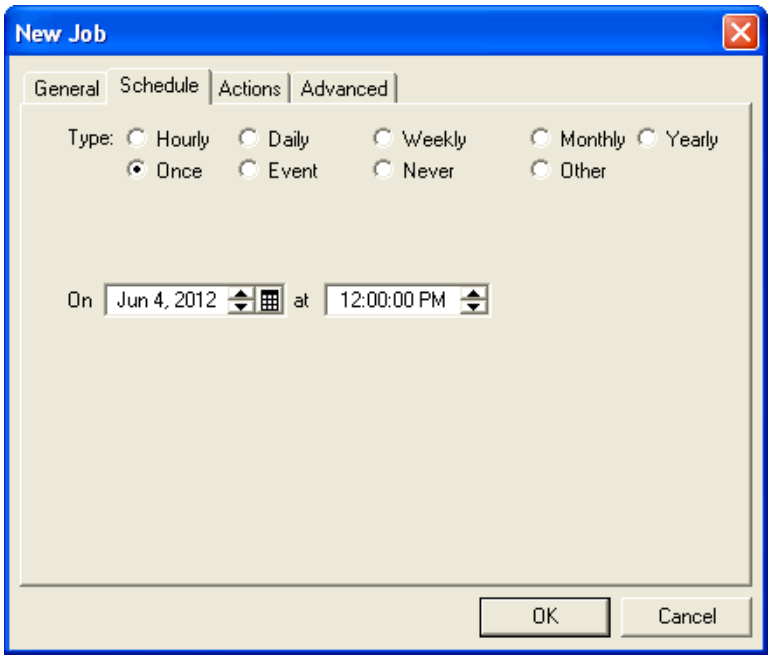


To create a job that runs quarterly, use the Yearly type and schedule the job on the day after each quarter end. For example:



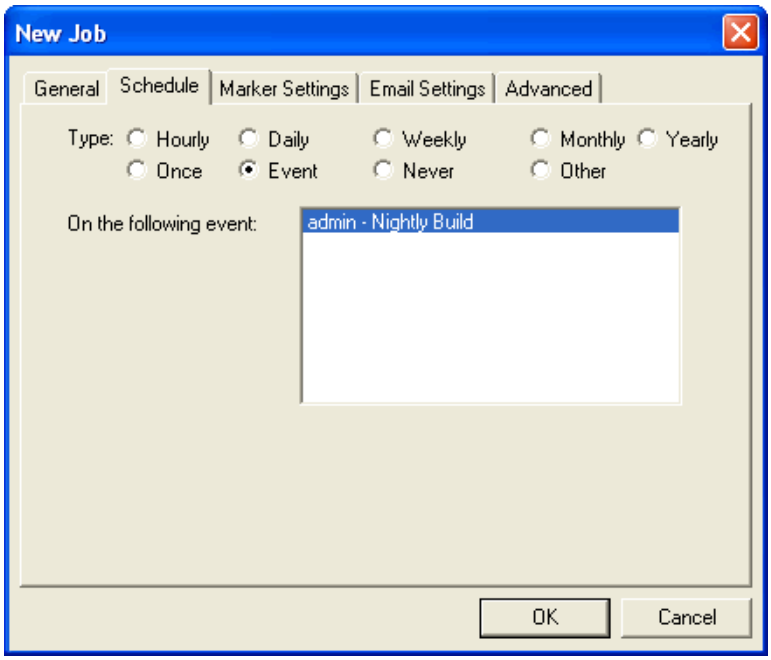
Once

Running a job using the **Once** schedule type allows you to specify the date and time at which to run a non-recurring job. This option is useful for special one-time jobs, such as running a script that queries the version numbers of all currently installed DI software.



Event

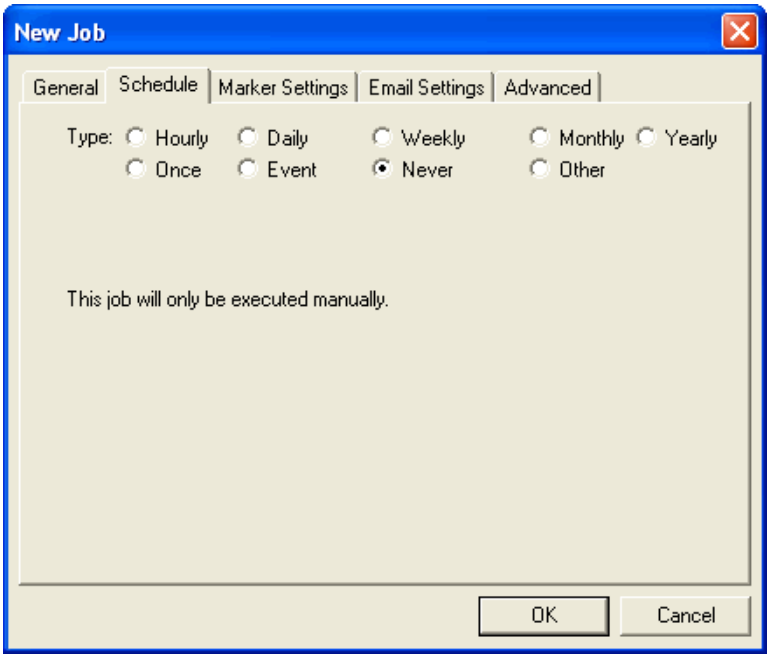
The **Event** option allows you to specify that a job should only run if the highlighted event occurs. A specific event must be configured in the Events dialog prior to using this option. For further information on creating and using events, refer to **Events Menu on page 2-10** and **Event Settings on page 3-18**.



A DI-Scheduler job can be only be set to execute based on one event. If you want to have a job execute based on multiple events—e.g., after 5 simultaneous jobs have completed—you need to post one event and create 4 unique files. The subsequent job is set to execute on the one event, but also wait for the 4 files to exist.

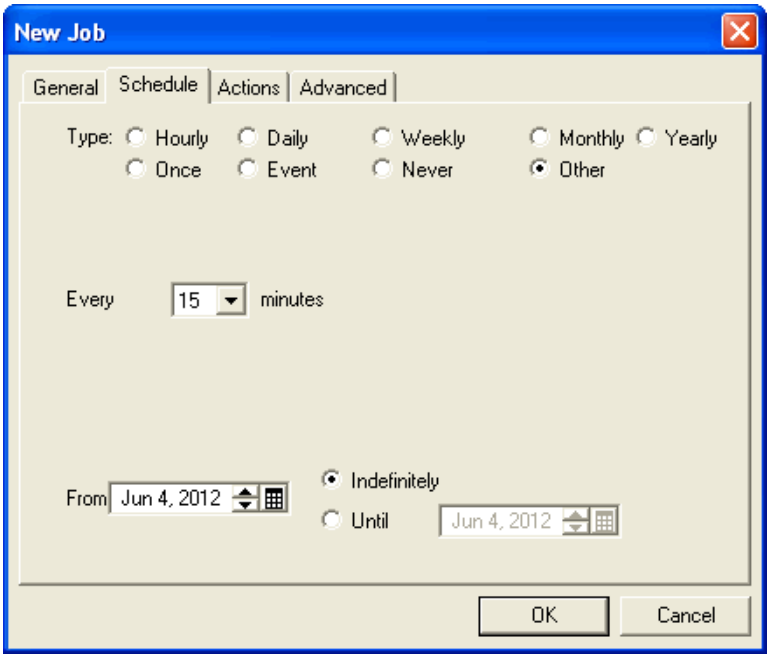
Never

The **Never** schedule option allows you to create a job that can only be manually executed. This option is most often used in a test environment to ensure that a job can run correctly.



Other

The **Other** option allows you to schedule the job at the specified minute interval. The options are 1, 5, 10, 15, 20, or 30 minutes. This option is commonly used for incremental builds that need to run every 15 minutes. This option can also be used in combination with the “Wait for File to Exist” action to trigger the execution of a job whenever a file exits.



OK

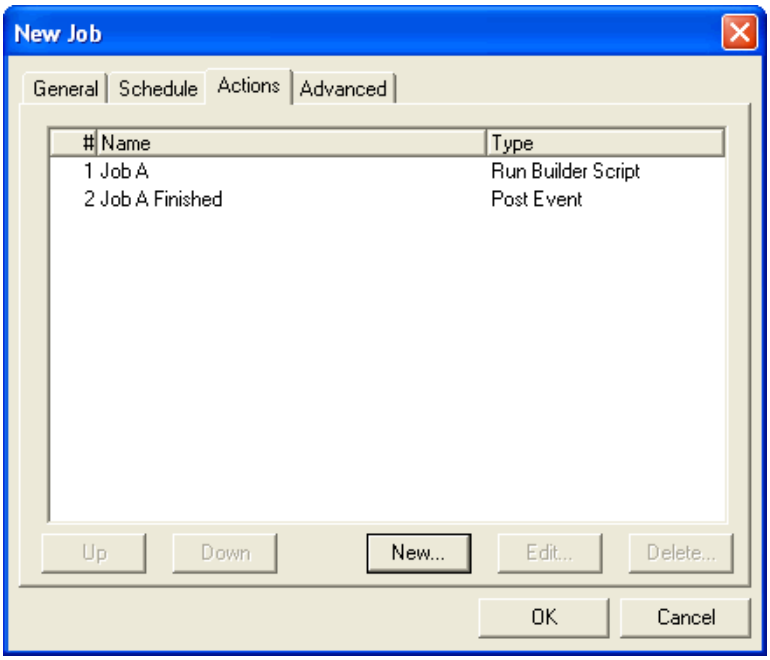
When you have finished configuring or editing a job, click **OK** to save the changes or newly created job and close the **New Job** dialog.

Cancel

Cancel closes the **New Job** dialog without saving the new or edited DI-Scheduler job.

Actions Tab

The New Job dialog **Actions** tab displays the list of actions to be taken in a particular job. In the example below, the job will run a nightly build script and post an event. Actions configured without event triggers will run sequentially, in the order in which they are listed. If a parent action fails, child actions will not run. Steps for creating different actions can be found in the **General Tab** section on the next page.



Up

The **Up** button allows you to move the selected action up in the list.

Down

The **Down** button allows you to move the selected action down in the list.

New

The **New** button allows you to create a new action.

Edit

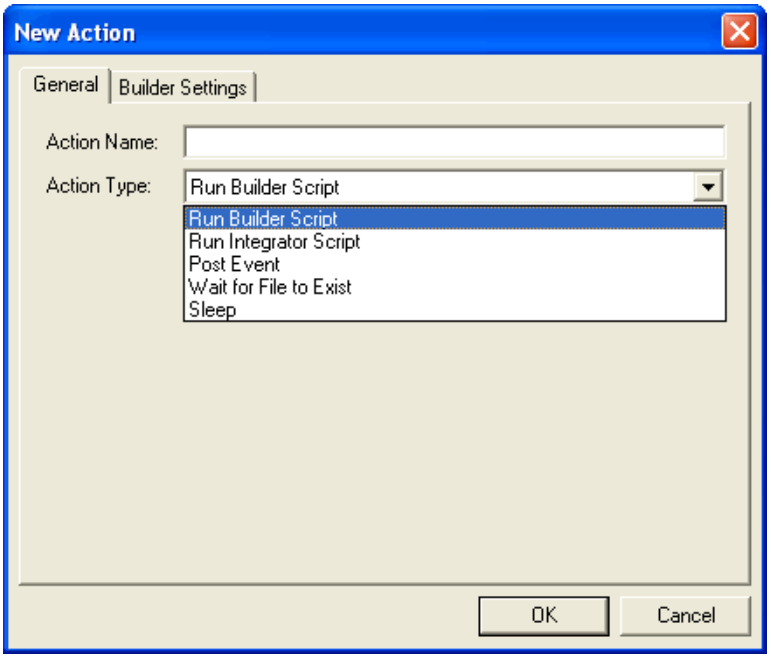
The **Edit** button opens the Edit Action dialog for the selected action, allowing you to make changes to a previously configured action.

Delete

The **Delete** button allows you to delete the selected action in the Actions tab.

General Tab

When **New** is selected in the New Job dialog's Actions tab, the following New Action dialog is displayed. The General tab information is described below.



Action Name

Specifies the name that describes the action being configured. For example, when scheduling a Model build, the Action Name might say "Sales Model Build".

Action Type

The **Action Type** pulldown gives you the option to choose from one of five actions. These include Run Builder Script, Run Integrator Script, Post Event, Wait for File to Exist, and Sleep.

Run Builder Script

This Action Type allows you to schedule a Model build and pass along arguments.

Run Integrator Script

The **Run Integrator Script** action allows you to schedule the execution of a specified Data Integrator script. Parameter values can be passed to the script.

Post Event

Post Event allows you to trigger other actions based on the occurrence of a specific, previously configured event. More information on creating and using events can be found under **Events Menu on page 2-10** and **Event Settings on page 3-18**.

Wait for File to Exist

The **Wait for File to Exist** check box allows you to schedule a job based on the existence of a specific file. Use this feature to create more complex process flows.

Sleep

Sleep allows you to pause a job for a specified amount of time.

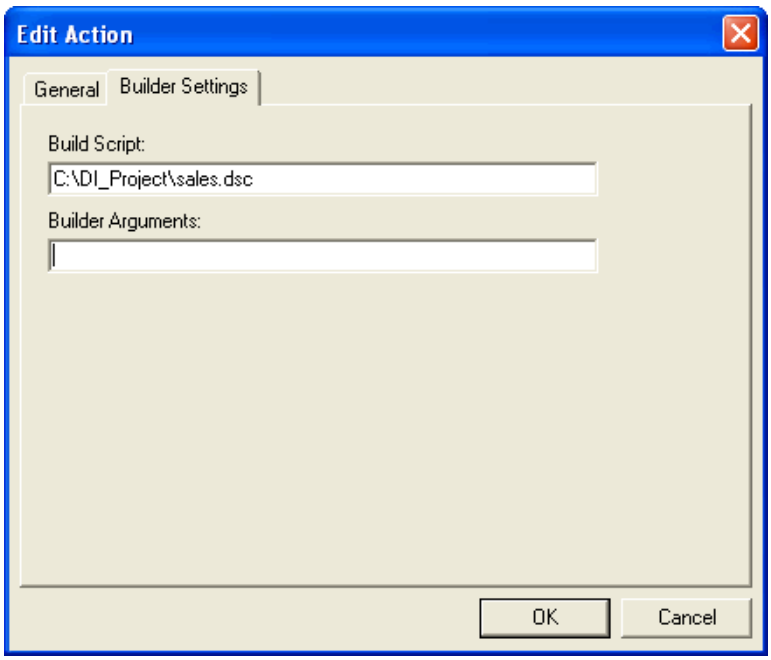
Settings Tab

The New Action dialog's Settings tab varies, depending on the type of action selected from the Action Type pulldown.

- For Run Builder Script, the tab is labeled "Builder Settings". See **Builder Settings on page 3-16**.
- For Run Integrator Script, the tab is labeled "Integrator Settings". See **Integrator Settings on page 3-17**.
- For Post Event, the tab is labeled "Event Settings". See **Event Settings on page 3-18**.
- For Wait for File to Exist, the tab is labeled "File Settings". See **File Settings on page 3-23**.
- For Sleep, the tab is labeled "Sleep Settings". See **Sleep Settings on page 3-24**.

Builder Settings

The **Builder Settings** tab allows you to configure the Builder job to be executed.



Build Script

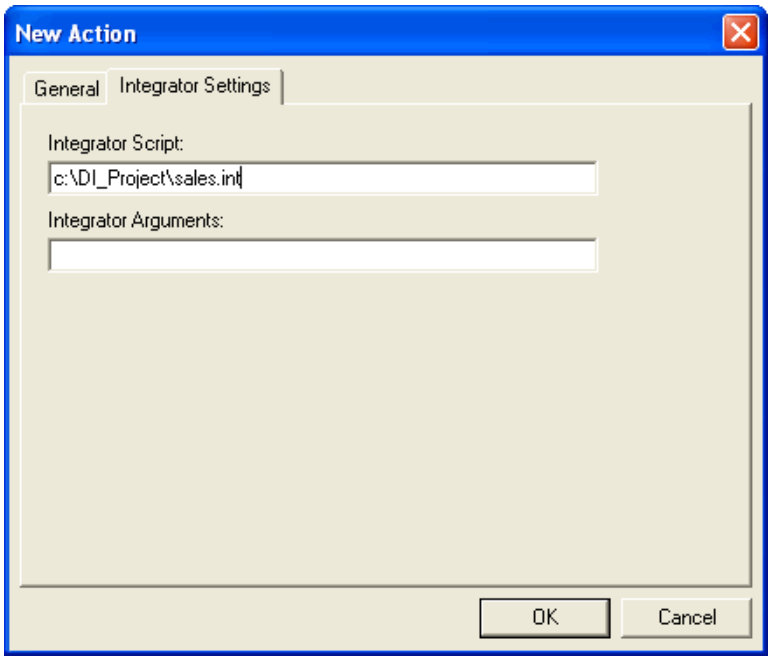
The **Build Script** line accepts the full path to the Build description you wish to run.

Builder Arguments

The **Builder Arguments** area allows you to specify additional Builder variables that should be used when executing the build script. For example, entering -first 1000 would build using only the first 1000 rows of data in the Builder script input file; entering -define dir=”d:/di_sales/data” would pass the value for the dir parameter.

Integrator Settings

The **Integrator Settings** tab allows you to configure the Data Integrator script to be executed.



Integrator Script

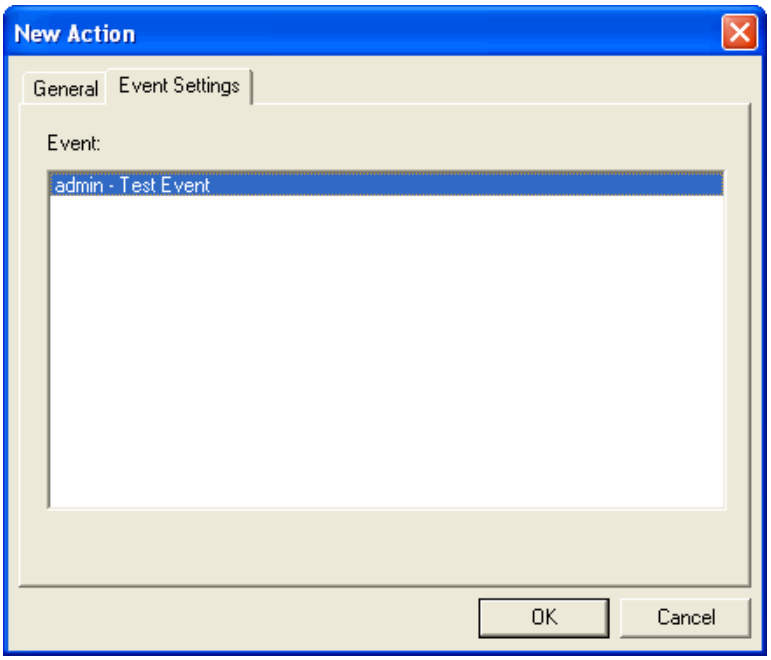
The **Integrator Script** line accepts the full path to the Data Integrator script you wish to run. Typical usage is to have this target script execute one or more Data Integrator programs that are related in some way—for example, a sequence of data extraction scripts.

Integrator Arguments

The **Integrator Arguments** area allows you to specify additional Integrator variables that can be used when executing the script. For example, entering -first 1000 would limit the output to only 1000 rows of data.

Event Settings

The **Event Settings** tab allows you to define event triggers to be used in DI-Scheduler jobs.



Event

The **Event** area displays a list of previously created events that you can select from. See **Events Menu on page 2-10** for information on creating events.

Using Events

Events can be used in DI-Scheduler in simple or complex ways. An event can be used to trigger another single job, such as a Model Build or a DI-Broadcast job, or it can be used in combination with other features, such as the “Wait for file to exist” feature, to trigger several jobs that in turn contain events that trigger other jobs. The examples below provide a simple scenario for using an event in DI-Scheduler and DI-Broadcast.

Scenario 1 - Using an Event to trigger another DI-Scheduler job

I have a DI-Scheduler job that runs an Integrator script (“Job A”). After the script is run, I want a second DI-Scheduler Model build job (“Job B”) to automatically run. How can I use events to do this?

Part A - Create a new event

1. Go to **Events > Manage Event List...**
2. Click **New**.
3. Enter “Job A Finished” as the event name.
4. Click **OK**.

Part B - Create the Integrator job and job actions (“Job A”)

1. With DI-Scheduler still open, go to **Jobs > New Job...**
2. On the **General** tab, enter “Integ Script” on the **Job name** line.
3. Select the desired schedule on the **Schedule** tab.
4. On the **Actions** tab, click **New**.
5. For **Action Name**, type “Job A”.
6. For **Action Type**, select **Run Integrator Script**.
7. On the **Integrator Settings** tab, enter the path to the desired .int file.
8. Click **OK** to create the new action.

Part C - Add the event to the job

1. With the **New Job** dialog still open, click **New** on the **Actions** tab again.
2. For **Action name** enter “Job A Finished”.
3. For **Action Type**, select **Post Event**.
4. On the **Event Settings** tab, highlight “Job A Finished” (created in Part A above) and click **OK**.

   You now have two actions on the Actions tab of the job that you are creating: an Integrator script action called “Job A”, and an event action called “Job A Finished”.

5. Click **OK** to close the New Job dialog.

Part D - Use the event (“Job A Finished”) to trigger another job (“Job B”)

1. With DI-Scheduler still open, go to **Jobs > New Job...**
2. On the **General** tab, enter “Model Build” on the **Job name** line.
3. Select **Event** on the **Schedule** tab.

Event will always be used when triggering a job.

4. Highlight “Job A Finished” in the **On the following event** text box.
5. On the **Actions** tab, click **New**.
6. For **Action Name**, type “Job B”.
7. For **Action Type**, select **Run Builder Script**.
8. On the **Builder Settings** tab, enter the path to the desired build description file.
9. Click **OK** to create the new build action.

You now have a DI-Scheduler Model build job, “Job B”, that is scheduled to run any time the job “Job A” is finished and the event “Job A finished” is posted.

Some implementations of The Diver Solution will have multiple DiveLines running on the same server. In such cases, DI-Scheduler events created on one DiveLine will not affect jobs created on a different DiveLine.

Each DiveLine instance stores its list of possible events in an atljobs.cfg file that is tied to its port number, e.g.:

```
dl-dataroot/config/atljobs.2135.cfg
```

When an event is run, only the appropriate DiveLine can "listen” to that event and initiate the relevant job.

Scenario 2 - Using an Event to trigger a DI-Broadcast job

I have a DI-Scheduler job that runs a Sales Model build job (“Job A”). After the build is complete, I want a DI-Broadcast e-mail job (“Sales Marker E-mail”) to automatically run. How can I use events to do this?

Part A - Create a new event

1. Go to **Events > Manage Event List...**
2. Click **New**.
3. Enter “Job A Finished” as the event name.
4. Click **OK**.

Part B - Create the Build job and job actions (“Job A”)

1. With DI-Scheduler still open, go to **Jobs > New Job...**
2. On the **General** tab, enter “Sales Model Build” on the **Job name** line.
3. Select the desired schedule on the **Schedule** tab.
4. On the **Actions** tab, click **New**.
5. For **Action Name**, type “Job A”.
6. For **Action Type**, select **Run Builder Script**.
7. On the **Builder Settings** tab, enter the path to the desired build description file.
8. Click **OK** to create the new build action.

Part C - Add the event to the job

1. With the **New Job** dialog still open, click **New** on the **Actions** tab again.
2. For **Action Name** enter “Job A Finished”.
3. For **Action Type**, select **Post Event**.
4. On the **Event Settings** tab, highlight “Job A Finished” (created in Part A above) and click **OK**.

   You now have two actions on the Actions tab of the job that you are creating: a Model build action called “Job A”, and an Event action called “Job A Finished”.
5. Click **OK** to close the New Job dialog.

Part D - Use the event ("Job A Finished") to trigger a DI-Broadcast job ("Sales Marker E-mail")

1. Open DI-Broadcast.
2. Go to **Jobs > New Job**.
3. On the **General** tab, name the new Job "Sales Marker E-mail".
4. On the **Schedule** tab, select **Event** as the type of schedule

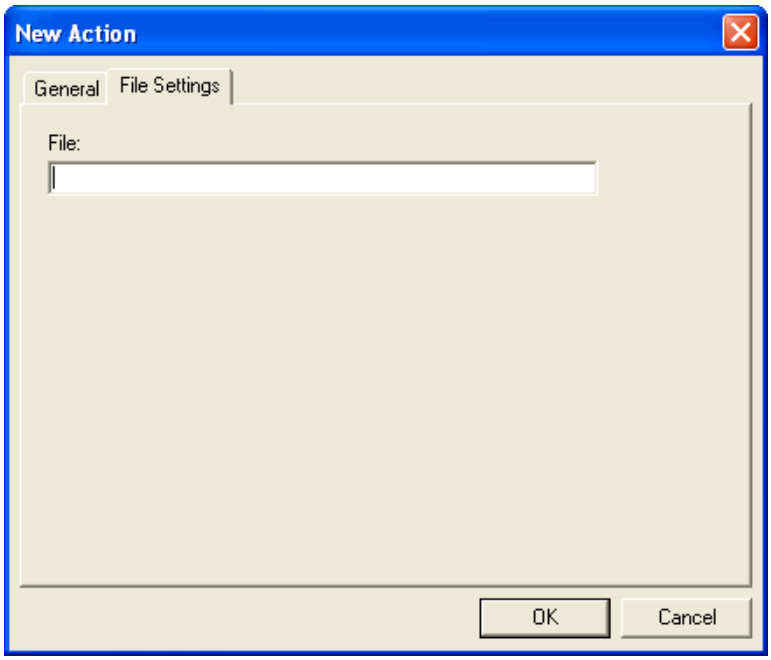
Event will always be used when triggering a job.

5. Highlight "Job A Finished" in the **On the following event** text box.
6. Click the **Marker Settings** tab.
7. Browse to any Marker that uses the Model that is being built in your scheduled Build job, created in Part B above.
8. Select any **Attachment** file type.
9. Select the **Email Settings** tab, enter the e-mail addresses of the intended recipients in the To:, Cc:, and Bcc: lines.
10. Enter the desired subject and message text.
11. Click **OK**.

    You now have a DI-Broadcast job, "Sales Marker E-mail", that is scheduled to run any time the job "Job A" is finished and the event "Job A finished" is posted.

File Settings

If a job is to wait for a file to appear, you need to specify the location on the **File Settings** tab.



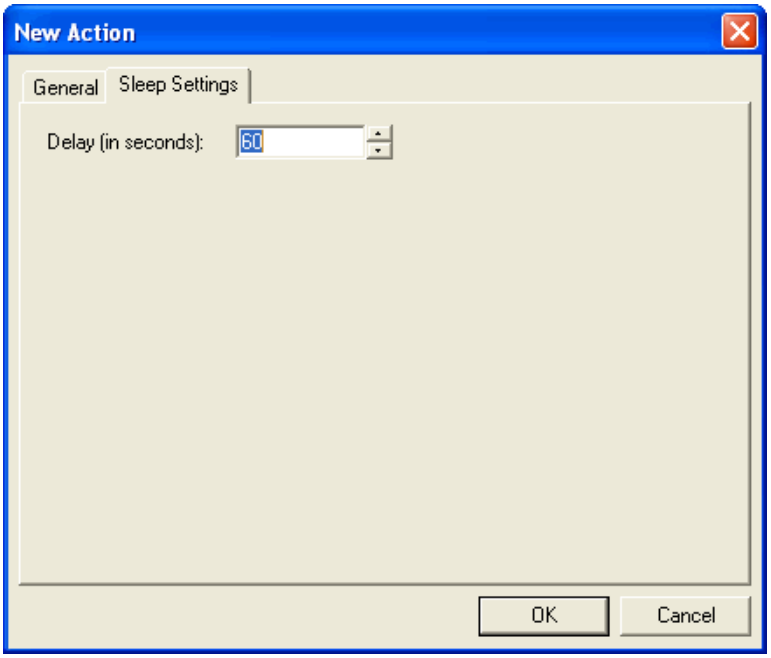
File

Specifies the system path to the file that needs to exist for the defined **Wait for File to Exist** action. The job then waits for this file. It can be used as a "trigger" in two ways:

- Job executes when the file appears (use only the Wait for File to Exist action).
- Job starts at particular time then waits for the file to appear (schedule Daily at a particular time and also configure the Wait for File to Exist action).

Sleep Settings

The **Sleep Setting** tab allows you to specify a length of time to pause the process.



Delay (in seconds)

The **Delay (in seconds)** box allows you to enter the number of seconds to pause the job. After the specified duration has elapsed, the job will resume with the next step in the **Actions** list.

OK

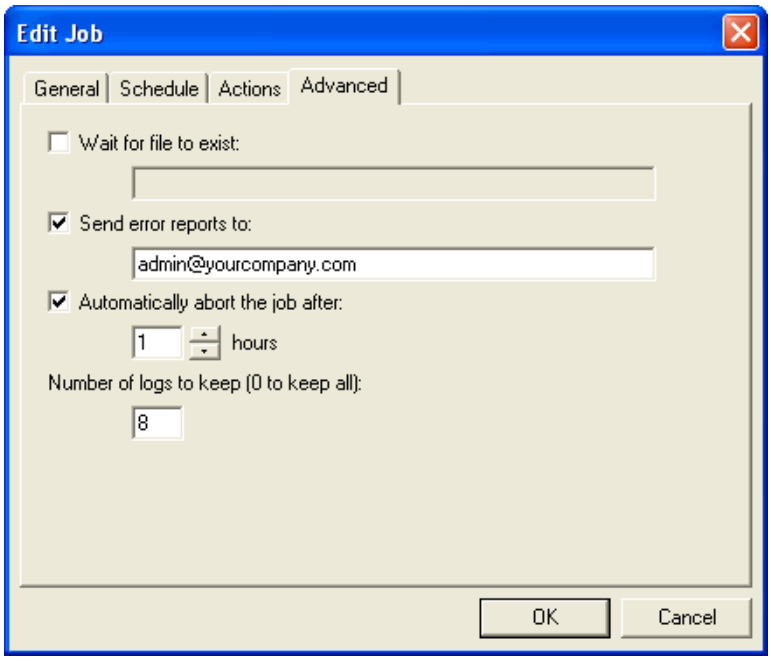
When you have finished configuring or editing a job, click **OK** to save the changes or newly created job and close the **New Job** dialog.

Cancel

Cancel closes the **New Job** dialog without saving the new or edited DI-Scheduler job.

Advanced Tab

The **Advanced** tab allows you to specify additional execution requirements for the job being created.



Wait for file to exist

The **Wait for file to exist** check box is a legacy option used for backward compatibility. A better practice is to use the action type instead. See **Wait for File to Exist on page 3-15**.

Send error reports to

This option allows you to send error reports from a job to the specified e-mail address(es). Multiple addresses should be comma-separated.

Automatically abort the job after

This check box allows you to tell DI-Scheduler to stop executing a job after “x” number of hours. This is recommended if you are using the Action Type “Wait for file to exist”. Be sure the wait time is longer than the job execution.

Number of logs to keep

This option sets the number of historical job runs to keep. DI-Scheduler keeps the most recent runs up to this number. The default is 8. A value of 0 (zero) will keep all runs (not suggested).

OK

When you have finished configuring or editing a job, click **OK** to save the changes or newly created job and close the **New Job** dialog.

Cancel

Cancel closes the **New Job** dialog without saving the new or edited DI-Scheduler job.

Chapter 4
DISCH

The executable `disch.exe` is the command-line version of DI-Scheduler. The options listed and described below are available from a command-line window.

Connecting to DiveLine

Table 4-1: disch DiveLine Connection Options

Command	Description
-server <*servername*>:<*port*>	Specifies the DiveLine server and port to connect to.
-login <*username*> <*password*>	Specifies the DiveLine username and password to connect with.

Informational Options

Table 4-2: disch Informational Options

Command	Description
-help	Displays disch.exe usage information.
-version	Displays the `disch.exe` version information.

Commands

Table 4-3: disch Commands

-listevents	Lists all available events.
-listjobs	Lists all available jobs.
-postevent <*owner*><*event*>	Posts the specified event.
-executejob <*owner*><*job*>	Executes the specified job.
-showactivity	Tells DI-Scheduler to stay connected to DiveLine and show all DI-Scheduler activity.

Several -commands require the “owner”. To see the owner in DI-Scheduler (GUI), select **View > All jobs**.

The “-postevent” command requires that the event to be posted is already defined in DI-Scheduler. To create an event see **Event Settings on page 3-18**.

Examples

The following examples show proper disch.exe syntax:

```
disch -server diveline:2135 -login admin admin -executejob
admin job1
```

If any parameter or event name contains spaces, then that value must be enclosed in quotes.

For example, to execute a job named “data extract”:

```
disch -server diveline -login admin admin -executejob admin
“data extract”
```

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