Toon Boom Harmony 10.3
Control Center and Server User Guide

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Contents

Chapter 1: Introduction

What is Harmony?

Harmony is a revolutionary team-based infrastructure for animation production. Its array of cutting-edge features increases productivity and encourages creativity. Developed in conjunction with leading studios worldwide, Harmony is specifically designed for long-term episodic and feature length projects, providing a true animation pipeline. Several animators can work simultaneously on the same scene while the asset library provides users with easy access to up-to-date media assets.

Harmony is truly scalable; more than 100 staging clients can share animation just as easily as a few can. Whether you are a start-up studio or a large established animation facility, Harmony serves as the animation backbone ensuring sustainability and growth.

Harmony is a powerful solution that brings together multiple teams working on the same project, whether in-house or remotely. The Harmony solution offers a robust asset management system that enables users to quickly locate assets, share tasks on complex scenes and centralize all assets in a common repository. Tremendous gains in efficiency and quality are made by the teams, who enjoy a smooth flow between each task, and more time dedicated to their creative assignments.

What is Toon Boom Harmony Server?

At the heart of the Harmony Solution is the server, which centralizes all the production assets in a repository. Loaded with production proven tools to manage administration tasks, the server is completely flexible and will fit in your existing infrastructure, whether you are on Windows, Linux or Mac.

In addition, the server is critical at the end of a production for rendering projects efficiently. The Render module, controlled directly by the server, not only renders production scenes but also executes the batch vectorization of

the scanned drawings. Connect an unlimited number of Render nodes and change priority depending on the deadline! You can also render final frames locally, or batch process over a network in the background or at scheduled times.

What is Contained in this Guide?

The Toon Boom HarmonyServer User Guide was created to help you set up and manage your Toon Boom Harmony Server and your rendering queue.

Topics Covered

- Control Center Module on the facing page
- Batch Processing on page 63

Chapter 1: Control Center Module

Using the Harmony solution and the Toon Boom Harmony Server has the advantage that it centralizes your whole production on your server and organizes it into a structured database. The key piece of Toon Boom Harmony Server is the Control Center module. From the Control Center, you can manage your production database, users, visualize your rendering queue and more.

This chapter explains the general administrative tasks which must be performed to successfully run the Harmony Solution.

Topics Covered

Launching Control Center

To manage a production, you will need the Control Center module. The Control Center is used to create new environments, jobs, scenes and users as well as to import and export scene packages. The Control Center directly manages your server database and is the only place you can create scenes in your database.
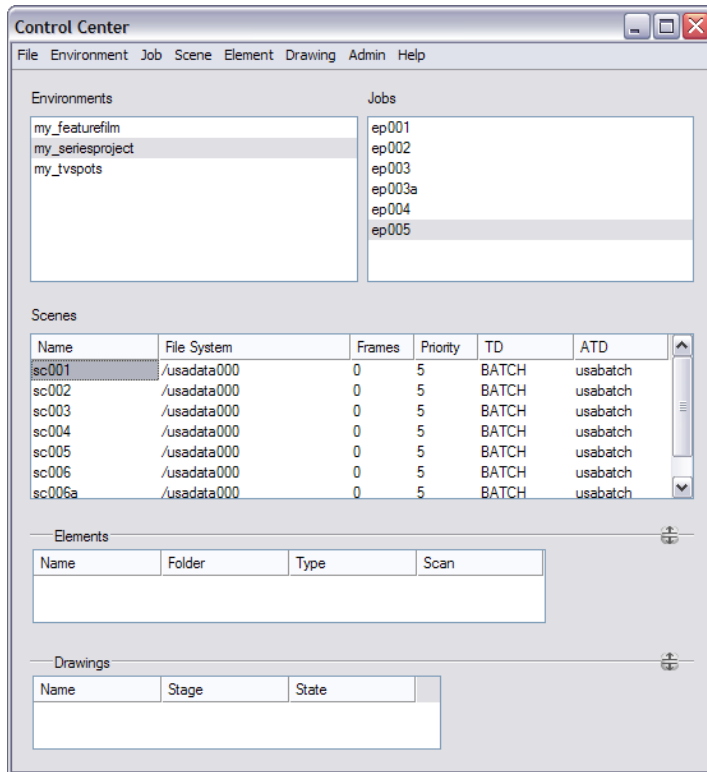
You can launch the Control Center from the server or any client machine.
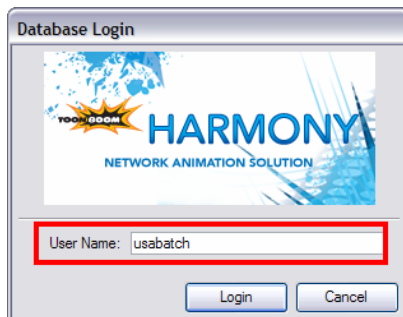
Before accessing the main Control Center interface, the Database Login dialog box opens requesting a username. By default, there is a username created; **usabatch**. Type this username to log in the first time. Once logged into Harmony, you will be able to create your own set of users

Do not delete the **usabatch** username. It is used by Toon Boom Harmony Server for the batch processing task.

To open Control Center:

1. To launch Control Center:

   ‣ Windows:
   Select **Start > All Programs > Toon Boom Harmony 10.0 > Control Center**.

   ‣ Mac OS X:
   Select **Finder > Applications > Toon Boom Harmony 10.0 > Control Center**.

   ‣ Linux:

   > `/usr/local/ToonBoomAnimation/harmony_10/ln86/bin/Controlcenter`

   You can also type `Controlcenter` in a command shell window.
   You can also select **Applications > ToonBoom-Harmony_10.0 > Control Center**.

   The **Database Login** dialog box opens.
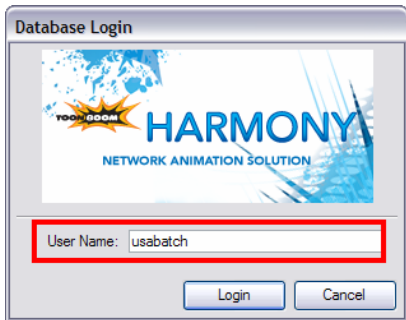
2. In the **User Name** field, type `usabatch`, this is the default Harmony user.

   The **Control Center**application opens.
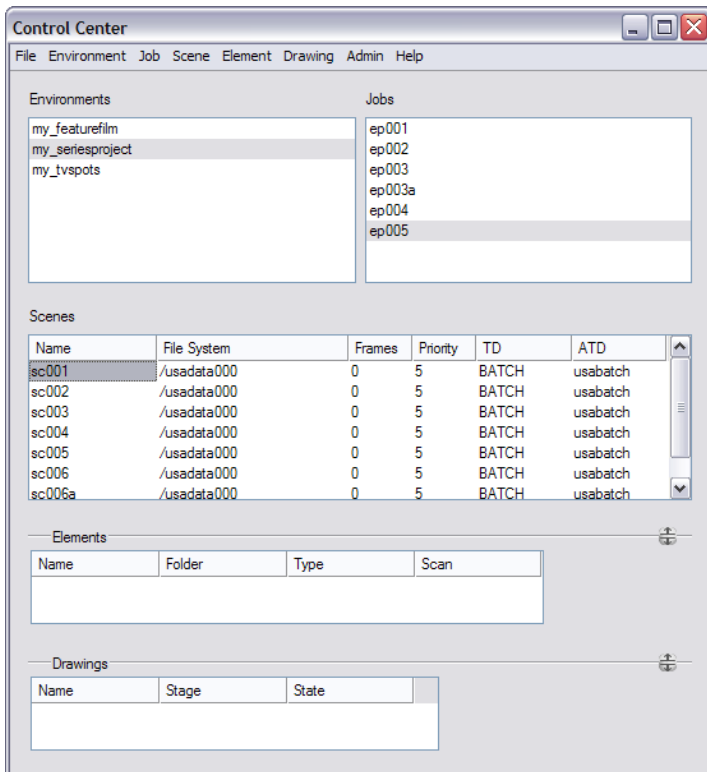
Related Topics

-

Control Center User Interface
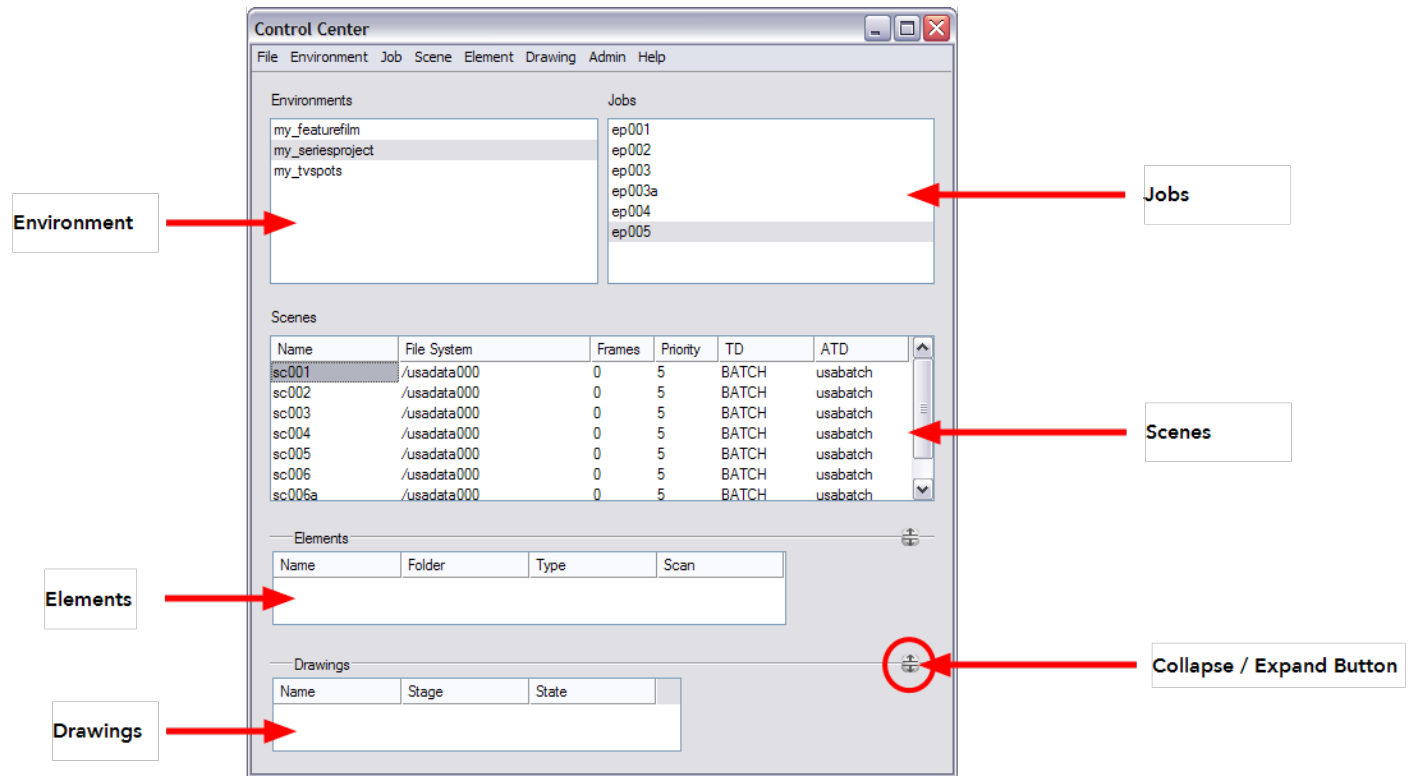
The Control Center interface is divided into 6 areas:

- **Top Menu**

  The top menu contains all the commands available in Control Center. You can also find the commands in the contextual menus available in each area by right-clicking.

- **Environments**

  The Environments area shows one of your projects such as a feature film, a TV series or a group of TV spots.

- **Jobs**

  The Jobs area shows the sequences or episodes in your project (Environment). You can only see your jobs once you select a project in your Environments list.

- **Scenes**

  The Scenes area shows the scenes in your episode or sequence (Job). You can only see your scenes once you select a job in your Jobs list.

- **Elements**

  The Elements area shows the layers or columns in your scene. You can only see your elements once you select a scene in your Scenes list.

- **Drawings**

The Drawings area shows the drawings in your layer or column (Element). You can only see your drawings once you select an element in your Elements list.

Here is a typical example of the database structure:
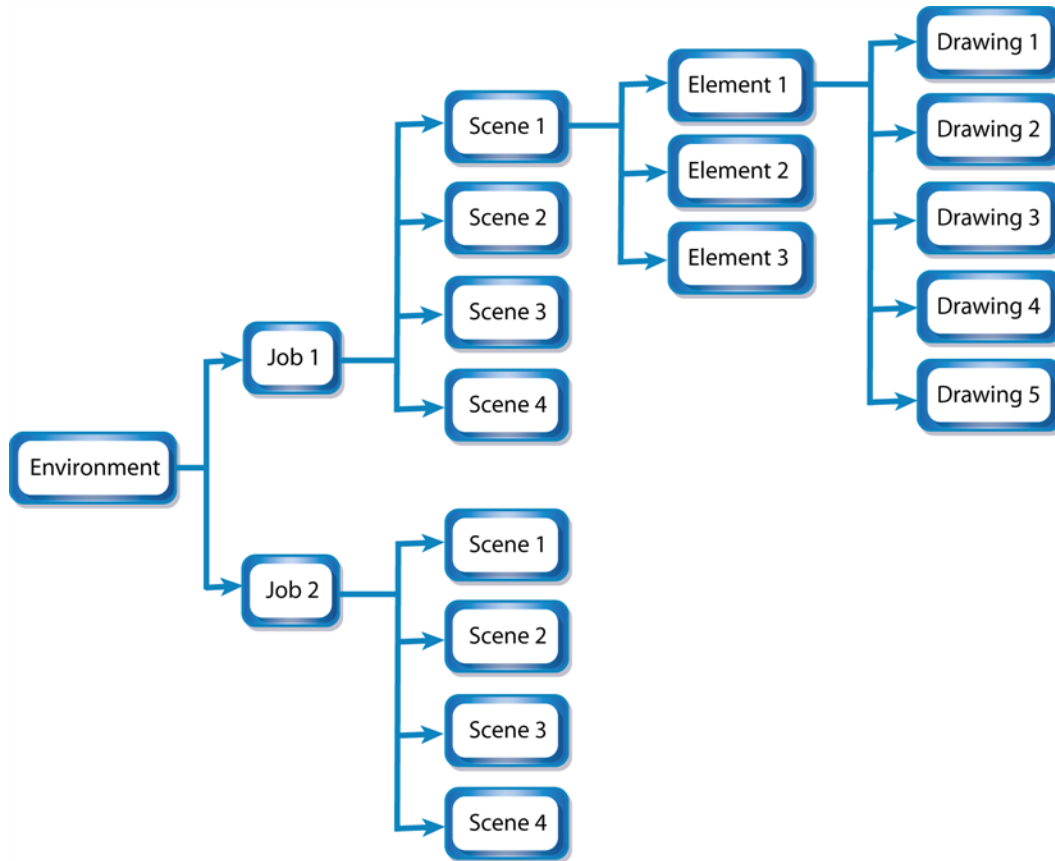
Collapsing and Expanding the Control Center

You can collapse and expand the **Elements** and **Drawings** sections of the user interface. As the elements and drawings are not created in Control Center, these sections are used less often. To simplify the interface, you can click on the **Collapse/Expand** button to show or hide the **Elements** and **Drawings** sections.
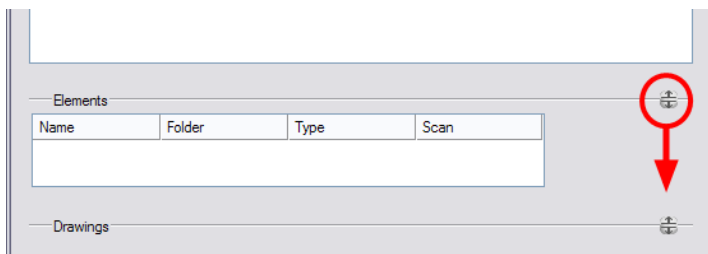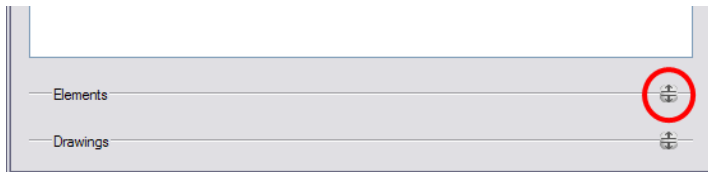
Related Topics

- Managing Environments, Jobs and Scenes on page 24

Centralized Data and Global Locking

When working with the Harmony solution and Toon Boom Harmony Server, all scenes and their data are stored directly on the server, no data is saved or stored on the client machine. The client machines access the database and load the scenes and drawings directly from the server. Each time the user saves his scene, the data is updated directly on the server. There are no upload or download operations done between the server and the clients.

Harmony has a lock system, referred to as **Global Lock**, for the different scenes and scene assets. As all the data on the server can be accessed directly and modified from any client machine, by default, the scenes are locked and the users need to get the rights to modify them in order to save their work onto the server. Only one user at the time can modify a scene. Once a scene is opened on a client machine, the other users can only open the scene in read-only mode if they need to consult it, but they will not be able to save any modifications.

The **Global Lock** has three levels:

- **Get rights to modify the scene**

  Allows the user to modify the selected version of the scene and have access to the version manager during the opened session.

- **Get rights to modify the scene version**

  Allows the user to modify the currently selected scene version but locks access to the version manager during the opened session.

- **Get rights to modify the scene assets**

  Automatically gets all the edit rights for the selected version of the scene. This option is only recommended if you are certain that the selected scene can not be opened for editing by several users at the same time. Large studios should avoid this option.
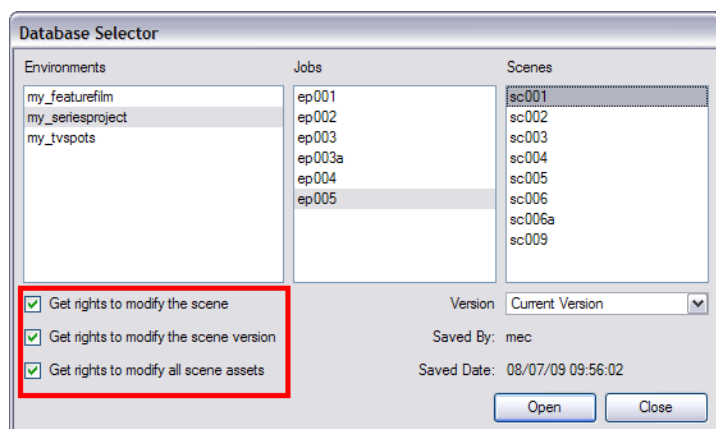
There are several different ways to get the rights to modify the scenes. This can be done when:

- the user loads a scene

- an environment is created

- a job is created

- a scene is created

- or in the user's preferences

Related Topics

- [Managing Environments, Jobs and Scenes](#) on page 24 topic.

Creating Harmony Users

In an animation studio, you will generally have several people using Harmony who will probably be assigned different tasks such as Ink and paint or compositing. You should normally create a different user for each one of them. This way, the person assigned to ink and paint will only access the **Paint** module and not to other functions that are not relevant to his work.

- Viewing the Current User List below

- Adding a User on the next page

- User Types and Restrictions on page 19

Viewing the Current User List

Everyone who uses Harmony must have a login name in order to run any of the modules. The Harmony login is independent from the computer session login.

To view the user list:

1. In the top menu, select **Admin > Users**.

   The **User List** dialog box appears and displays your login name and a list of the other users in the system.
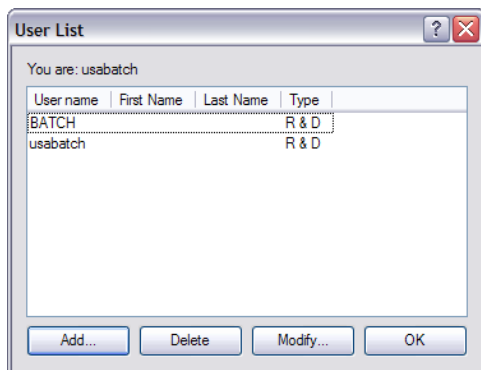
By default, only the `usabatch` and `BATCH` users are created. You should not use those for your staff. These should be kept for the Toon Boom Harmony Server when performing background operations such as the batch processing.

The **User List** dialog box lists all the users and their details, including; username, first and last names, and user type. The buttons at the bottom of the dialog box let you add, delete or modify the list of users.

The different modules and applications in which a user can log in are:

- Control Center module

- Stage module

- Paint module

- Xsheet module

- Scan module

- Play module

Adding a User

All Harmony users must have their name on the user list to log in to any application. The system uses the login to track activities; it is not a security lockout.

Each login also has a user "type" assigned to it which allows access to only some of the Harmony modules.

To add a user to Harmony:

1. To view the list of Harmony users, select **Admin > Users**.

   The **User List** dialog box appears.
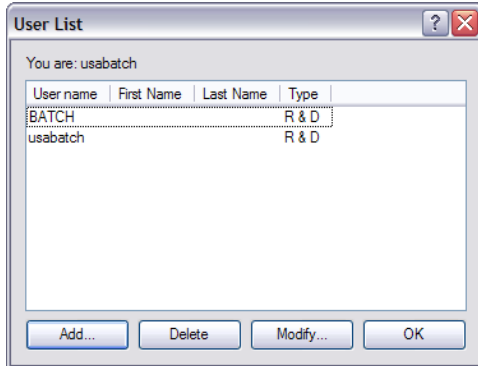
2. Click on the **Add** button.

   The **Add User** dialog box appears.

3. In the **User Name** field, type the person's user name.

   Make sure that the user name does not exceed the 12-character limit.

4. Type the person's first name and last name in the corresponding **First Name** and **Last Name** fields. You can enter a space if you want leave the field blank.

5. In the **Type** drop-down menu, select the user type. This defines the type of work the user typically performs. It will allow or block the person to access certain Harmony applications and perform operations in Control Center.
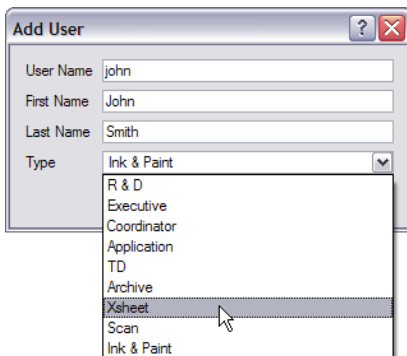
6. Click **OK** to complete the user creation process or click **Cancel** to abort it.

    The **Add User** dialog box disappears and the name appears in alphabetical order in the user list.
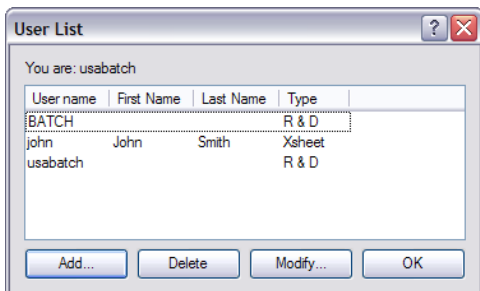
User Types and Restrictions

Here are the different user types available and their restrictions:

- **R&D**: The user is a part of the Research and Development department. **No restrictions**.

- **Executive: The user is an executive producer in the studio. No restrictions.**

- **Coordinator**: The user is a project coordinator in the studio. **No restrictions**.

- **TD**: The user is a technical director. **No restrictions**.

- **Xsheet**: This user type is used for the Xsheet team, animators and compositors. **Access to all Harmony applications**.

    The user is **UNABLE** to:
    - Delete jobs or scenes from the environment
    - Force the lock on a scene from Control Center
    - Move a scene
    - Clear the Xsheet
    - Rename a scene

- **Scan**: **ONLY has access to** the Scan, Play and Paint modules.

The user is **UNABLE** to:

- Delete jobs or scenes from the environment
- Force the lock on a scene from Control Center
- Move a scene
- Clear the Xsheet
- Rename a scene
- Access the **Stage** and **Xsheet** modules

- Ink & Paint: **ONLY has access to** the Paint and Play modules.

  The user is **UNABLE** to:

  - Delete jobs or scenes from the environment.
  - Force the lock on a scene from Control Center
  - Move a scene
  - Clear the **Xsheet**
  - Rename a scene
  - Access the **Stage**, **Scan** and **Xsheet** modules

- The **Archive** and **Application** categories are not user types. They are used for batch processing and other programs; do not assign them as user types.

Description	RD - Coordinator Executive - Archive Application - TD	Xsheet	Scan	Ink & Paint
Create environments, jobs and scenes	✓	✓	✓	✓
Unlock scenes locked by another user. Move, rename, delete and clear: environments,jobs and scenes	✓			
Launch the **Xsheet** and **Stage** modules	✓	✓		
Launch the **Scan** module	✓	✓	✓	
Launch the **Paint** module	✓	✓	✓	✓

Related Topics

- Deleting a User below

- Modifying User Profiles below

- Creating a Default User for Batch Processing on page 23

Deleting a User

As your studio network grows and evolves, you may need to delete old or obsolete user profiles from your system. After you delete a user profile, the person who used that profile will no longer be able to access Harmony.

You cannot delete yourself from the user list. If you accidentally delete a name, you must follow the procedures for adding a user to get the name back into the system.

To delete a user:

1. To view the list of users, select **Admin > Users**.

   The **User List** dialog box appears.
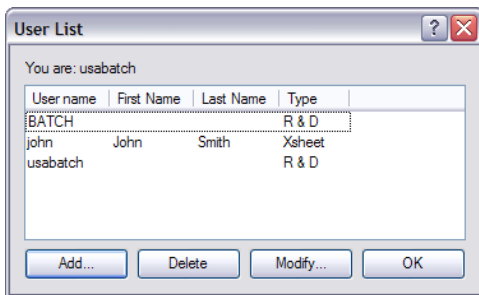
2. In the user list, select the name you want to delete.

3. Click on the **Delete** button.

   The **Confirm** dialog box appears.
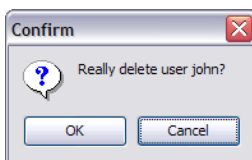
4. Confirm if you want to delete the user from Harmony.

   ‣ Click **OK** to delete the selected user.

   ‣ Click **Cancel** to abort the delete command.

Related Topics

- Creating Harmony Users on page 17

Modifying User Profiles

You can modify the user profiles at any time to update the user information.

You can only change other user profiles. If you log in using your personalized login name, you will not be able to modify your own user profile.

> To change your own user profile, login as `usabatch` (the default user).

To modify user information:

1. To view the list of users, select **Admin > Users**.

    The **User List** dialog box appears.
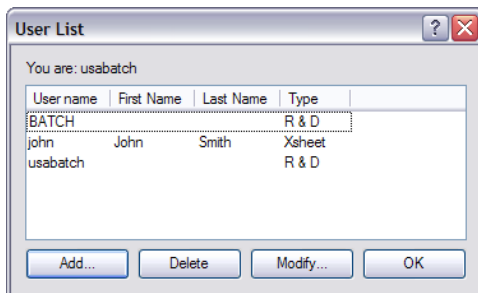
2. Select the profile to modify.

3. Click on the **Modify** button.

    The **Modify User** dialog box appears.
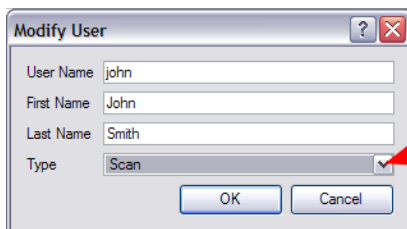
    You can update any of the fields in the user's profile.

    If you change the user's type, you change the user's authority level.

4. Type or select the new information in any or all of the following:

    ‣ **User Name**: the user's login name

    > If you modify the user name, make sure that it does not exceed the 12-character limit.

    ‣ **First Name**: the user's given name
    ‣ **Last Name**: the user's family name
    ‣ **Type** drop-down list: the type of access the user has in the system

5. Click on the **OK** button to complete the update or click **Cancel** to abort it.

Related Topics

-

Creating a Default User for Batch Processing

If you intend to use the batch processing feature in Harmony or if you are installing the application on the server machine, you must create:

- An operating system user called `usabatch`

- A Harmony User Name called `usabatch` through the **Control Center** module.

Harmony uses this user profile during the batch rendering.

> It is important to verify that these users exist **before** starting a project and setting the batch processing.

- **Operating System Users**

  - If you installed Harmony in Windows, the `usabatch` operating system user profile was automatically created by the installation wizard.

  - If you installed Harmony in Mac OS X, the `usabatch` operating system user profile must be created manually or using the configuration assistant.

  - If you installed Harmony in Linux, you must manually create the `usabatch` operating system user.

  In all cases, a user account on your operating system called `usabatch` must exist. If you need to create this account, see your system administrator for more information on how to do this.

- Harmony **User Names**

  - The `usabatch` Harmony user is created during the installation process on Windows, Mac OS X and Linux. There is no need to create it manually unless it was deleted. To create manually the `usabatch` Harmony user, refer to the section.

Related Topics

-
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Managing Environments, Jobs and Scenes

Every project you create with the Harmony solution starts with an environment; it is your highest level in the **Control Center** module. You can build a complete environment by adding jobs, scenes, elements and drawings.

The Control Center module divides your animation project into the following categories which organize the components of your animated projects:
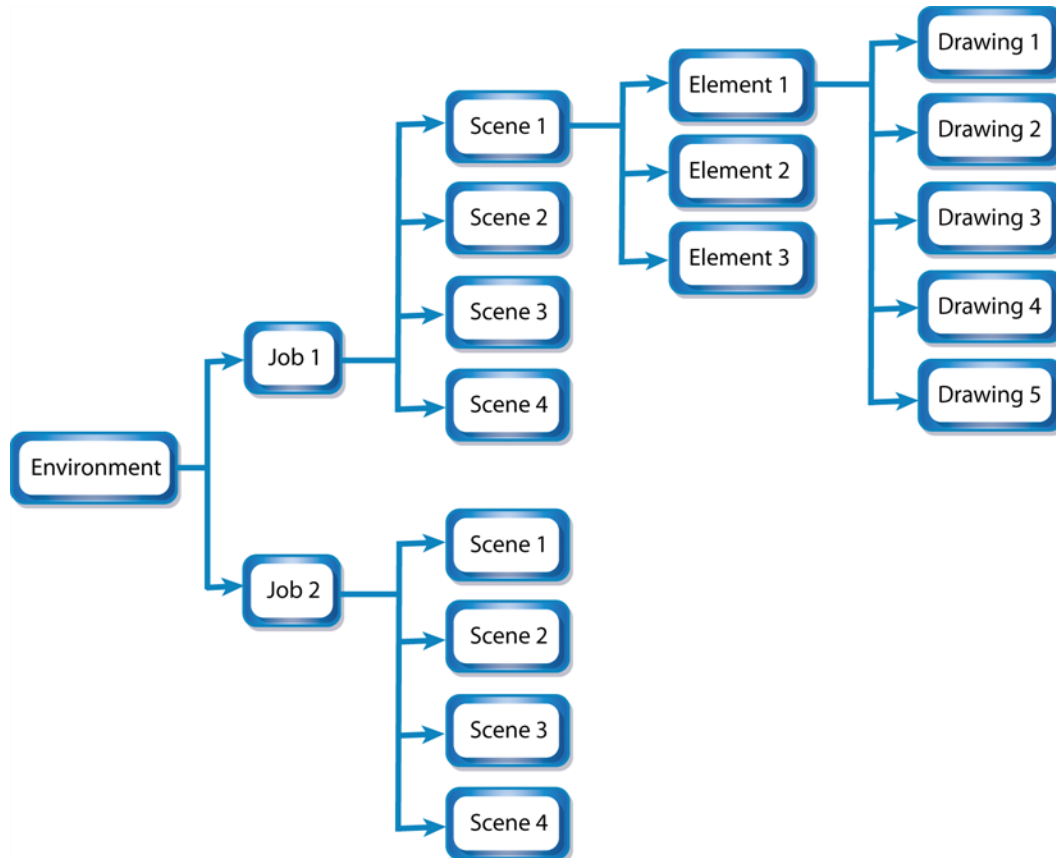
- **Environment**: This is the name of your animation project.

  Example: `adventure_movie`

- **Jobs**: These are the major sections of an Environment such as sequences or episodes.

  Example: `adv_seq_001, adv_seq_002`

All jobs are stored in the same location in the Harmony database. Prefix all job names appropriately, so you can identify the project it belongs to. Each job must have a **different** name. You **cannot** give two jobs the same name.

- **Scene**: These are the different shots in a Job.

Scenes are contained under their respective job folder in the Harmony database. Prefix all scenes names appropriately, so you can identify which environment and job they belong to.

Example: `sc_001, sc_002`

- **Elements**: These are the different layers and columns in your scenes.

  If you have not created an exposure sheet yet, the Frames column in the **Scenes** list displays 0 and no elements appear in the **Elements** list or the **Drawings** list.

  For example, scene `002` of `show_episode_6` could have the following elements:

  - a background called `bg`
  - a character called `tony`
  - a highlight effect called `hl`

  You would then find these elements under job `002` and the `show_episode_6` scene. The **Elements** list would display the element names, types of elements in a scene, the type of scans, and the size of the field chart.

- **Drawings**: These are actual drawings of the elements (layers) in your scene.

  For example, the `tony` element in `002` of `show_episode_6` could consist of 35 drawings. To find these drawings, you would look under Drawings to see the keyframes, state, and stage of each drawing.

As your projects come and go, you'll probably want to start cleaning up your database, not to mention your server's hard disk, by removing old and obsolete Environments and their associated animation data.

> After you delete a scene, a job, or an environment, the associated data is **permanently removed** from your storage disks. Make sure you really want to erase these items before you delete them; there's no way of retrieving the data that has been erased.

You might want to export old environments and archive them somewhere else before you delete them from your system.

> If you are working in a mixed Windows/Linux/Mac OS X environment, or share files with other studios that do, you should use lower case letters to name the various items in your animation projects and not include any spaces in components name (for example, write `the_show` instead of `The Show`. This recommendation is due to the fact that Linux is case-sensitive while Windows is not.

Related Topics

- Managing Environments on the next page
- Managing Jobs on page 29
- Managing Scenes on page 34
- Viewing Elements and Drawings on page 46
- Exporting Data on page 47

Managing Environments

Harmony uses environments to manage and organize related projects. Using environments allows you to organize your production projects by their nature or type.

If your projects centre around episodic and commercial types of work, you could create two environments for instance one called `commercials` and the other called `the_show` and insert the jobs that relate to each type of project. When you want to work on a commercial project, open the `commercials` environment and select the commercial job you need. Similarly, if you want to work on an episodic project open the environment called `the_show`.

Environment	Job	
commercials	**dentist**	**sc_001** **sc_002**
	soda	sc_001
	cereal	sc_001
the_show	sho_001	sc_001 sc_002
	sho_002	sc_001

Related Topics

- [Creating an Environment](#) below
- [Deleting an Environment](#) on the facing page
- [Setting the Resolution.conf File](#) on page 28
- [Managing Jobs](#) on page 29
- [Managing Scenes](#) on page 34

Creating an Environment

To create an Environment:

1. In the top menu, select **Environment > Create** or you can also right-click in the Environments section and select Create.

    In mixed platform Environments (Linux and Windows or Mac OS X and Windows) it is best to name everything in lower case so that data can be interpreted the same on each operating system. The same is true if working between studios using Windows, Linux and Mac OS X.

    The **Create Environment** dialog box appears.

2. Type the new project's name in the **Environment Name** field.

The environment name is alphanumeric and can include underscores (_), but no spaces or other special characters. The environment name is case sensitive.

---

3. If you want the user to automatically get the rights to modify all the scene assets (drawing, scene setup, palette lists, etc.), enable the **Get Rights to Modify All Scene Assets** option.
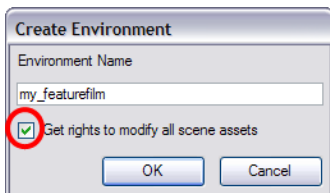
4. Click on the **OK** button to complete the operation.

   The new environment appears in alphabetical order in the **Environments** list.

After you create an environment, you must add it to the **Batch Processing** queue so that it can vectorize and render the drawings and scenes automatically. You only have to add the environment to the **Batch Processing** queue once.

Related Topics

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-
-

Deleting an Environment

When you are ready to remove old environments, you can delete them from the database. However, in order to prevent accidental loss of data, you can only delete an empty environment (an environment that contains no jobs, image, or palette information).

To delete an environment:

1. In the environment section, select the environment you want to delete from the **Environments** list.
2. Select **Environment > Delete** or you can also right-click on the selection and select **Delete**.

> The **Delete** command is only available for an empty **environment**. You must delete the scenes and jobs before you can successfully delete the environment.

3. The **Confirm** dialog box appears.
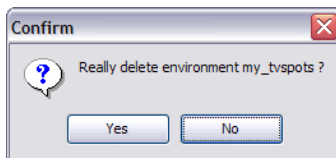
> ‣ Click on the **Yes** button to delete the selected Environment.
> ‣ Click on the **No** button to abort the delete command.
>
> The environment no longer appears in the **Environments** list.

Related Topics

- Deleting a Job on page 33
- Deleting a Scene on page 45

Setting the Resolution.conf File

When you create a new environment or job, you can create a project resolution list that will appear in Harmony Stage. If you work with a particular resolution, you can insert it in your list and have it set and available when doing the compositing in Harmony Stage.

You need to insert the `Resolution.conf` file in the Environment or Job folder. If you insert the file at the environment level, it is not necessary to add one at the job level.

The `Resolution.conf` file can be found in:

- Windows: **Program Files > Toon Boom Animation > Harmony 10.0 > resources > samples**
- Mac OS X: **Applications > Toon Boom Harmony 10.0 > tba > resources > samples**
- Linux: `/usr/local/ToonBoomAnimation/harmony_10.0/resources/samples`

Insert the `Resolution.conf` file in the following directory:

- `/USA_DB/environments/environment_name/resolution.conf`

  Resolutions common to all jobs in the environment.

- `/USA_DB/db_jobs/job_name/resolution.conf`

  Resolutions common to all scenes in the job.

- `/USA_DB/resolution/resolution.conf`

Resolutions common to all scenes and all environment.

All scenes found under the environment or job have access to the resolutions stored in that file.

You can simply type new resolutions, modify or delete existing ones from the list. This file can also be sent to other studios with whom you may be working.

```
#
# resolution.conf
#
# This files defines the resolution available to the program.
#
# There is a copy of this file in /usa/etc for Harmony/Opus or in
# the <Application Folder>/etc for Solo/Storyboard
#
# You may copy this file in /USA_DB/jobs/your_jobs for job's specific resolutions
# or in /USA_DB/environments/your_environment for environment wide resolutions
# and modify it to add any resolution you need to use in many or all of your
# scenes.
#
#
# syntax:
#   resolution <name> <x> <y> [custom] [fps <fps>] [<fov>]
#
# The "custom" keyword means that this resolution was created by a user.
# The "fps" keyword can be followed by an integer to specify the number of
# frames per second.
# <fov> can be an angle in degrees, "V" to signify vertical fitting, or "H" to
# signify horizontal fitting.  If unspecified, horizonal fitting is used.
#


default NTSC
resolution HDTV       1920 1080 fps 24 H
resolution film-1.33 2048 1536 fps 24 H
resolution film-1.66 2048 1234 fps 24
resolution NTSC        720  540 fps 24 V
resolution PAL         768  576 fps 25 V
resolution low         360  270 fps 24 41.112
```

Related Topics

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Managing Jobs

Within each environment is a list of jobs. These Jobs contain all the segments for your animated sequence. If you are creating a weekly television series called `The Show`, you could name your job `show_ep_06` (`the_show` could be the name of your environment).

If each episode was composed of 100 animated shots, each job would contain 100 scenes.

Related Topics

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Creating a Job

Each job must have a unique name. You cannot have two jobs with the same name, even if they appear in two different environments. On the server, all the jobs are contained in the same folder.

To create a job:

1. In the **Environments** section, select the project in which you want to create your new job.

2. In the top menu, select **Job > Create** or you can also right-click in the **Jobs** section and select **Create**.

   The **Create Job** dialog box appears.
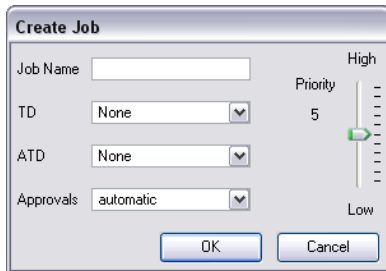
3. In the **Name** field, type the name of the job you want to create.

> The job name is alphanumeric and can include underscores (_), but no spaces or other special characters. The job name is case sensitive.

4. In the **TD** drop-down menu, select a technical director (TD). You must select a technical director to create the job.

   A TD is usually the person who oversees the animation project and makes sure the work is done properly. Select the person who most closely resembles this definition. If you do not have a particular user for the task, you can simply assign `usabatch`.

   When you create your Harmony users, you can label a user as a technical director (TD).

5. In the **ATD** drop-down menu, select an assistant technical director (ATD). You must select an assistant technical director to create the Job. If you don't have an ATD select the same person for the TD and ATD jobs.

   In some studios, the responsibilities of the technical director can be shared by more than one person. This second person is the ATD.

   The technical director and assistant technical director you select appear in the **Scenes** list for each scene of the job.

6. In the Approval drop-down menu, select how Harmony will mark the various stages the scenes will pass in your production schedule.

   ‣ **Automatic**: When you work on your scenes, Harmony automatically approves their status at each stage

   ‣ **Manual**: When you work on the scenes, the technical director or the assistant technical director must approve their status at each stage using the **Change Stage** command (available in the **Scene** menu).

7. Drag the **Priority** slider handle to increase or decrease the job's priority (0 means the Job has the highest priority for processing through the **Vectorize** or **Render** queue and a job with a priority of 10 is the least important). Jobs with higher priorities will pass in front of other projects with lower priorities in the rendering and vectorizing queues even if there is already a queue processing.

   If you do not know what priority to assign to your project, you can leave it at 5. You always have the possibility to change it later.

8. Click on the **OK** button to complete the operation.

The Control Center module adds your new job to the selected environment and it appears in alphabetical order in the **Jobs** list.

Related Topics

- Changing a Scene's Stage on page 40
- Changing a Job's Queue Priority on the next page
- Updating Jobs below

Updating Jobs

As you continue working on your animation project, you may want to update the status of the jobs in your environment. This status can display one of three things:

- The stage the job has reached
- When the job will be vectorized
- When the job will be rendered

Related Topics

- Changing a Job's Stage below
- Changing a Job's Queue Priority on the next page

Changing a Job's Stage

As you complete your animation project, you can update a job's status to reflect where it is in the overall production process. You can classify jobs as being **In Production** or **Completed**.

- **In Production**: The Job is still a work in progress. The other modules can still access this Job.
- **Completed**: The Job is finished. The Harmony database still has all the job's components (scenes, elements, drawings), but the job neither appears nor is accessible from the Harmony applications.

  In most cases, you would mark a Job as **Completed** after it has been finalized (inked, painted, rendered) and transferred to a medium like tape or sent to post-production.

  You can change a job's status from **Completed** to **In Production** at any time to continue working on it.

If you want to remove a job and its data from the Harmony database and archive it, you can export the Job from Control Center.

To change the stage of a job and view the list of completed jobs:

1. In the **Environments** section, select an environment.
2. In the top menu, select **Job > Change Stage** or you can also right-click in the **Jobs** section and select **Change Stage**.

   The **Change Stage of Jobs** window appears.
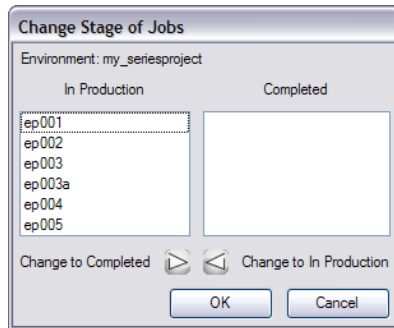
3. Select the jobs you want to change the stage.

   ‣ If you want to change a job from **In Production** to **Completed**, select the jobs in the In **Production** list.

   ‣ If you want to change a job from **Completed** to **In Production**, select the jobs in the **Completed** list.

4. Click one of the **Change** buttons to change the job's status.

   ‣ Click the **Change to Completed** ▷ button to change a job that is in production.

   ‣ Click the **Change to In Production** ◁ button to change a job that is completed.

5. Click on the **OK** button when you finish making changes.

Related Topics

- [Exporting and Importing Data](#) on page 47

Changing a Job's Queue Priority

Before you send a job's scenes to be vectorized or rendered, you can change the job's priority level in the processing queue. Increasing a job's priority lets the system process it before other jobs in the processing queue.

Use the **Choose New Priority** dialog box to change a job's rendering and vectorization queue priority. The priority is set using a sliding scale where 0 is the highest priority and 10 is the lowest.

For example, If Job B is before Job A in the queue, you can change the priority so that Job A is processed first.

Changing's a job's priority doesn't affect vectorizing or rendering Jobs that are already sent in the queue. It will only affect Jobs that are sent after making the change. If you want to change a job's priority after it's been sent to the queue, use the **Change Priority** button in the **Queue** window.

To change a job's priority:

1. In the **Environments** section, select the environment containing the job you want to change the priority for.

2. In the **Jobs** section, select the job whose priority you want to change.

3. In the top menu, select **Job > Change Priority** or you can also right-click in the **Jobs** section and select **Change Stage**.

The **Choose New Priority** dialog box appears.
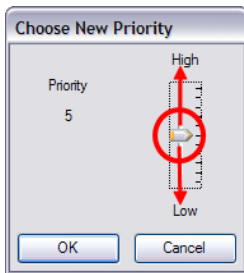
4. Drag the slider to the desired priority (0 means the Job has the highest priority for processing through the **Vectorize** or **Render** queue and a job with a priority of 10 is the least important).

5. Click on the **OK** button. When you send this job to be vectorized or rendered, it will have this new priority in the processing queue.

Related Topics

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Deleting a Job

You should only delete jobs that you no longer need or that have already been exported to an archive (using the **Export** command available in the **Admin** menu).

When you delete a job, it permanently removes all of the following components:

- Scenes

- Elements

- Drawings

- Database information associated with the selected Job

- Palettes stored under the selected Job

Before you delete a job:

- Make sure no one else is currently using the Job.

  Failure to do this may result in file corruption and loss of your work.

- Wait until everyone is offline.

  This ensures no one can open the data files while you delete them.

You **cannot** archive a job by deleting the job from the Control Center module.

If you want to archive a job, you should export it to a new location where it can be stored permanently.

Changing the job's stage from **In Production** to **Completed** only hides the job in the **Control Center** window; all the associated files with the Job are still on your system.

To delete a job:

1. In the **Environments** section, select the environment containing the job you want to delete.

2. In the **Jobs** section, select the job you want to delete.

3. In the top menu, select **Job > Delete** or you can also right-click in the **Jobs** section and select **Delete**.

4. The **Confirm** dialog box appears.
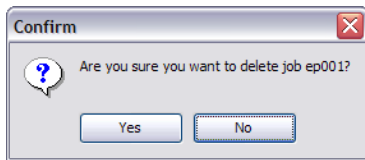
    If there are many scenes in the job, the deleting process could take several minutes.

    ‣ Click on the **Yes** button to delete the Job.

    ‣ Click on the **No** to cancel the delete command.

Related Topics

- Exporting and Importing Data on page 47

- Changing a Job's Stage on page 31

Managing Scenes

After you create a scene, you can view corresponding elements and drawings in the **Control Center** window. When you select the environment and the job, the corresponding scenes for the selected Job appears in the **Scenes** list in the **Control Center** window.

For each scene in your job, you must create a unique exposure sheet to lay out the drawings, the camera effects, the audio tracks, and other special effects for that scene.

Related Topics

- Creating a Scene below

- Updating Scenes on page 37

- Deleting a Scene on page 45

Creating a Scene

When creating your scene, you must select the path where you want to store the scene data and where you want the new scene to appear in the Scenes list. You can create a single scene or create multiple scenes all at once.

To create a scene:

1. In the **Environments** section, select the environment containing the job you want to add scenes in.

2. In the **Jobs** section, select the job you want to add scenes in.

3. In the **Scenes** section, select **Scene > Create** or you can also right-click in the **Scenes** section and select **Create**.

   The **Create Scene** dialog box appears.
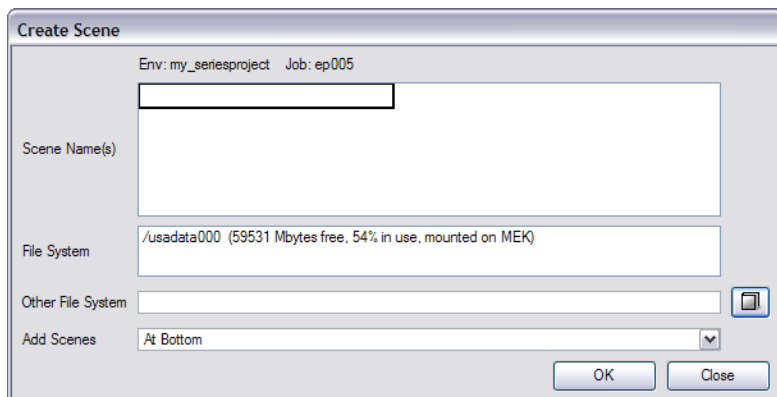
4. Click in the **Scene Name(s)** field and enter the name for the first scene you want to create.

5. Press the [Enter/Return] keyboard shortcut to move onto the next scene.

6. Enter the name of the next scene you want to create.

> When creating a new scene or when renaming a scene, the scene's name cannot exceed 23 characters.

When creating scenes in the Control Center module, you should enter the scene names exactly as they appear on the actual animation. This ensures that the information in your environment is consistent with the actual animation.

> The job and scene names are alphanumeric and can include underscores (_), but no spaces, or other special characters. The Environment name is case sensitive.

> You do not have to enter the word **scene** when entering scene names. The system automatically adds **scene-** in front of the name you enter.
> For example, enter "**3**" in the **Scene Name** field, the scene name automatically displays as "scene-3" throughout the file system. The scene name will have **scene-** as a prefix, but that will only be visible when looking at the scene on the file system. The scene will appear without the **scene-** prefix in all the Harmony applications.

7. Repeat the previous steps until you named all the scenes you want to create.
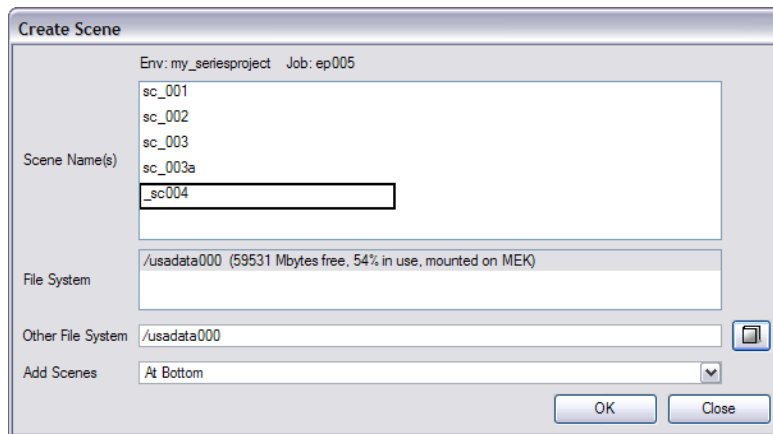
8.   In the **File System** list, click the path where you want to store the files.

    If you do not see the desired path in the list, specify a different path in the **Other File System** field.

    If you are unsure which disk drive to select, consult your technical director or system administrator.

    The information in the **File System** list displays:

    ‣   Available drives on which you can store new scenes

    ‣   Space that is currently available (in megabytes)

    ‣   The percentage of space the drives are currently using

Although you can add as many scenes as you wish, you can only select one path at a time. Therefore, the Control Center module stores all scenes you create in one session at the same place (same path).

9.   Select where you want to place the scene in the Scenes list from the **Add Scenes** drop-down list. You have the following options:

•   **At Bottom**: Places the new scenes at the bottom of the list

•   **At Top**: Places the new scenes at the top of the list

•   **Before Selected**: Places the new scenes above the selected scene

•   **After Selected**: Places the new scenes below the selected scene

•   **Name Sort**: Arranges the new scenes alphabetically

To use the **After Selected** and **Before Selected** options, you must select another scene from the **Scene** list in the Control Center window.

10. Click **OK** in the **Create Scene** dialog box.

The system creates the new scene and displays it in the **Scenes** list. If you don't want to create the scene, click **Cancel**.

Related Topics

- Managing Scenes on page 34

Updating Scenes

Your scenes contain the animation sequences your are working with, this allows you to manipulate them and their associated files to achieve the desired effect. With Harmony you can perform the following functions:

- Moving a Scene below
- Renaming a Scene on the next page
- Changing a Scene's Priority on page 39
- Changing a Scene's Stage on page 40
- Changing the Sequence of Scenes on page 41
- Clearing Scenes from Control Center on page 42
- Copying an Exposure Sheet to Another Scene on page 42
- Send Scenes to the Render Queue on page 44

Moving a Scene

When you create a scene, it and its associated files are stored on one drive. If you find you are running out of space you can move a scene to another drive. However, you can consolidate all the scenes for a particular Job in a single directory allowing you to find related information quickly. You may also want to file your scenes in specific directories, creating a customized directory system. The **Move** command lets you move scene data from one file system to another.

Before you move a scene's data:

- Make sure no one else is currently using the scene's data.

  Failure to do this may result in file corruption and loss of your work.

- Wait until everyone is offline.

 This ensures no one can open the data files while you move them.

To move a scene from one directory to another directory:

1. In the **Scenes** section, select the scenes you want to move.
2. In the top menu, select **Scene > Move**. You can also right-click anywhere in the Scenes list and select **Move**.

   The **Move Scene** dialog box appears.
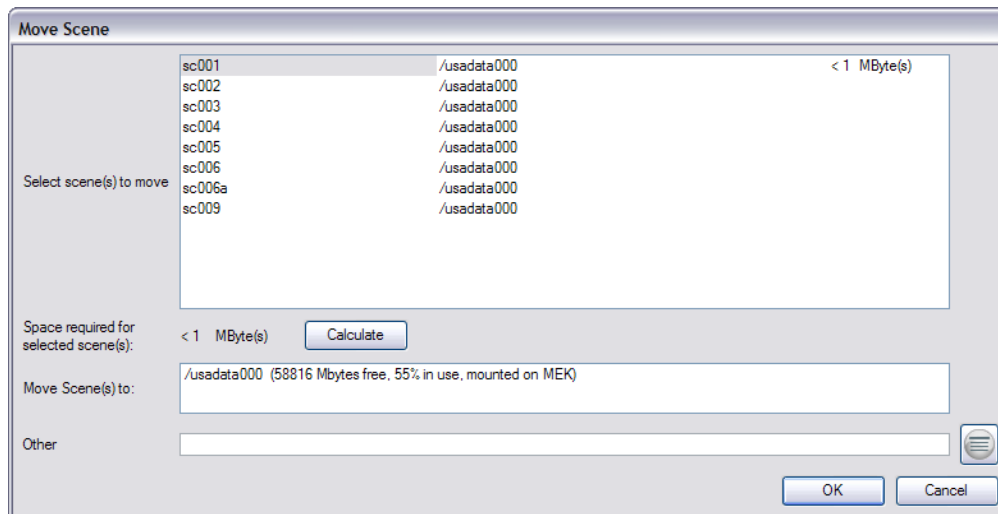
3. In the **Select Scene(s) to Move** field, select the scenes you want to move from their current directory.

4. Click on the **Calculate** button to know how much hard disk space your selection requires.

5. In the **Move Scenes To** list, select the directory where you want to move the scene. If the directory to where you want to move the scenes does not appear in the list, in the **Other** field, enter the new directory path.

    The Control Center module automatically checks the amount of free space for each directory and compares it to the size of the scene you want to move.

    If there is not enough disk space on a particular drive/mount point to store the scene, the directory displays a **not enough space** message. If there is not enough space on a particular disk, you should choose another disk from the list.

6. Click on the **OK** button.

Related Topics

- Updating Scenes on the previous page

Renaming a Scene

As you work on your scenes, their nature and contents may change and the name you gave the scene when you began the project may no longer reflect its contents. In this case, you can rename the scene to more accurately reflect its contents.

Before you rename a scene:

- Make sure no one else is currently using the scene.

  Failure to do this may result in file corruption and loss of your work.

- Wait until everyone is offline

  This ensures no one can open the scene while you rename it.

To rename a scene:

1. In the **Scenes** section, select the scene to rename.
2. In the top menu, select **Scene > Rename.** You can also right-click anywhere in the **Scenes** list and select **Rename**.

The **Rename Scene** dialog box appears.

```
Rename Scene sc001
Enter the new scene name
[                              ]
   [  OK  ]      [ Cancel ]
```

3. In the **Enter New Scene Name** field, type the new name for the scene and click **OK**. Try to keep scene names brief. It is recommended that you use no more than 23 characters.

> Use lower case letters if these scenes may be used with a Windows workstation.

> When creating a new scene or when renaming a scene, the scene's name cannot exceed 23 characters.

Related Topics

*   Updating Scenes on page 37

Changing a Scene's Priority

You can change the scene's priority level in the processing queue. Increasing a scene's priority lets the system process it before other scenes in the processing queue.

Use the **Choose New Priority** dialog box to change a scene's rendering and vectorization queue priority. The priority is set using a sliding scale where 0 is the highest priority and 10 is the lowest.

For example, If Scene B comes before Scene A in the queue, you can change the scene's priority so that Scene A will be processed first.

> If a scene has already been sent to the queue changing the priority at this point will not affect its priority in the queue. Changes will only be applied next time it is sent to the queue. To change a scene's priority after it's been sent to the queue, use the **Change Priority** button in the **Queue** window.

To change a scene's priority:

1. Select the environment, the job and the scene you want to prioritize.
2. In the top menu, select **Scene > Change Priority.** You can also right-click anywhere in the **Scenes** list and select Change Priority.

The **Choose New Priority** dialog box appears.
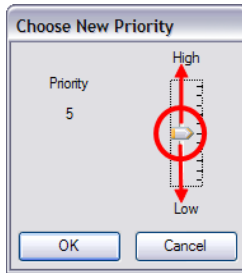
3. Drag the slider to the desired priority (0 means the job has the highest priority for processing through the **Vectorize** or **Render** queue and a Job with a priority of 10 is the least important).

4. Click on the **OK** button.

   The new scene priority appears in the **Scenes** list in the **Priority** column.

Related Topics

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Changing a Scene's Stage

The **Change Stage** command allows to change the approval stage name of a selected scene that is in **Manual** approval mode. You can also create customized approval stages that reflect the approval process in your production environment.

A scene's stage is a method of tracking its progress in your production; the scene's current stage doesn't stop you from advancing the scene to other stages.

Changing a scene's stage and making manual approvals allows you to assign and change a scene's approval stages to keep track of its current status. For example, if you have a scene whose drawings are being scanned, you'll mark it as the **Scan** stage. After you begin adding colour to these line drawings, you can change the scene's stage to **Paint**.

If the selected scene has an automatic approval policy, the **Change Stage** command will be inactive in the **Scene** menu. In order to change a scene's stage, you must ensure that the approval policy is set to **Manual**.

To change a scene's stage status:

1. In the **Scenes** section, select a scene.

2. In the top menu, select **Scene > Change Stage.** You can also right-click anywhere in the **Scenes** list and select **Change Stage**.

   The **Change Scene Stage** dialog box appears.
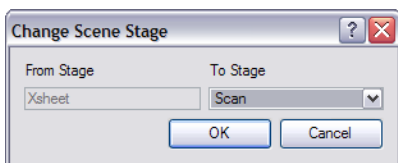
The current stage of the selected scene appears in the **From Stage** field.

3. Select the stage you want to apply to the current scene from the **To Stage** drop-down menu.

4. Click on the **OK** button.

Related Topics

- [Updating Scenes](#) on page 37

Changing the Sequence of Scenes

You can change the sequence of scenes in your job, which affects the order in which the scenes appear in the job throughout the system. You can place a scene anywhere in the **Scenes** list or you can sort them alpha-numerically.

To re-sequence a scene, follow these steps:

1. Select the job whose scenes you want to re-sequence from the Jobs panel.

2. In the top menu, select Scene > Reorder. You can also right-click anywhere in the Scenes list and select **Reorder**.

   The **Reorder Scenes** dialog box appears.
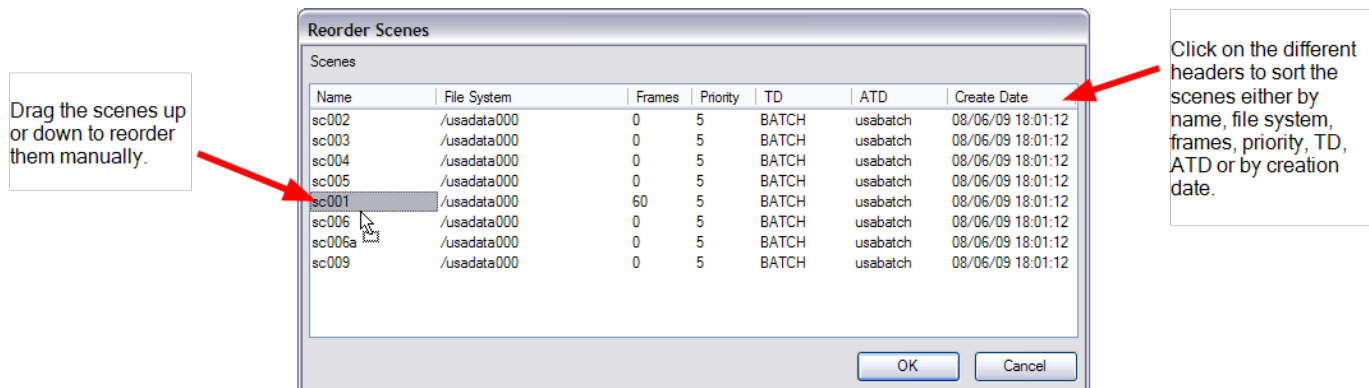
3. Select the reordering method by clicking on the column headers or dragging the scenes up or down.

4. Once the scenes are ordered, click the **OK** button to accept the new order or click **Cancel** to abort the re-sequencing.

Related Topics

- [Updating Scenes](#) on page 37

Clearing Scenes from Control Center

If you must restart a scene from scratch, you can completely erase a scene's exposure sheet. When you clear a scene, you delete all exposure sheet database information and reset the scene as if it were completely new.

When you clear a scene, you are only deleting the files from the database; the Control Center module does not actually delete any image files (drawings, scan, final frames). If you have questions concerning the contents of a scene, you should contact the technical director responsible for the scene in question.

If you must clear a scene from the Control Center module, make sure no one else is currently using the scene's data. If you clear a scene that someone else is working on at that moment, you run the risk of corrupting the files and losing work.

If you must clear a scene, you should wait until everyone is offline to ensure that no one can open the data files while you clear them from the Control Center module.

To clear a scene:

1. Select the environment, the job, and the scene you want to clear.
2. In the top menu, select **Scene > Clear.** You can also right-click anywhere in the **Scenes** list and select **Clear**.

   The **Confirm** dialog box appears.
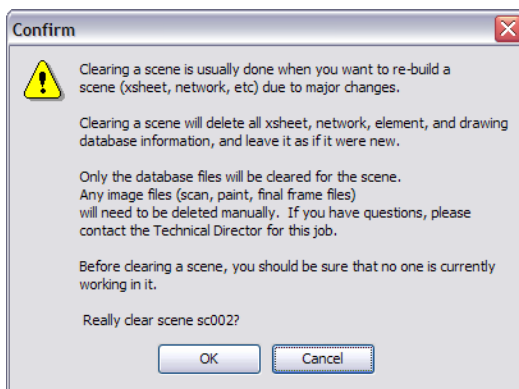
   ‣ Click **OK** to clear the data from the scene.
   ‣ Click **Cancel** to cancel the clear command.

The **Scene** list refreshes itself and displays blank elements and drawings lists, showing that the Control Center module has deleted the exposure sheet for the scene you cleared.

Related Topics

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Copying an Exposure Sheet to Another Scene

When you have two scenes with similar exposure sheet information, instead of entering the information twice, you can:

1. Enter the information for one exposure sheet.

2. Copy it to the other scene.

3. Modify the second exposure sheet as needed.

The **Copy** command lets you copy an existing exposure sheet from one scene into another scene. You can then modify the copied exposure sheet using Stage.

To copy an exposure sheet to another scene:

1. Select the environment and the job from the Control Center window.

2. In the top menu, select **Scene > Copy** You can also right-click anywhere in the **Scenes** list and select **Copy**.

   The **Copy Scene** dialog box appears.
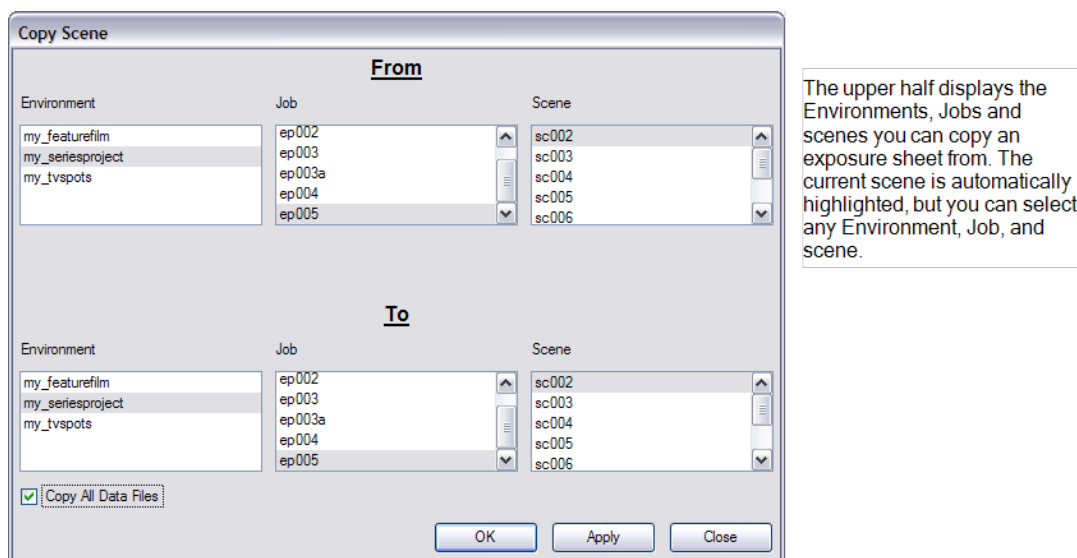
3. Select the environment, job, and scene to copy from the exposure sheet from the **From** panel.

   The lower half of the dialog box displays the Environments, Jobs, and scenes to which you can copy the exposure sheet.

4. Select the Environment, Job, and scene where you want to copy the selected exposure sheet to the To panel.

5. If you want to copy the associated animation data files with the scene's exposure sheet, select the **Copy All Data Files** option. Harmony will place a copy of the animation data in the target scene's storage directory.

6. Click **OK** or **Apply** to complete the copy or click **Close** to abort the copy command.

7. If the scene you are copying to already has an exposure sheet, a Confirm dialog box appears to make sure you want to replace the existing exposure sheet.

   ‣ Click **Yes** if you want to copy over the existing exposure sheet.

   ‣ Click **No** to cancel the copy or to select a different scene.

The **Copy Xsheet** dialog box disappears. You can view and modify the copied exposure sheet using Harmony Stage.

Related Topics

- [Clearing Scenes from Control Center](#) on the previous page

Send Scenes to the Render Queue

When you are ready to send a set of scenes for rendering, you can use the **Send to Rendering** command. This command allows you to send one or more scenes for rendering to the Batch Processing machine.

You can also use Harmony Stageto render scenes, but since you must open each scene individually in Harmony Stage, you can only send one scene to render at a time.

To send a group of scenes to the render queues:

1. In the Control Center window, select the Environment, Job and scenes that you want to send to the Render queue for rendering.

2. In the top menu, select **Scene > Send to Rendering.** You can also right-click anywhere in the **Scenes** list and select **Send to Rendering**.

   The **Render Network** dialog box appears.
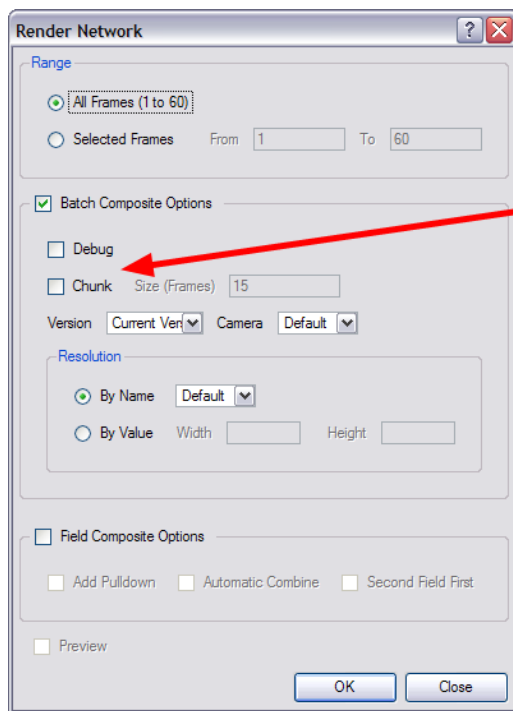
Splitting the frames into chunks allows you to process frames quickly among many stations instead of just one.

3. Select the frames you want to render:

   ‣ **All Frames**: sends all the frames in the scene to be rendered.

   ‣ **Selected Frames**: sends a range of frames to be rendered. You can only send a range of frames if you selected one scene.

4. Select the **Chunk Size** checkbox if you want to split the frames into sets of frames. Enter the number of frames you want in each chunk in the **Size** field.

5. Select the **Version** of the Scene you want to render.

6. Select the camera you want to use to render the scene's images from the **Camera** drop-down menu. These are the cameras you created in your exposure sheet in Harmony Stage.

7. If you want to create a **Field Composite**, select the checkbox to refine your selection.

   ‣ Select the **Add Pulldown** checkbox to use the 3:2 pulldown technique.

   ‣ Select the **Automatic Combine** checkbox to combine even and odd fields on a scene's image.

- Select the **Second Field First** check box to always start with the second field before combining with the first field.

8. If you did not enable the **Batch Composite Options** check box, enable the **Preview** option to see the render once it is completed.

9. Click **OK** to complete the render.

   To verify that the scenes have been sent for rendering, you can display the **Render** queue.

Related Topics

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Deleting a Scene

When you delete a scene, you not only remove the scene from the Control Center window, but you also permanently remove all the information associated with the scene including:

- Exposure sheet (and all associated versions)
- Elements
- Drawings
- Database information
- Any palettes stored in that scene's palette library

Before you delete a scene:

- Make sure that you really want to remove all this information from the system
- Are you going to use the scene in the future?
- Do you need to archive the scene for future use?
- Make sure no one else is currently using the scene.

  failure to do this may result in file corruption and loss of your work.
- Wait until everyone is offline
- This ensures no one can open the scene while you delete it.

To delete a scene:

1. Select the scene name you want to delete in the **Scenes** list.
2. Select **Scene > Delete.** You can also right-click anywhere in the **Scenes** list and select **Delete**.

   The **Confirm** dialog box appears.
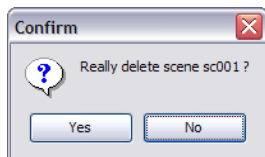
   ‣ Click **Yes** to delete the scene and all its related information.
   ‣ Click **No** to cancel the delete command.

   The system deletes the scene name and all its associated files.

Related Topics

-

Viewing Elements and Drawings

You must use the Harmony Stageor Harmony Xsheet, rather than Control Center, to add elements or drawings to your environment. After you add them in the exposure sheet and save the source, the Control Center module displays them in the **Elements** and **Drawings** panels.
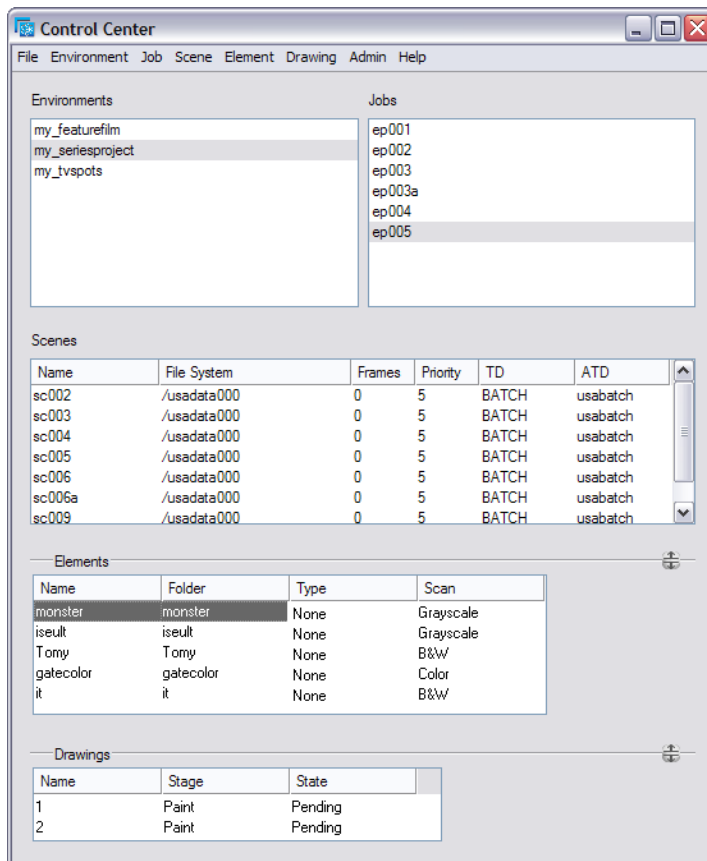
When you select a scene in the **Scenes** list, all of the elements associated with the scene (e.g. background, characters, etc.) appear in the **Elements** and **Drawings** lists. The Control Center module retrieves these components from information you previously entered in the exposure sheet.

You can click on the **Expand/Collapse** buttons to show or hide the **Elements** and **Drawings** sections.

Related Topics

-

Exporting and Importing Data

This section explains how to import and export data with Harmony.

You can use the Control Center module's export utility to migrate scenes from your system for archival purposes or third parties, and you can use the import utility to integrate scenes into an Harmony environment.

Related Topics

- Exporting Data below
- Importing Data on page 52

Exporting Data

You can use the Control Center module's export utility to copy scene data. After Harmony copies the exported data to a temporary directory, you can move the archived data to your storage device (for example, a CD or tape drive).

To select the components you want to export:

1. Launch Control Center.
   ‣ To learn more about the different launch methods, refer to the Launching Control Center on page 10 section.
2. In the top menu, select **Admin > Export**.

   The **Export Scene(s)** dialog box appears.
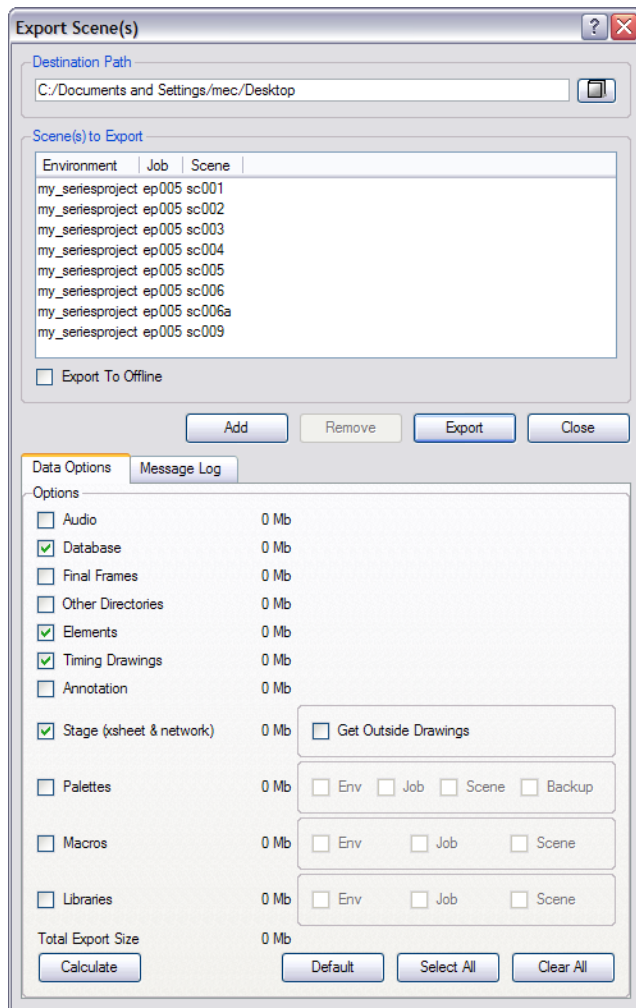
3. Enter the path where you want to export the files. You can also use the **Browse** button to select this path and create a folder. The destination must be an existing empty folder or a new folder that will be created during the export process.

4. Click **Add** to select the scenes that you want to export from the Harmony database. You can select a Job to select all scenes in a job. The scenes you select will appear in the list.

5. Select one or more scenes and click **Remove** to remove scenes from the export list.

6. In the **Data Options** tab, select what you want to export:

   ‣ **Audio**: Exports the Audio directory.

   ‣ **Database**: Selected by default, this option exports the elements in the scene. If you select this option and de-select the **Elements** option, you will be able to access the elements from the **Element Manager** in the Control Center, but their drawing and bitmap files will not be included. Also exports the list of available versions in the scene. It will not be possible to open a scene if this is not selected for export.

   ‣ **Final Frames**: Exports the directory that contains final, rendered frames.

   ‣ **Other Directories**: Exports all other directories and files in the scene's data structure.

   ‣ **Elements**: selected by default, this option exports the contents (drawing and bitmap files) of the Element directories.

   ‣ **Timing Drawings**: Selected by default, this option exports the contents of the Timing directories.

‣ **Annotation**: This option allows you to export the different drawings created while drawing in annotation columns and imported images.

‣ **Stage** (xsheet and network): Selected by default, this option exports the Stage directory, which contains the STAGE files for each scene you export. These files are necessary if you want to be able to re-use the exposure sheet (timing) and the effects network from the original scene.

If this option is selected, you can select the Get Outside Drawings option to copy drawings into the scene folder that are referred to by Timing columns and their Element (Drawing) modules.

‣ **Palettes**: Exports the `palette-library` directories. When you select this option, you must decide if you want to export the `palette-library` from the Environment, Job or scene level. When you select a level, the `palette-library` in lower-level directories will also be exported.

‣ **Macros**: Exports the Macros (customized effect and module connections) that were created and stored in the environment, jobs or scenes to be exported.

‣ **Libraries**: Exports Templates created at the selected levels.

7. In the **Advanced Options** tab (Mac OS X and Linux), select how you want to package the exported scene. The choices you make here are related to the size of the export package as well as the speed of the export process.

Due to constraints in the Windows operating system, you do not have any choices on the **Advanced Options** tab. In Linux, you can make the following selections.
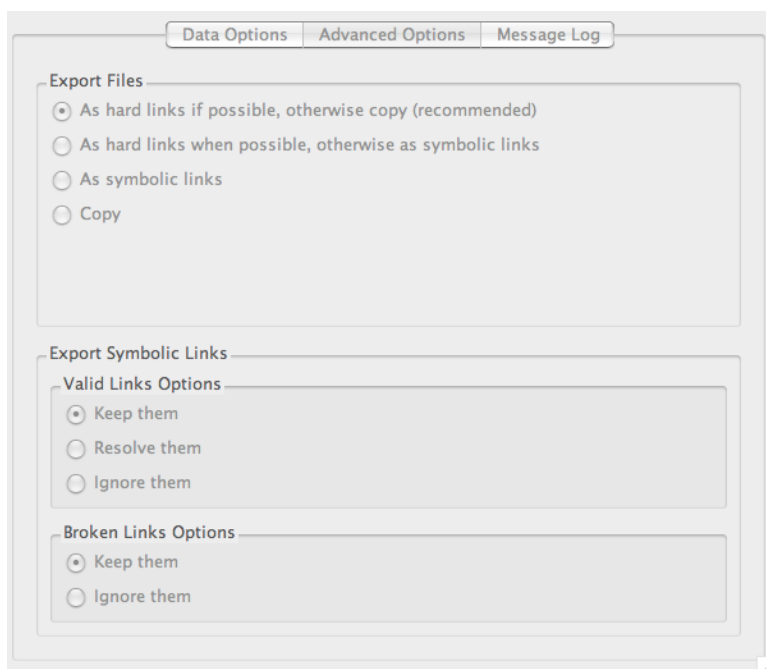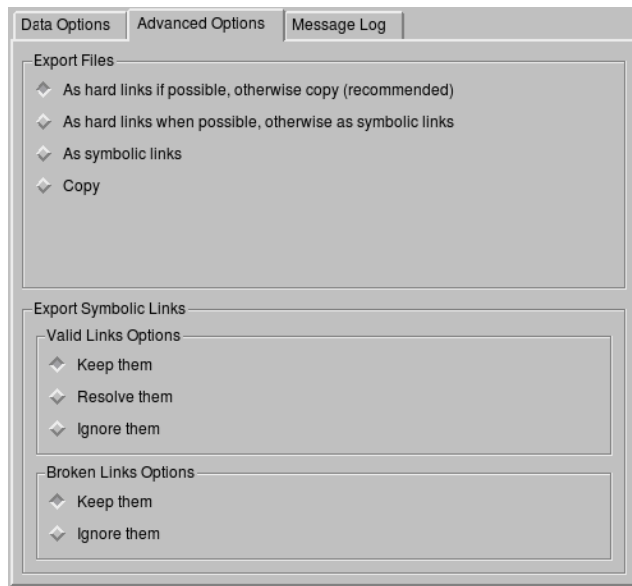
‣ Select one of the following options in the **Exporting Files** section:

• **As hard links if possible, otherwise copy**: Speed up the export process by making hard links to the original files on the file system. Hard links keep disk space usage to a minimum and ensure a quick export process.

If it is not possible to create hard links (because the links cross file systems, for example), the entire contents will be copied to the destination directory, which will be a slower process that will take up more space on your file system.

• **As hard links when possible, otherwise symbolic links**: Ensures a quicker export process. However, if symbolic links are used and the original file is deleted, the symbolic link will be broken.

• **As symbolic links**: Export the scene using symbolic links to the original scene files (when importing, imports the scene using symbolic links to the export directory). While this process will reduce the size of the export directory, if the original file is deleted, the symbolic link will be broken.

• **Copy**: Copy all scene data to the export location. This produces the largest export package and therefore takes the longest to complete. However, it is the simplest method.

‣ Select one of the following options in the **Valid Links Options** panel:

• **Keep them**: Maintain symbolic links.

• **Resolve them**: Remove symbolic links, replacing them with the actual files. When you use this option, the export package will contain real files, rather than symbolic links.

• **Ignore them**: Do not include valid symbolic links in the export package.

‣ Select one of the following options in the Broken Links Options panel:

• **Keep them**: Keep symbolic links to missing files. When the missing files are placed in the path searched by the symbolic link, broken links will be valid again.

• **Ignore them**: Do not include broken symbolic links in the export package.

8. Click on the Calculate button to get a preview of the size of your export package.

9. Click **Export**. The system exports the selected files and components. Use the Message Log tab to view messages generated during the export process.

Unlike Windows, where the database information and the scene data have been copied to a different directory, Linux creates a set of links to the data.

You must use additional Linux commands to retrieve the animation data pointed to by the links.

Harmony creates two files during the export process:

- **README.txt** file (includes export statistics, such as creation date and user ID)
- **IEContents.dat** file (includes export parameters)

Related Topics

- [Exporting the Data in Linux](#) below
- [Exporting and Importing Data](#) on page 47

Exporting the Data in Linux

In Linux, exporting your scenes using the **Export** command makes Harmony copy scene information and link information to the temporary export directory you selected.

Therefore, you must retrieve the animation data from your server and copy it, along with the database information, to your storage device.

> You can compress the export package to make it transportable. However, it will resolve hard links and symbolic links, which might be contrary to your export options.

Copying the exported data to a storage device is a two-fold process. Copy the exported animation files to a file on the storage device. Then remove the temporary export data from your system.

To export your files to a storage device:

1. Open a Linux shell and log in to the machine that connects to the storage device.
2. Copy the exported files using links from the source directory to the selected destination file. To export to a file on a storage device, type the following command in a shell:

   tb_backup_export_data -from [source_directory] -to [destination_file] â writetarfile

   ‣ Where [source_directory] is the folder where the scene was exported to.
   ‣ Where [destination_file] is the file that will be created by the tb_ backup_export_data script.
3. After a successful copy of the exported data, remove the temporary export directory using the following command:

   tb_remove_export_data [export_directory]

   ‣ Where [export_directory] is the folder where the scene was temporarily exported to before it was copied to the file or storage device.

Related Topics

- [Exporting and Importing Data](#) on page 47

Importing Data

> If the imported files are compressed, you must decompress them to a temporary directory before you can import them into Harmony. If you don't know how to decompress these files, see your system administrator.

To import files into the Control Center module:

1. Select **Admin > Import**. The **Import Scene(s)** dialog box appears.
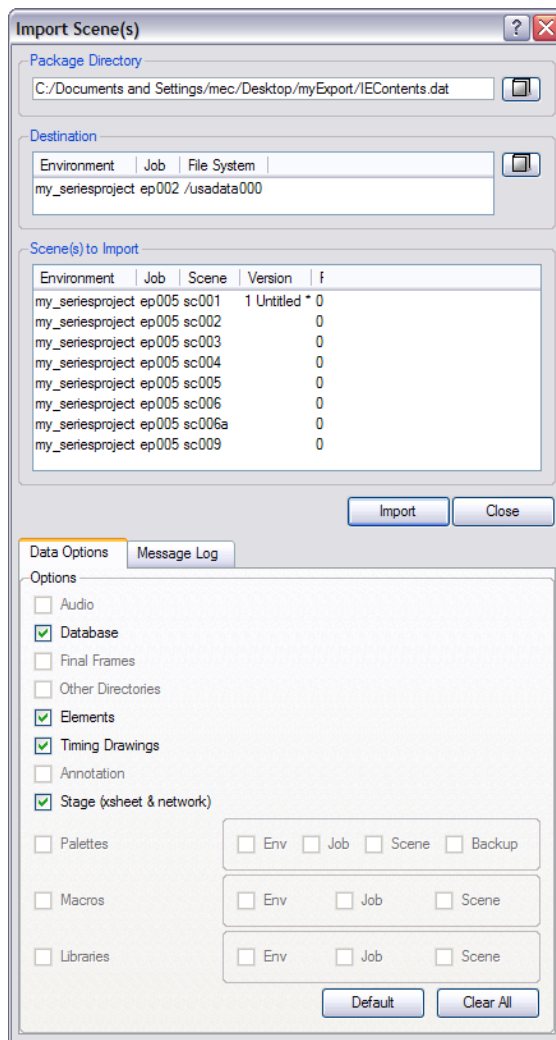
2. Any supported Stage file can be imported, including `IEContents.dat` files. The `IEContents.dat` file includes database and scene file information. Specify the path of `IEContents.dat` for the scene(s) you want to import.

3. Click the **Browse** button to select the environment, job and file system where you want to place the imported scene.

4. If you want to import only some of the scenes in the **Scenes to Import** list box, select the scenes.

> If no scenes are selected, all scenes will be imported.

5. In the **Data Options** tab, select what you want to import (the selections steps 5, 6, and 7 are described in the corresponding steps of the export procedure in the section, <u>Exporting Data</u> on page 47).

6. In the **Advanced Options** tab, select how you want to import the scene. Select one of the option each in the **Valid Links Options** and the **Broken Links Options** panels.

7. Click on the **Import button**.

    If the scene **already** exists, the **Scene Exists** dialog appears. Click either **Import Scene** for each scene or **Import All Scenes** to confirm your selection.

    Use the **Message Log** tab to view messages generated during the import process.

> If the name of the scene you are importing in Control Center is too long, you will be prompted with an error message stating that it will be truncated. A scene's name cannot exceed 23 characters.

> If you are importing scenes that were exported from the Harmony Network, or worked-on in Harmony Stand-alone, the system will try to retrieve the version name.

Related Topics

- <u>Exporting and Importing Data</u> on page 47

Troubleshooting

If you have any problems exporting or importing in Harmony, review the instructions to make sure you have followed them completely. If you continue to have problems, consult the following list to troubleshoot common import and export problems.

- **Problem: Import or Export Not Successful**

If the transfer is not successful, an error dialog box appears to describe the problem. The most common reason for a failed transfer is due to your current network permissions. See your system administrator for help.

If the transfer fails in the middle of the process, the files that were imported or exported may be corrupt or incomplete.

- For a failed import, use Control Center to delete the scene.
- For a failed export, manually delete the incomplete export folder.

If you click the **Message Log** tab, you can see more detailed descriptions, including error messages.

Related Topics

- [Exporting and Importing Data](#) on page 47

Control Center Commands

This section describes all the commands in the Control Center window.

Control Center Commands

Use the **Control Center** menu to access the **About** information and quit the application on Mac OS X.

Command	Action	Access Methods
About Toon Boom Harmony	If you are using Mac OS X, use the About command to display product, version, licensing and copyright information.	
Quit	If you are using Mac OS X, use the Quit command to close the Control Center window and end the current session.	Press [⌘] + [Q], the default keyboard shortcut.

File Commands

Use the **File** menu to access the Log file and exit the application on Windows/Linux.

Command	Action	Access Methods
Exit	If you are using Windows/Linux, use the **Exit** command to close the Control Center window and end the current session.	Press [Ctrl] + [Q], the default keyboard shortcut
View Log	Use the **View Log** command to open the dialog box, so you can view errors and warning messages related to your actions during the current Control Center session.	

Environment Commands

Use the **Environment** menu to manage the environments and queues.

Command	Action	Access Methods
Change Asset Lock	Use the **Change Asset Lock** command to enable or disable the automatic **Global Lock** on the scenes under the selected	Right-click on the selected environment in the **Environments** list and select **Change Asset Lock**.

Command	Action	Access Methods
	Environment.	
Create	Use the **Create** command to open a **Create Environment** dialog box, where you can give a name to a new environment.	Right-click the **Environments** list and select **Create**.
Delete	Use the **Delete** command to delete an environment from the database. You cannot delete an environment unless it is empty; delete all of the environment's scenes and jobs before activating this command.	Right-click the **Environments** list and select **Delete**.
Render Queue	Use the **Render Queue** command to open the **Render Queue** dialog box and monitor and prioritize the progress of the drawings that the system is rendering.	Right-click the **Environments** list and select **Render Queue**.
Vectorize Queue	Use the **Vectorize Queue** command to open the **Vectorize Queue** dialog box where you can display the progress and prioritize the drawings that the system is converting to the TVG vector file format.	Right-click the **Environments** list and select **Vectorize Queue**.

Job Commands

Use the Job Menu to manage the jobs and their state.

Command	Action	Access Methods
Change Priority	Use the **Change Priority** command to open the **Choose New Priority** dialog box and set the priority of the rendering and vectorizing tasks for one or more jobs. The priority is set using a sliding scale where 0 is the highest priority and 10 is the lowest.	Right-click the **Jobs list** and select **Change Priority**.
Change Stage	Use the **Change Stage** command to open the **Change Stage of Jobs** dialog box and record the current stage of the environment's jobs in the production process. You can change the job from **In Production** to **Completed**, or from **Completed** back to **In Production**,	Right-click the **Jobs list** and select **Change Stage**.

Command	Action	Access Methods
	should you need to perform further work.	
Create	Use the **Create** command to open the **Create Job** dialog box and add a new job to the selected environment. Your job must have a name that is unique to the animation database (for example, you cannot have two jobs with the same name. Even if they exist in different environments, they are all in the same database).	Right-click the Environments list and select **Create**.
Delete	Use the **Delete** command to remove a job from the selected environment. When a job is deleted, its scenes, elements, drawings, palette library and database information are permanently removed. If you want to archive a job, you should only delete the job **after** you have used the command to create the archive. Before you activate this command, verify that the selected jobs are not currently in use.	Right-click the Jobs list and select **Delete**.

Scene Commands

Use the **Scene** menu to manage the scenes.

Command	Action	Access Methods
Change Priority	Use the **Change Priority** command to open the **Choose New Priority** dialog box and set the priority of the rendering and vectorizing tasks for one or more scenes. The priority is set using a sliding scale where 0 is the highest priority and 10 is the lowest. Activating this command affects all subsequent scenes you create. Change the priority of a scene that has already been sent to batch processing queue by using the **Change Priority** button in the	Right-click the Scenes list and select **Change Priority**.

Command	Action	Access Methods
	queue.	
Change Stage	Use the **Change Stage** command to open the **Change Scene Stage** dialog box and record the current stage of progress a scene in an environment or in a production. This command is inactive if the scene's approval policy has been set to Manual in the **Change Approval Policy** dialog box.	Right-click the Scenes list and select **Change Stage**.
Clear	Use the **Clear** command to delete a scene's exposure sheet. Only exposure sheet files are deleted from the database: image files will not be deleted. A delete confirmation message appears, detailing the consequences of using this option and requests that you contact your Technical Director if you are unclear about this procedure. Before you activate this command, ensure that all users are logged out of Toon Boom Harmony and that no files are currently in use.	Right-click the Scenes list and select **Clear**.
Copy Scene	Use the **Copy Scene** command to open the **Copy Scene** dialog box and copy one scene's exposure sheet into another scene. You can select a source and destination Scene in which to copy the Xsheet data.	Right-click the Scenes list and select **Copy**.
Create	Use the **Create** command to open the **Create Scene** dialog box and add one or more scenes to the selected job. You can also choose to: Add a scene from another file system and add it to your job. Choose the position the scene will take within your job.	Right-click the Scenes list and select **Create**.
Delete	Use the **Delete** command to remove	Right-click the Scenes list and select **Delete**.

Command	Action	Access Methods
	a scene from the database. Before you activate this command, ensure that all users are logged out of Toon Boom Harmony and that no files are currently in use. When a scene is deleted, its exposure sheet, elements, drawings, palette library and database information are permanently removed. If you want to archive a scene, you should only delete the scene **after** you have used the command to create the archive. Before you activate this command, verify that the selected scenes are not currently in use.	
Force Unlock	Use the **Force Unlock** command to unlock a scene that has been locked in Harmony Stage. Generally, a scene unlocks when it is closed by a user, however if a computer crashes while a scene is locked and in use, a scene may remained locked even if it is not open. An unlock confirmation message appears detailing the consequences of using this option. If you activated this command for more than one scene, you will be prompted for confirmation to unlock each scene separately.	Right-click the Scenes list and select **Force Unlock**.
Force Unlock Version	Use the **Force Unlock Version** command to unlock a version of a scene that has been locked by Harmony Stage. Generally, a scene unlocks when it is closed by a user, however if a computer crashes while a scene is locked and in use, a scene may remained locked even if it is not open. An unlock confirmation message appears detailing the consequences of using this option. If you activated this command for	Right-click the Scenes list and select **Force Unlock Version**.

Command	Action	Access Methods
	more than one scene, you will be prompted for confirmation to unlock each scene separately.	
Move	Use the **Move** command to open the **Move Scene** dialog box and move one or more scenes and their associated files to a file location of your choice. The **Move Scene** command allows you to select one or more scenes and to calculate the amount of space you will need at the new location to accommodate the moved scene. Before you activate this command, ensure that all users are logged out of Toon Boom Harmony and that no files are currently in use.	Right-click the Scenes list and select **Move**.
Rename	Use the **Rename** command to open the **Rename Scene** dialog box and enter a new name for the selected scene. Before you activate this command, verify that no users are using the scene. It is recommended that all users are logged out of Toon Boom Harmony and that no files are currently in use to ensure the safety of your files	Right-click the Scenes list and select **Rename**.
Reorder	Use the **Reorder** command to open the **Reorder Scenes** dialog box and change the sequence of the scenes in a job.	Right-click the Scenes list and select **Reorder**.
Send to Rendering	Use the **Send to Rendering** command to open the **Composite** dialog box and add one or more scenes to the rendering queue.	Right-click the Scenes list and select Send **to Rendering**.
Send to Unvectorize	Use the **Send to Unvectorize** command to open the **Send Scenes to Unvectorize** dialog box and convert a scene's vector drawings into bitmap drawings.	Right-click the Scenes list and select **Send to Unvectorize**.
Send to Vectorize	Use the **Send to Vectorize** command to convert the selected drawings to the TVG vector file format.	Right-click the Scenes list and select **Send to Vectorize**.

Element Commands

Use the Element Menu to vectorize and unvectorize the elements.

Command	Action	Access Methods
Send to Unvectorize	Use the **Send to Unvectorize** command to open the **Send Elements to Unvectorize** dialog box and convert an element's vector drawings into bitmap drawings.	Right-click the Elements list and select **Send to Unvectorize**.
Send to Vectorize	Use the **Send to Vectorize** command to convert the drawings for the selected elements to the TVG vector file format.	Right-click the Elements list and select **Send to Vectorize**.

Drawing Commands

Use the Drawing Menu to vectorize and unvectorize the drawings.

Command	Action	Access Methods
Send to Unvectorize	Use the **Send to Unvectorize** command to open the **Send Drawings to Unvectorize** dialog box and convert selected vector drawings into bitmap drawings.	Right-click the Drawings list and select **Send to Unvectorize**.
Send to Vectorize	Use the **Send to Vectorize** command to vectorize the selected drawings.	Right-click the Drawings list and select **Send to Vectorize**.

Admin Commands

Use the Admin Menu to import and export scenes, manage the users and the approval policy.

Command	Action	Access Methods
Change Approval Policy	Use the **Change Approval Policy** command to open the **Change Approval Policy** dialog box and select a manual or automatic approval of the production status at each stage of each scene.	
Export	Use the **Export** command to open the **Export Scenes** dialog box and transfer copied data from the	

Command	Action	Access Methods
	database to a different directory. You can also export scenes to Stage (offline version) by selecting the Export Offline.	
Import	Use the **Import** command to open the **Import Scenes** dialog box and transfer copied data from another directory into the database.	
Users	Use the **Users** command to open the **User List** dialog box to display all valid Toon Boom Harmony users in the network. You can add to, delete from or modify this list.	
Vectorize Style	Use the **Vectorize Style** command to open the **Vectorization Styles** dialog and select the vectorization style you want to apply to drawings before sending them to the **Vectorization Queue**.	

Help Commands

Use the Help Menu to access the Help files and Control Center About information when using Windows/Linux.

Command	Action	Access Methods
Help	Use the **Help** command to view the Control Center integrated help system.	Press [F1], the default keyboard shortcut.
About	If you are using Windows/Linux, use the **About** command to display product, version, licensing and copyright information.	

Chapter 1: Batch Processing

The Toon Boom Harmony system uses batch processing to either convert scanned drawings to a vector-based format or to render the final animation. The system performs these tasks in the background; you won't even realize the system is performing the tasks.

There are two types of batch processes in Harmony. Both types of batch processes can run on almost any computer on the network:

- **Vectorize**: This process prepares the images scanned on the black and white scanner for painting by converting them to vector based files (`*.tvg` files). The vectorizing process converts the drawings from a bitmap format to a digital line-based format.

  Vectorizing prepares images for painting by creating paint files. You would only have to manually send scenes to be vectorized in special cases such as:

  - Processing images that were not scanned in the Scan module

  - Reprocessing a scene due to unrecoverable painter errors

  - Completing the vectorization after you run the scene through a pencil test

  You can open the **Vectorize Queue** in the Control Center module for the list of vectorizing work waiting to be processed by a Vectorizing machine.

- **Render** (also known as Compositing): This process composites scenes, creating the final frames.

  When you have finished working on a scene or all of your animated sequences, you can render it out locally or send it to the **Render Queue**. After you render your animation, you can transfer the scenes to video or film.

  You can open the **Render Queue** in the Control Center module for the list of compositing work waiting to be processed by a rendering machine.

When you create a new environment for a project, you must setup the batch processing. You can create a particular batch processing schedule and assign certain machines on your Harmony network to render and vectorize the scenes in that Environment.

You must set up batch processing on selected Harmony machines to convert scanned drawings to vector files and to composite final frames.

We do not recommend rendering/vectorizing on the workstation while you are working in the software. These tasks are resource intensive and will slow your computer down if you are trying to work in the software at the same time. If urgently needed on a continual basis, set up a separate render station to do this. Otherwise, batch processing should be done while the workstation is inactive.

With Harmony batch processing, you can spread the workload across multiple computers on the network, creating a render farm.

To create a render farm, you have to identify all of the computers that will be processing Harmony files and you have to start the batch processing queues. Then, you have to set up all Environments you add to the database for batch processing.

Once you have set up batch processing, you can send your drawings to be vectorized and send the scenes to be rendered. This chapter also explains how to view the vectorize and render queue to check on how the batch processing is progressing.

Topics Covered

Installing Batch Processing and Configuring the machine-list File (Windows)

The **machine-list** file identifies all of the machines on your network that can be allowed to batch process Harmony files. The machines on this list represent the render farm.

You must have sufficient batch processing licenses to run batch processing on all of the machines in the **machine-list** file.

In Windows, use the Harmony Configuration Wizard to add computers to the machine-list file and to install the batch processing service. You must run the configuration wizard on all machines that will perform batch processing.

To launch the Harmony Configuration Wizard:

‣ On Windows: Click the **Start** menu and select **All Programs > Toon Boom Harmony 10.3 > Tools > Configuration Wizard**.

The **Toon Boom Harmony Configuration** window opens.
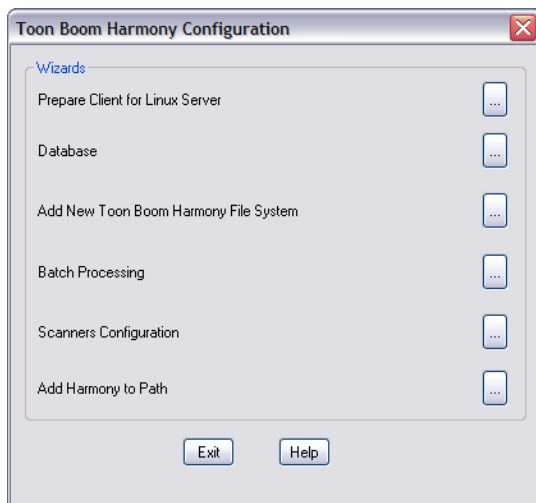
To configure batch processing:

1. In the **Wizards** section, click the **Batch Processing** button.
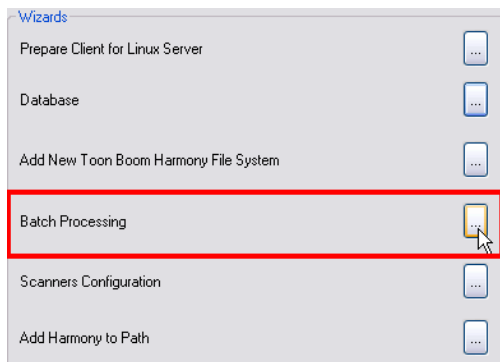
2. In the next window, you are asked if this machine will do batch processing. Select **Yes**.
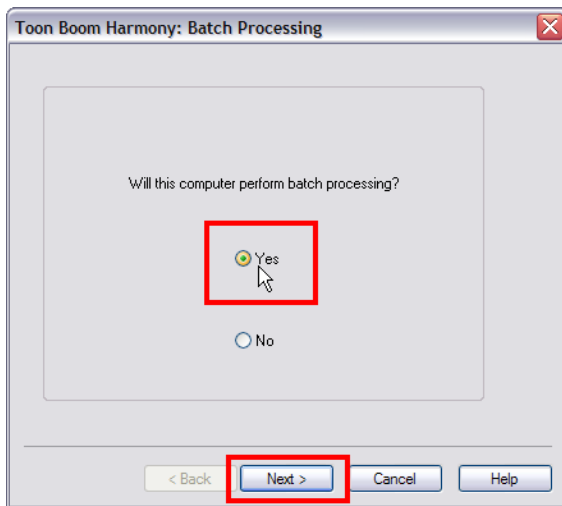
3. Click on the **Next** button.

4. In the **What is the Name of the Server** field, enter the name of the Harmony server.
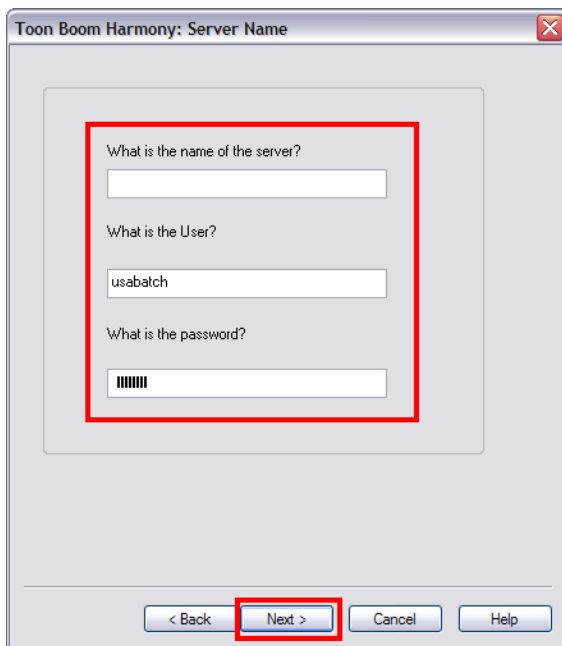
5. In the **What is the User** field, type the server's username (OS account) created while setting up the Harmony database. The machine you are setting up will use this username and password to log on the server machine and retrieve the data to render or vectorize.

6. In the **What is the Password** field, type the password corresponding to the selected username.

7. Click on the **Next** button.

8. The Harmony Configuration wizard presents a review of all the changes that it will make.
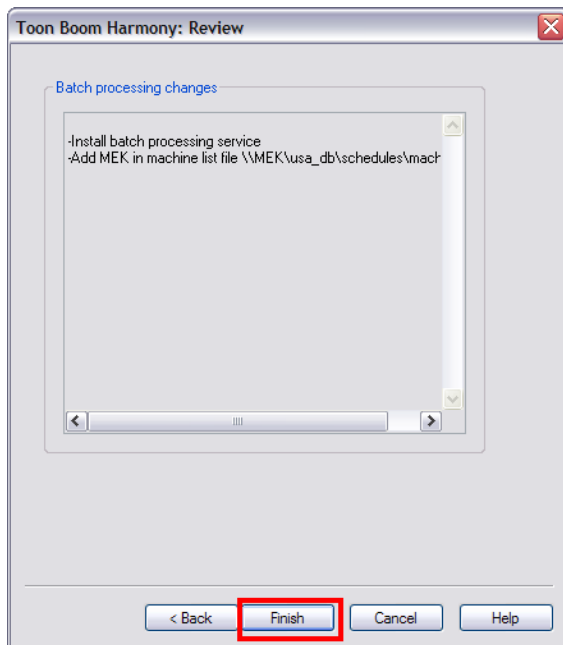
9. Click on the **Finish** button to complete the process.

10. A dialog box appears to indicate if the configuration process has been successful.
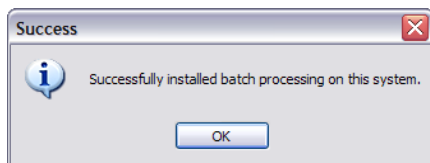
Related Topics

-

-

Creating the machine-list File (Linux)

The `machine-list` file identifies all of the machines on your network that can be allowed to batch process Harmony files. The machines on this list represent the render farm.

You must have sufficient batch processing licenses to run batch processing on all of the machines in the `machine-list` file.

To create the machine-list file on Linux:

1. Using a text editor, create a new text file. Enter all of the machine names in your render farm in this file. The order that you list machine names in this list determines their order in the batch processing scheduling commands.

There must be no blank lines in the machine-list file.

For example, your machine-list might look like this:

```
anim-1
anim-2
anim-3
bart-1
bart-2
paint-1
paint-2
paint-3
```

Your machine name is created when you install Linux. You can list the machine name of a computer by typing the following command in a terminal or command prompt:

```
uname -n
```

2. Save the file with the name `machine-list` in the `/USA_DB/schedules/` directory.

Related Topics

*   Installing Batch Processing and Configuring the machine-list File (Mac OS X) on the facing page
*   Installing Batch Processing and Configuring the machine-list File (Windows) on page 65

Installing Batch Processing and Configuring the machine-list File (Mac OS X)

On Mac OS X, use the **Configuration Assistant** to install the batch processing queue **Startup Item** that will start the batch processing service. You must run the **Configuration Assistant** on all machines that will perform batch processing.

To install the batch processing queue Startup Item:

1. In the **Finder**, go to **Applications > Toon Boom Harmony 10.3 > Tools > Configuration Assistant**.
2. Select the **Create the Startup Items** option and click the **Continue** button.
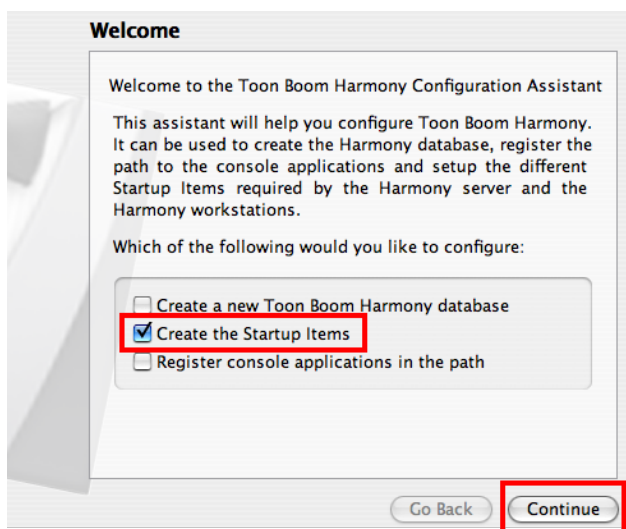
3. Select the **Create Queue Server Startup Item** and click the **Create** button.
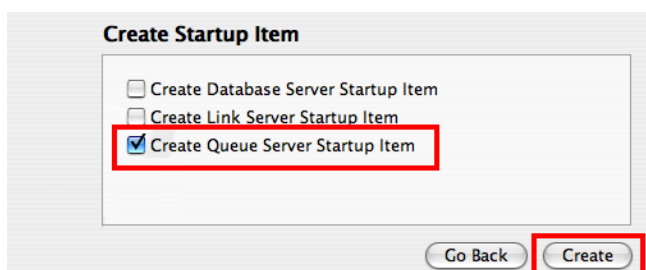
The **Authenticate** dialog box appears asking for a user name and a password.

4. Type a user name that is allowed to administer this computer then click the **OK** button.

    This will copy the files necessary to automatically start the batch processing queue on the counter.

5.   Repeat these steps on all the computers that will be doing batch processing.

The files required to start the batch processing queue are copied by the **Configuration Assistant** in:

`/Library/StartupItems/ToonBoomQueueServer/` folder.

A dialog box appears to indicate if the Startup Item was successfully created.
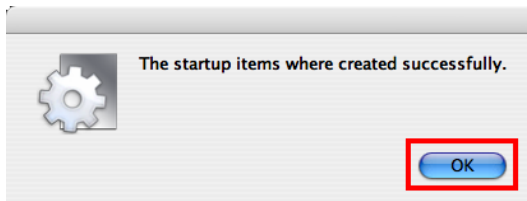
6.   Click the **OK** button to close this dialog.

The **Finish** window appears.
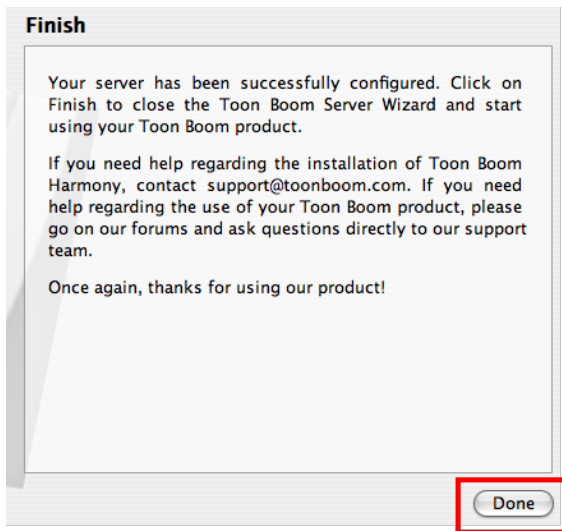
7.   Click the **Done** button to close the **Configuration Assistant**.

Related Topics

- [Machine-list File](#) below
- [Installing Batch Processing and Configuring the machine-list File (Windows)](#) on page 65
- [Creating the machine-list File (Linux)](#) on page 68

Machine-list File

The machine-list file identifies all of the machines on your network that can be allowed to batch process Harmony files. The machines in this list represent the render farm. You must have sufficient batch processing licenses to run batch processing on all of the machines in the machine-list file.

To create the machine-list file:

1.   In a text editor, create a new text file.
2.   In the new text file, enter all of the machine names in your render farm in this file.

The order that you list machine names in this list determines their order in the batch processing scheduling commands.

> There must be no blank lines in the machine-list file.

For example, your machine-list might look like this:

```
anim-1

anim-2

anim-3

bart-1

bart-2

paint-1

paint-2

paint-3
```

‣ Your machine name is created when you install Mac OS X. You can list the machine name of a computer by typing the following command in a terminal or command prompt:

```
hostname
```

3. Save the file with the name machine-list in the **/USA_DB/schedules/** directory.

Related Topics

-

The tbprocess Program

The **tbprocess** program monitors the database queues for batch processing work to be done. When if finds a batch processing Job to complete, it launches the appropriate Vectorize or Render programs to process the Job (you can monitor these Jobs using the **Queues** in the **Control Center** module). In order for a machine to perform the batch processing, you must launch the **tbprocess** program on it.

You can use a set of schedules to better manage the batch processing on your Harmony system. While Scheduling dictates the type and time a machine will perform batch processing, the **tbprocess** program does the actual batch processing work (for both Vectorize and Render batch processing).

There are several ways in which you can start **tbprocess** on a machine and then verify that it is indeed running. You can run only one session of **tbprocess** per machine. If you try to run more than one **tbprocess** session, nothing happens (the first **tbprocess** session keeps running). You can monitor the Jobs taking place in the **tbprocess** session by opening the log file.

> Remember that just because **tbprocess** is running on a machine, it does not mean that the machine is actually doing any batch process work at that moment.
>
> The schedules determine the location and the time when the machines perform batch processing work.

Related Topics

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Starting the Batch Processing Queue on Windows

When you launch a Harmony module, there are functions that applications perform in the background that you generally don't see. Two of these functions are as follows:

- **tbprocess**: manages requests for batch processing of vectorized drawings or rendered scenes.

  When you ran the **Harmony Configuration Wizard**, you had the option of having batch processing on your system. If you selected the **Yes** option and you have a valid license, the tbprocess starter is ready to run; otherwise, you won't be able to perform batch processing on Harmony.

- **tbdbserver**: when you have a Server/Standalone configuration, the tbdbserver controls the entries that you make to the Harmony database (like adding new scenes to a Job).

> When you run the **Toon Boom Harmony Configuration Wizard**, it automatically configures your system to launch the tbdbserver, so you don't need to configure anything else.

To modify the **Process Starter** launch properties, follow these steps:

1. From the **Windows Start** menu, select **Control Panel** from the **Settings** sub-menu.

   The **Control Panel** window appears.

2. Double-click the **Toon Boom Harmony Control Panel** icon [icon] in the **Control Panel** window.

   The**Toon Boom Harmony Control Panel** dialog box appears.

3. Click the **Process Starters** tab. You can use this tab to select a specific process starter and to see its parameters
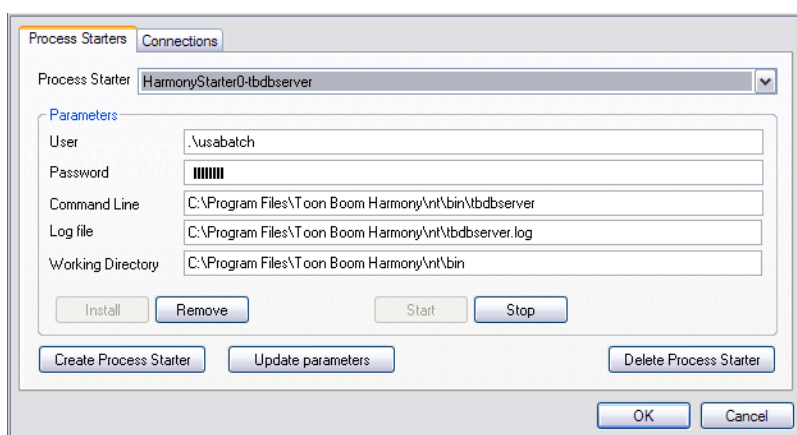
The **Process Starters** tab displays the following information:

‣ **User**: Displays the profile that the process starter uses by default.

‣ **Password**: Displays the password for the user specified in the **User** field.

‣ **Command Line**: Displays the path of the application you want process starter to launch.

‣ **Log File**: Displays the name of the log file that records all the messages from the application named in the **Command Line** field.

‣ **Working Directory**: Displays the path that contains all the applications you need and where these applications can store data while they run.

4. Make any modifications you need to the existing services and click on the **Update parameters button**.

5. Click **OK** when done.

Related Topics

-
-

Starting the Batch Processing Queue on Linux

After the `machine-list` file is created, you are ready to start the batch processing queues. You must start the batch processing queues on all machines that will batch process.

To start batch processing queues:

‣ Type the following in a terminal or command prompt:

> **`/sbin/service USAnimation_queues start`**

A message will appear in the shell indicating that the script has been successful.

The tbprocess program is installed with the Toon Boom Harmony system. It monitors the Vectorize and Render batch processing queues for work to be done and runs the appropriate programs to vectorize or render the images.

If you reboot your machine after you install the Toon Boom Harmony, the tbprocess program starts automatically on each Toon Boom Harmony client and server.

> During a normal installation, Harmony places a file called **`S98USAnimation_queues`** in the **`/etc/rc2.d/`** folder. This file controls the launching of the tbprocess program when you reboot.
>
> This file name **`S98USAnimation_queues`** may change and the first two numbers at the beginning of the file name could be:
> **`S97USAnimation_queues,S96USAnimation_queues, S95USAnimation_queues and so on.`**
>
> If you don't see this file in the **`/etc/rc2.d/`** folder, you need to reinstall the links for Harmony. However, if you don't reboot after you install the Toon Boom Harmony system, or someone stops the tbprocess program on a specific machine, you must launch the tbprocess program on each machine assigned to the batch processing schedule before you can batch process the items in the Vectorize or Render queues.

To launch the tbprocess program on a batch processing machine, follow these steps:

1. Open a command prompt and log in as the root user on the machine you want to start the **Process** program.
2. Type **`/etc/init.d/USAnimation_queues stop`** and press [Enter] just to make sure that there are no tbprocess programs already running.
3. Type **`/etc/init.d/USAnimation_queues start`** and press [Enter]. A PID (Process ID) number appears when the tbpprocess starts.

   > **`[1] 19003`**

   If you want to stop the Process program on a machine, you would type **`/etc/init.d/USAnimation_queues stop`** and press [Enter].
4. To view the batch processing schedule status for all machines, type **`Status`** and press [Enter].

   The **batch processing schedule** appears.

```
                              tbprocess is running on these machines


                            SCHEDULE STATUS Tue Jan 25 15:34:00 2007
                                                 nextevent
           R SD machine state  vec ren   environments             pri      Time
              *  jupiter   ON        *   14M                                Wed Jan 26 16:00:00 2007
                 saturne   ON   *   *   Dev  LN                             -
                 mercure   ON   *   *   Dev                                 Mon Jan 31 09:55:00 2007
           R     polaris   ON   *   *                                       -
                 neptune   ON   *   *   MAX Tem                             -
           R     rndtest2  ON   *   *       Tem                             Thu Jan 27 10:00:00 2007
                 venus     ON   *   *   Dev                                 -
           R     uranus    ON   *   *   Dev                                 -
                 bart      OFF                                              -
                 mars      ON        *   Dev                                -
                 mizaar    ON   *   *   Dev                                 -
                 hpsys     ON   *   *   Dev                                 -
           R     halley    ON   *   *   Dev                                 -
                 uranus:1   ON   *   *    MAX                               -
                 uranus:2   ON   *   *    MAX                               -
                 uranus:3   ON   *   *    MAX                               -
                 uranus:4   OFF                                             -
                 atlas     ON   *   *   Dev                                 -

             vectorize: saturne mercure venus uranus mizaar hpsys halley uranus:1
                        uranus:2 uranus:3 atlas
                render: jupiter saturne mercure rndtest2 venus uranus mars mizaar
                        hpsys halley uranus:1 uranus:2 uranus:3 atlas

                   Cle:
           Development: saturne mercure venus uranus mars mizaar hpsys halley
                        atlas
                  Test:
                   FGR:
                  Jacm:
                    LN: saturne
               Roger23:
              Siggraph:
                  mone:
                   opt:
                 Steph:
           stephane@venus /home/stephane/local/ []
```

The column on the left displays an **R** for each machine on which you launched the tbprocess program.

Starting the Batch Processing Queue on Mac OS X

After the machine-list has been created and that the Startup Item has been installed you are ready to start the batch processing queue.

The Startup Item will start the batch processing queue automatically every time the computer is started, but you can start it without restarting the computer by doing the following:

To start batch processing queues:

1. Open the Mac OS X Terminal application. Go to Applications > Utilities > and double click the Terminal.
2. Type the following in the Terminal:

   `sudo /sbin/SystemStarter start ToonBoomQueueServer`

   The Terminal prompt you to type your password. Your user needs to be allowed to administer this computer for this command to work.

To stop batch processing queues:

‣ Type the following in the Terminal:

   `sudo /sbin/SystemStarter stop ToonBoomQueueServer`

   The Terminal will prompt you to type your password. Your user needs to be allowed to administer this computer for this command to work.

Verifying that a tbprocess Session is Active

There are two commands you can use to verify that **tbprocess** is running on a machine. To use any of these commands, type the one you want to use in a Command Shell or Terminal and press [Enter].

- **Status** command

  This command allows you to view the Schedule Status (see). If **tbprocess** is running on a machine, an **R** appears in the **R** column for that machine.

On Linux

- **ps -f -u usabatch | grep roc** command

  This command verifies if you have a tbprocess session running on a machine.

  - **-f produces** a fully-detailed list of information
  - **-u usabatch** lists only information by the user usabatch.

  Since more than one user can start the tbprocess program, you can view a more complete list by removing the -u usabatch parameter from the command. You can also replace this parameter by **-efa** to view all the processes on the machine, regardless of the user (except the processes that are not linked to an Command shell).

  - **-grep** roc searches for commands that contain the letters "roc". This allows you to search for Process sessions only.

  A list of all the processes running for usabatch appears:

  ```
          UID    PID   PPID  C     STIME TTY TIME COMMAND
  usabatch 16514      1  0  Mar 12  ?    10:45 tbprocess -schedule
  usabatch 16522 16521  19 Mar 12  ?          10:45 Process_starter
  ```

On Mac OS X

- ps -axc | grep roc command

  This command verifies if you have a tbprocess session running on a machine.

  - **-a** displays information about other users' processes as well as your own.
  - **-x** displays information about processes without controlling terminals.
  - **-c** changes the "command" column output to just contain the executable name, rather than the full command line.

  A list of all the processes running appears:

  ```
   7748  ??  S      0:00.05 Process_starter

   7749  ??  SN     0:00.14 tbprocess
  ```

The **ps** command is a Linuxstatement used to report active processes. There are a variety of options and arguments that you can run with this command to limit or alter the information that appears. The arguments used with the ps command in this document are only suggestions. Refer to your Linux manuals for more information on the different options and arguments available with the **ps** command.

On Windows

In Windows, the process can be verified from:

- Toon Boom Harmony Control Panel: **Control Panel > Toon Boom Harmony Control Panel**

- Services panel: **Control Panel > Administrative Tools > Services panel**

Monitoring a tbprocess Session

As the tbprocess program batch processes the Jobs, you can see which Jobs it is processing and which ones are waiting in the queue. This is handy in case you want to remove old Jobs from the queue because you made changes to them, or if you want to change the processing priority in the jobs.

There are two ways to monitor the tbprocess session:

- Using the **Queue** windows in the **Control Center** module.

  The easiest way to monitor a **tbprocess** session on a particular machine is to open the **Render** or **Vectorize** queues using the **Control Center** module.

- Typing the `ssh` and `tail` commands in a Linux shell.

When checking a machine's **Vectorize** or **Camera** queues, remember that if the machine is scheduled to do processing work for multiple environments, you may need to search both queues in several of the environments to get a complete picture of what's happening.

Viewing Specific Events in the tbprocess Session in Linux

As the Process session vectorizes your jobs, it stores jobs in a log file. You can find the log files in `/tmp/tbprocess.log` file.

Viewing Specific Events in the tbprocess Session in Windows

If you want to check the log on the Windows machines in your network, you must access the machines themselves and view the `tbprocess.log` file in a text editor. Some text editors require that you stop the tbprocess session before you open the log file because it locks the file while recording.

Viewing Specific Events in the tbprocess Session in Mac OS X

As the Process session vectorizes your Jobs, it stores Jobs in a log file. You can find the log files in `/Library/Logs/ToonBoomQueueServer.log` file.

Viewing tbprocess Events on One Machine (Linux and Mac OS X)

If you want to view the tbprocess Jobs for a specific machine, you can remotely log into that machine view the entries in the `tbprocess.log` file as they get added.

You need to use the two following commands to view these entries:

- The `ssh` command allows you to connect remotely to another machine and launch a specified command. The remote connection stays open for the duration of the command and then closes, ending the connection.

- The `tail` command displays the latest 10 lines of the specified file as they appear.

To view the entries in the `tbprocess.log` file as they occur, open a shell or a terminal and type:

‣ **For Linux type:**

    ssh machine tail -n -10 -f /tmp/tbprocess.log

‣ For Mac OS X type:

```
ssh machine tail -n -10 -f /Library/Logs/ToonBoomQueueServer.log
```

- **machine** is the name of the machine running the tbprocess you want to monitor

- **-n 10** instructs the **tail** command to display the latest line of the file (you can change this value if you want)

- **-f** instructs the **tail** command to update the display as the file changes

When using the **tail** command with the **-f** option, you must use [Ctrl] + [C] to quit the command.

Setting Up Default Schedules

When you first set up your Harmony system, it is a good idea to set up a default batch processing schedule. You can modify this schedule later based on the operating needs of your studio.

If you have not created any Environments, there won't be any environments for you to start up.

You must start up a default schedule for every Environment you create in the Harmony database.

Maintaining a limited number of Environments will make it easier to set up and manage batch processing queues. For example, you can create four Environments, like **test**, **commercials**, and one Environment per features or series.

To define the default batch processing schedule:

1. Open a command prompt or Terminal.
2. In the command prompt or Terminal, type:

   Setdef

   Follow the onscreen instructions to set up the Environment for batch processing by selected machines on the Harmony network.

3. You must enter the machine name on which you want to set up batch processing.

   INPUT A SINGLE MACHINE NAME, THE PREFIX OF A MACHINE NAME, OR all

   ‣ Type "all" to create a default schedule for all machines in the **machine-list** or press [Enter] to create a schedule for only the machine you are currently using.

4. If you enter only one machine name, you must decide if you want to input more machines to process this Environment.

   DO YOU WANT TO INPUT MORE MACHINES

   ‣ Type "y" and press [Enter] if you want to enter more machines or press [Enter] if you don't want to enter any more machines.

5. Identify the type of work this machine will be doing, vectorizing, rendering or both.

   INPUT TYPE OF WORK ALLOWED is vectorize work allowed

   ‣ Type "y" if this machine will vectorize drawings.

   is camera work allowed

   ‣ Type "y" if this machine will render scenes.

   ‣ Identify the environments this machine will process.

   INPUT A SET OF DATABASE Environments

   ‣ Type the number (not the name) for each environment you want to set up on this machine and press [Enter]. A space (or a comma) must separate each environment number.

   should processing of the dbenv's be prioritized

6. You can prioritize the Environments based on the order you entered them in the previous step. Typically, you will not want to prioritize environments like this.

‣ Type "n" and press [Enter] if you don't want to prioritize environments.

7. Turn the input on for the machine

```
input ON or OFF
```

‣ Press [Enter] to turn the input on.

8. When you are done, a status message appears indicating that the machine is set up for batch processing using the default schedule.

‣ To view the batch processing schedule status for all machines, type the following in a terminal or command prompt:

```
Status
```

9. Press [Enter] twice to get the report.

The machines that are set up to batch process should appear in the report. There must be an "R" next to the machine name and the status must be "On" to be able to batch process.

```
C:\WINDOWS\system32\cmd.exe                                    - □ ×

C:\Documents and Settings\mec>status
Toon Boom Harmony
status (Status) version 7.3.3 build 4368 2007-11-22 11:07:36

INPUT BEGIN TIME in 24-hr format [13:34]:
    input day [thu]:

Key:
vec = Vectorize
ren = Render
pro = production_xyz
com = commercial
sim = simpsons
adv = adventure_movie
tes = test
pri:    indicates if database environments are prioritized,
        or if each environment is processed with equal priority
in R column, R = Running now, at Thu Nov 22 13:34:34 2007
        ? means couldn't determine status
in SD column, * means shutdown is in effect for at least
        some dbenv's, although those may not affect what's scheduled


                 SCHEDULE STATUS Thu Nov 22 13:34:00 2007
                                              nextevent
R SD machine state   vec ren   environments         pri     Time
R         mek    ON    *   *    pro com sim adv tes   *       -

C:\Documents and Settings\mec>_
```

Testing Batch Processing

To verify that batch processing is working, send a few frames from a scene to be rendered by the Harmony Stage module.

To test batch processing:

1. Open Control Center and select the environment and job that contains the scene to render.

2. Select the scene, right-click the sample scene in the **Scene** panel and select **Send to Rendering**.

    The **Render Network** dialog box opens.
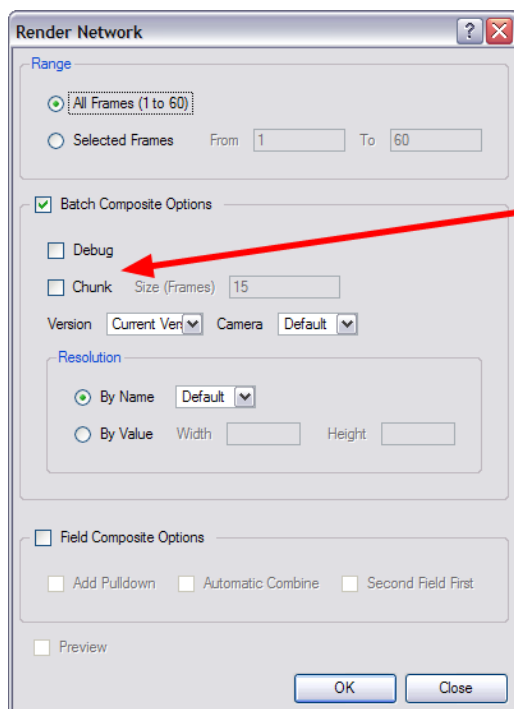
3. In the **Range** section, choose the **Selected Frames** option and type 1 to 5 in the **From** and **To** fields.

4. Leave the rest of the default options and click **OK**.

    An alert should appear indicating that the scene was sent to the queue.

5. Click **OK** to close the alert.

    Now, open the **Render Queue** to see if your scene is being processed.

6. In the **Environments** section, select the environment containing the scene rendering.

7. In the top menu, select **Environment > Render Queue**.

    The **Render Queue** window opens.

    You should see the sample scene listed. Its state will change from "**Pending**" to "**Processing**" then to "**Completed**" after it has been rendered.

Vectorizing Scenes or Elements

Before you can paint a scanned drawing in Harmony, you must convert it to a vectorized image format. The vectorizing process converts the drawings from a bitmap format to a vector line-based format.

Normally, when you scan your drawings, Harmony automatically vectorizes them (sends them to the Vectorize queue). However, you can also use the **Send to Vectorize** command to reprocess all drawings for a particular element. Vectorizing prepares images for painting by creating vector files. You would only have to manually send scenes to be vectorized in special cases such as:

- Processing images that were not scanned with the **Scan** module

- Reprocessing a scene due to unrecoverable paint errors

To manually vectorize all the drawings for a scene or an element:

1. Select the scene from the **Scenes** list or select an element from the **Elements** list.
   ‣ If you select a scene, Harmony vectorizes all drawings for all elements of that scene.
   ‣ If you select an element, Harmony vectorizes all the drawings for that selected element.

2. Depending on the component you selected in the previous step in this procedure, follow one of these steps:
   ‣ Select the **Send to Vectorize** command from the **Scene** menu, or right-click anywhere in the **Scenes** list and select **Send to Vectorize**.
   ‣ Select the **Send to Vectorize** command from the **Element** menu, or right-click anywhere in the **Elements** list and select **Send to Vectorize**.

3. The **Confirm** dialog box appears.
   ‣ Click **Yes** to vectorize all the selected drawings.
   ‣ Click **No** to cancel the vectorize command.

The **Control Center** module sends all drawings in the scene or element to the vectorize queue. To verify how the processing is progressing, you can display the vectorize queue.

Viewing the Vectorize Queue

The **Vectorize** queue displays all the drawings that the system is converting to a vector-based format. After the vectorization of a drawing is finished, the completed drawing disappears from the **Vectorize** queue.

To view the list of drawings being vectorized:

1. Select an environment name from the list, then select **Environment > Vectorize Queue**.

   The **Vectorize Queue** window appears.
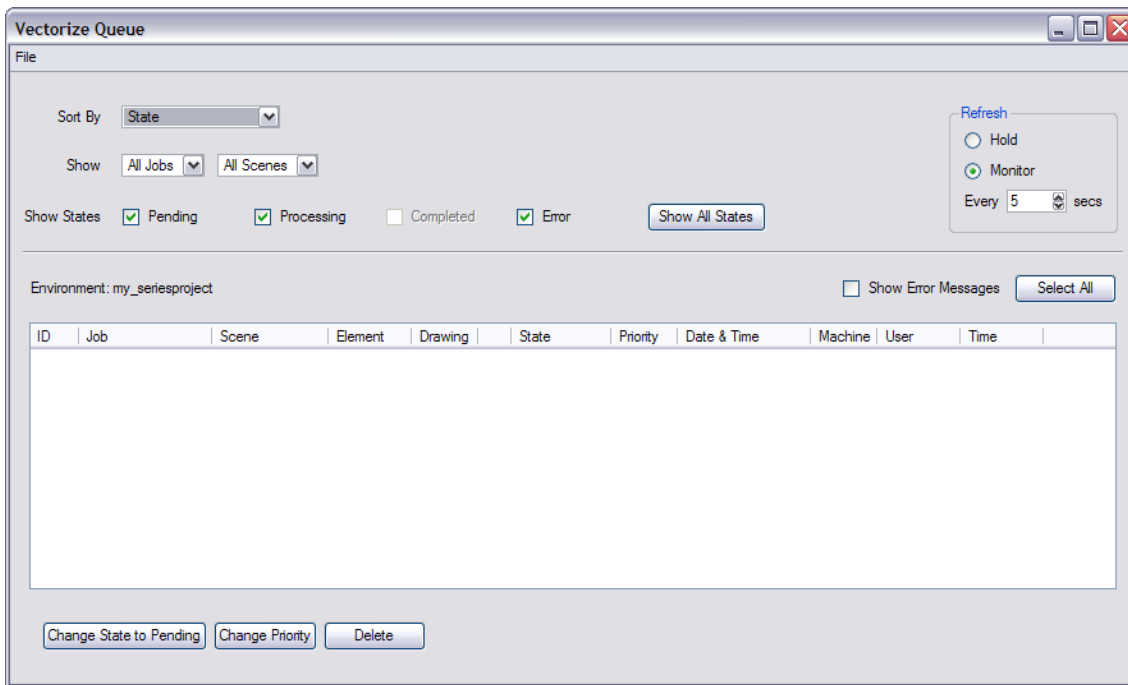
2. Select how to sort the entries in the queue from the **Sort By** drop-down list. You can sort by:

 ‣ **State**: sorts the entries based on the item's status (**Pending**, **Pending-E**, **Processing**, or **Completed**)

 ‣ **Entry time**: sorts the entries based on the time you send them for vectorization.

 ‣ **Job, Scene, Element, Drawing**

3. If the **Vectorize** queue has too many entries, you can select a specific Job, scene, element, or drawing that is in the queue.

 Select the items you want to display in the queue from the **Show** drop-down list. The Show drop-down list display all the items in the Control Center module's database, not just the ones that have drawings being vectorized. You have the following choices:

 • **Jobs**: select the specific Job that is in the queue or has scenes currently being vectorized. If you want to see all the Jobs, select **All Jobs**.

 • **Scenes**: select the specific scene that is in the queue or currently being vectorized. If you want to see all the scenes a Job, select **All Scenes**.

4. **Select** the states you want to display in the queue from the **Show States** check boxes. The choices are:

 ‣ **Pending**: displays the items waiting to be vectorized

 ‣ **Error**: displays the items where the system found an error and has stopped vectorizing them (displays **Pending-E** as the item's **State**)

 ‣ **Processing**: displays the items that the Harmony is currently processing

 ‣ **Completed**: displays the items that were vectorized. However, the Control Center module usually removes completed items from the Vectorize queue, so this radio button is inactive

 ‣ **Show All States**: displays all the items, regardless of their state (Pending, Pending-E, Processing).

5. Select how often you want the queue to check for the latest entries. You have the following choices:

 ‣ **Hold**: Display no new entries to the queue once the button is activated.

 ‣ **Monitor**: Automatically displays new entries at the interval you enter in the **Every ## secs** field.

6. Select the **Show Error Messages** check box if you want to see any related errors for each entry in the queue.

If the Control Center module detected any errors while it prepares the drawings, it displays **Pending-E** in the **State** column. These errors can occur if there are files missing, computers are unavailable, or data cannot be found.

> Most of these errors would occur if the system is improperly configured. Therefore, your System Administrator needs to reconfigure the system to correct the error. If you get a **Pending-E** error, see your System Administrator.

Related Topics

- [Modifying Entries in the Vectorize Queue](#) below

Modifying Entries in the Vectorize Queue

When you have a list of entries in your queue, you can modify them in one of the following ways:

- Change their state in the queue: update a drawing's status in the queue from **Processing** (which means it is being vectorized) to **Pending** (which means the drawing will be vectorized).

  After you set a Job as **Pending**, the Job remains in the queue until a machine becomes available and takes the job or you delete it from the queue.

  Click the **Change State to Pending** button to change the status of the selected entries in the queue from **Processing** to **Pending**. After a Job becomes **Pending**, the next available machine will process the entry.

  If you want to remove the entry from the queue, you can select the **Pending** entry and click **Delete**. If the entry is Processing, you can delete the entry from the queue but the processing will not stop until the machine completes it (see note below).

- Change the drawing's processing priority: change the order in which the system vectorizes the drawings by assigning a priority to each drawing.

  - Click the **Change Priority** button to change the selected drawings' processing priority in the queue.
  - When the **New Priority** dialog box appears, drag the scroll bar to increase or decrease the drawing's vectorize priority.

- Remove drawings from the vectorize queue: cancel the vectorize command on selected drawings. When you remove a drawing from the queue, it only cancels the vectorize request.

  - Click the **Delete** button to delete the selected drawings from the queue.

You can only modify an entry in the Vectorize queue while it is pending (check the **State** column in the queue list); you cannot modify a Job that is being vectorized.

If you must change something about a scene's drawings, you must wait until the vectorizing is complete, then make your changes and send the drawing to the vectorize queue.

> If you must absolutely stop the vectorizing process, you can kill the vectorize process in Windows, Linux or
> Mac OS X.

Related Topics

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Rendering Your Scenes

When you have finished working on a scene or all of your animated sequence, you can send them to the rendering queue via Control Center or Harmony Stage. After you render your animation, you can transfer the scenes to video or film.

After you render a scene, you can mark it as completed using the **Change Stage** command in the **Scene** menu. After you render all the scenes for a particular Job, you can mark the Job as completed using the **Change Stage** command in the **Job** menu.

> Changing the job's stage from **In Production** to **Completed** only hides the job in the Control Center window.

Related Topics

- Viewing the Render Queue below
- Modifying the Entries in the Render Queue on page 88
- Changing a Scene's Stage on page 40
- Changing a Job's Stage on page 31

Viewing the Render Queue

The **Render** queue displays all the scenes from the selected environment that the system is rendering. After the system renders a scene, the **State** of the rendered scene changes to **Complete** or **Completed with Errors** and the scene remains in the queue. If you want to remove the rendered scenes, you must select them and use the **Delete** button.

To view the scenes being rendered:

1. Select an environment name from the list, then select **Environment > Render Queue**.

    The **Render Queue** window appears.
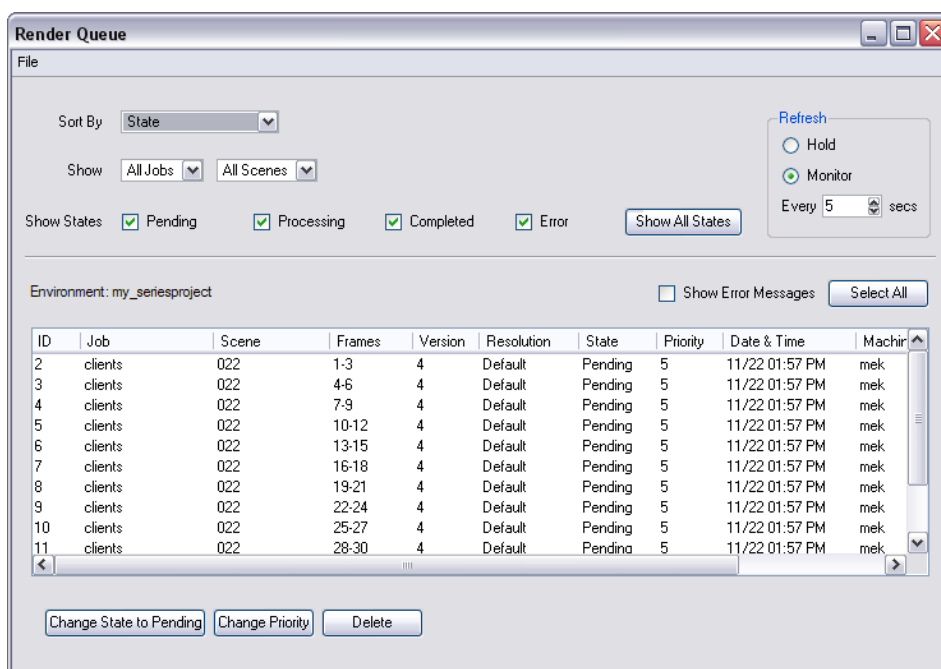
2. Select how to sort the entries in the queue from the **Sort By** drop-down list. You have the following choices:

   ‣ **State**: Sorts the entries based on the item's status (**Pending**, **Pending-E**, **Processing**, **Completed with Errors**, or **Completed**).

   ‣ **Entry time**: Sorts the entries based on the time you sent them for rendering.

   ‣ **Job, Scene, Element, Drawing**

3. Select the components you want to display in the queue from the **Show** drop-down list. You can choose the following:

   ‣ **Jobs**: select the specific Job you want to see being rendered. If you want to see all the jobs, select All Jobs.

   ‣ **Scenes**: select the specific scene you want to see being rendered. If you want to see all the scenes, select All Scenes.

4. Select the states you want to display in the queue from the **Show States** check boxes. You have the following choices:

   ‣ **Pending**: Displays the items waiting to be rendered.

   ‣ **Error**: Displays the items where the system found an error and has stopped rendering the item (displays **Pending-E** as the item's state).

   ‣ **Processing**: Displays the items that the system is currently processing.

   ‣ **Completed**: Displays the items that were completely rendered.

   ‣ **Show All States**: Displays all the items, regardless of their state (**Pending**, **Pending-E**, **Processing**, **Completed**, **Completed with Errors**).

5. Select how often you want the queue to check for the latest entries. You can press one of these buttons:

   ‣ **Hold**: Display any new entries to the queue from the time the **Hold** button is active.

   ‣ **Monitor**: Updates new entries at the interval you enter **Every ## secs** field (minimum of 2 seconds).

6. Select the **Show Error Messages** check boxif you want to see any related errors for each entry in the queue.

If the Control Center module detects any errors while it processes the scenes, it displays **Pending-E** in the **State** column. Errors can occur if there are files missing, computers are unavailable, or data cannot be found.

Many of these errors could occur if the system is improperly configured. If you get a **Pending-E** error, see your System Administrator as the system may need to be reconfigured.

Modifying the Entries in the Render Queue

After you have a list of entries in your queue, you can modify them in one of the following ways:

1. Change their state in the queue.

    This allows you to update the status of a scene, or set of scenes, in the queue from Processing (which means it is being rendered) to Pending (which means the scenes are waiting to be rendered).

    After you set a Job to Pending, the Job remains in the queue until a machine becomes available and takes the Job or you delete it from the queue.

    - Click the **Change State to Pending** button to change the status of the selected entries in the queue from **Processing** or **Completed** to **Pending**.

2. Change the scene's processing priority.

    This allows you to change the order in which the system renders the scenes.

    - Click **Change Priority** to change the selected scene's processing priority in the queue.

    - When the New Priority dialog box appears, drag the scroll bar to increase or decrease the scene's render priority.

3. Remove scenes from the rendering queue.

    This allows you to cancel the render command on selected scenes.

    - Click the **Delete** button to delete the selected entries from the queue.

You can only modify an entry in the render queue while it is pending (check the **State** column in the queue list); you cannot modify a Job that is being rendered.

If you must change something about the scene's drawings, you'll have to wait until the rendering is complete, make your changes, and send it to the render queue.

If you must absolutely stop the rendering process, you can kill the render process in Windows, Linux or Mac OS X.

Stopping a Process

DO NOT STOP THE PROCESS UNLESS ABSOLUTELY NECESSARY.
An example of an extreme case is if you sent 10,000 drawings for vectorization and only one machine is available to handle the Job (which means it will take hours to complete).

DO NOT ATTEMPT TO STOP THESE PROCESSES YOURSELF. If you must stop a process, see your System Administrator.

After you send a scene's drawing for vectorization or rendering, you can remove it from the queue easily. If the process is pending in your vectorize or render queue (check the **State** column in the queue list), you can simply remove it by selecting the Job and clicking the **Delete** button in the **Vectorize/Render Queue** window.

But once the vectorizing or rendering process actually begins, it gets a bit more complicated to stop the process.

If you really must stop a rendering or vectorizing Job, you must remove the Job from the **Vectorizing** or **Rendering** queues and then find the actual process in your Windows Task Manager, Linux Shell or Mac OS X Activity Monitor and kill each task manually.

Related Topics
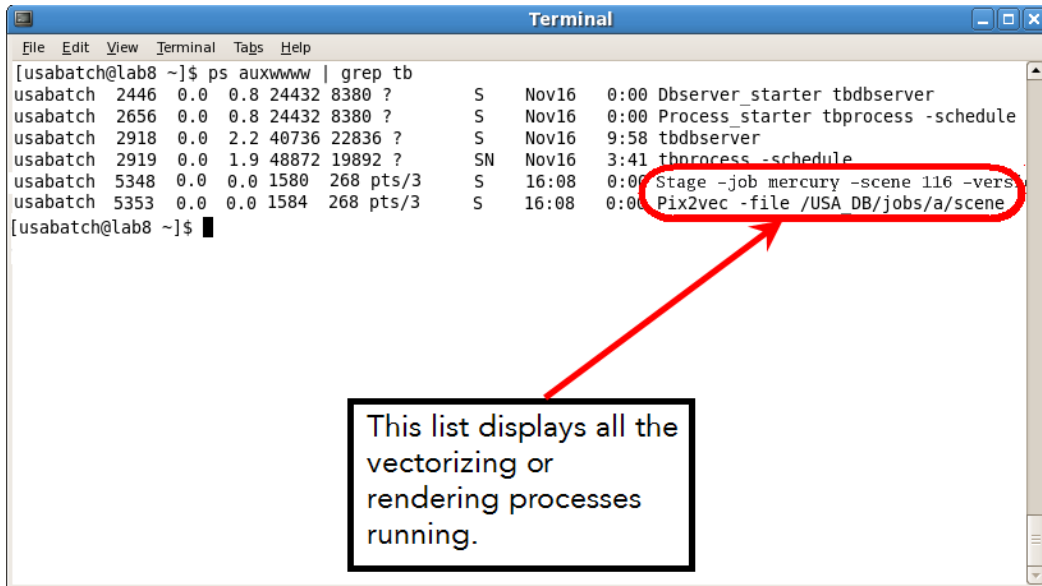
- Stopping a Linux Process below
- Stopping a Windows Process on page 91

Stopping a Linux Process

DO NOT ATTEMPT TO STOP THESE PROCESSES YOURSELF. If you must stop a process, see your System Administrator.

To kill a vectorize or render process in Linux:

1. Select the job to kill from the **Vectorize/Render Queue** window and click **Delete**.
2. As the root user, open a Linux shell and type the following command at the prompt: `ps -fe`. The shell window displays all the processes that are active at that moment.

```
                                   Terminal                                  _ □ ×
File  Edit  View  Terminal  Tabs  Help
[usabatch@lab8 ~]$ ps auxwwww | grep tb
usabatch  2446  0.0  0.8 24432 8380 ?        S     Nov16   0:00 Dbserver_starter tbdbserver
usabatch  2656  0.0  0.8 24432 8380 ?        S     Nov16   0:00 Process_starter tbprocess -schedule
usabatch  2918  0.0  2.2 40736 22836 ?       S     Nov16   9:58 tbdbserver
usabatch  2919  0.0  1.9 48872 19892 ?       SN    Nov16   3:41 tbprocess -schedule
usabatch  5348  0.0  0.0 1580   268 pts/3    S     16:08   0:00 Stage -job mercury -scene 116 -vers
usabatch  5353  0.0  0.0 1584   268 pts/3    S     16:08   0:00 Pix2vec -file /USA_DB/jobs/a/scene
[usabatch@lab8 ~]$ ▮
```

This list displays all the vectorizing or rendering processes running.

3. Find the listing for the vectorizing or rendering process that you launched. There are two ID flags to look out for:

- If you launched a vectorizing process, look for the process that lists the word `Pix2vec -file fileLocation`.

- If you launched a rendering process, look for the process that lists the word `Stage -job jobName -scene sceneName -version versionNumber`.

4. Take note of the system number that identifies the process. In the example above, the system numbers appear in the box on the left.

5. Type the following command and replace <id number> with the system number you noted in the previous step: `kill -9 <id number>`

   For example, if your process number is 5348 or 5353 (as it is in the example), you would type the following command to kill the process:

- `kill -9 5353`: this command stops the vectorize process.

- `kill -9 5348`: this command stops the rendering process.

6. Press [Enter] to launch the kill command.

If you kill a process, but do not delete the Job from the **Vectorize** or **Render** queue, the queue marks the entry as in error (**Pending-E**) and the entry stays in the queue. This is why it is important to remove the entry from the queue before you kill the process.

Stopping a Windows Process

DO NOT ATTEMPT TO STOP THESE PROCESSES YOURSELF. If you must stop a process, see your System Administrator.

To kill a vectorize or render process on a computer running Windows:

1. Select the Job you want to kill from the **Vectorize/Render Queue** window and click **Delete**.
2. Right-click the Windows task bar and select **Task Manager** from the pop-up menu.

   The **Task Manager** dialog box appears.
3. Click the **Processes** tab.
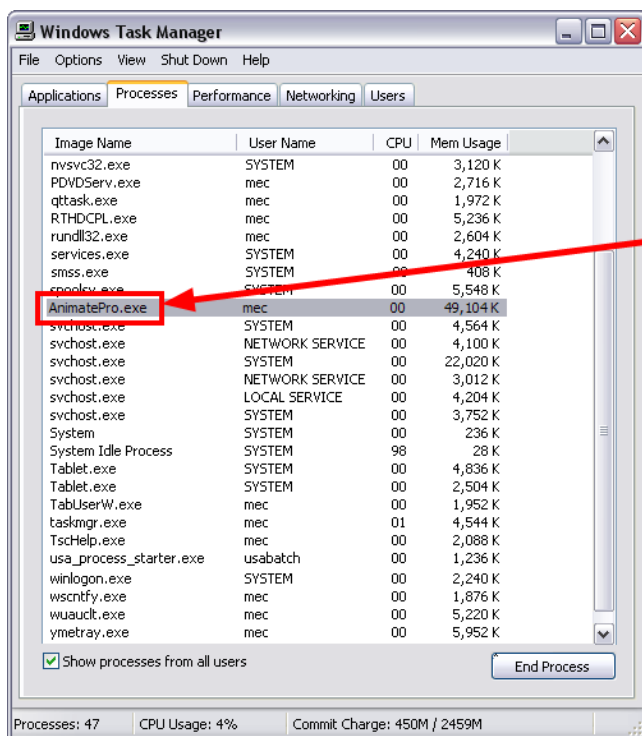
All the processes that are currently running appear in the Process tab. In this example, the AnimatePro.exe item is rendering one or more scenes that were sent to the Render queue.

4. Rendering or vectorizing launches a process named `AnimatePro.exe`. Locate it and select it.
5. Click the **End Process** button.

   The **Task Manager** kills the process and removes it from the **Process** tab

If you kill a process, but do not delete the job from the **Vectorize** or **Render** queue, the queue marks the entry as in error (**Pending-E**) and the entry stays in the queue. This is why it is important to remove the entry from the queue before you kill the process.

Troubleshooting

If you have any problems running Harmony after installation, review the installation and configuration instructions to make sure you have followed them completely. If you continue to have problems, consult the following list to troubleshoot common installation and configuration problems.

- Problem: No Batch Vectorization or Rendering (Linux) below
- Problem: No Batch Vectorization or Rendering (Windows) below
- Problem: No Batch Vectorization or Rendering (Mac OS X) on the facing page

Problem: No Batch Vectorization or Rendering (Linux)

If drawings are not being vectorized or rendered you should check the setup and configuration of batch processing.

To check the status of the batch processing machines:

1. In a shell, type **Status** and press [Enter] twice. The machines that are set up to batch process should appear in the report. There should be an "R" next to the machine name and the status must be "On" to be able to batch process.

   ‣ If no machines appear in the list, make sure the **/USA_DB/schedules/machine-list** file lists all of the computers that will do batch vectorization or rendering. Re-try sending elements to the render queue.

   ‣ If you still have problems vectorizing and rendering, perhaps the processes were not installed when you installed Harmony. Re-install Harmony running the **-p** option. In a shell, change to the directory where the installation script is stored and type:

      ./install -p

   ‣ Make sure that the queues are started. Type the following in a shell:

      /sbin/service USAnimation_queues start

> To learn more about the Linux installation process, refer to the Toon Boom Harmony LinuxInstallation guide.

Problem: No Batch Vectorization or Rendering (Windows)

If drawings are not being vectorized or rendered you should check the status of batch processing machines.

To check the status of the batch processing machines:

1. From the **Start** menu, select **All Programs > Accessories > Command Prompt** to open a command prompt.

2. Type **Status** and press [Enter] twice. The machines that are set up to batch process should appear in the report. There should be an "R" next to the machine name and the status must be "On" to be able to batch process.

   ‣ If machines are missing from the report, run the **Harmony Configuration Wizard** to set up batch processing on each machine that will vectorize drawings or render scenes. See, Installing Batch Processing and Configuring the machine-list File (Windows) on page 65

   ‣ If a machine is in the report, but is set to "Off", you must define a default schedule for the machine. See, Setting Up Default Schedules on page 79

   ‣ If a machine is in the report, but is missing the "R", re-start the batch processing queues.

To re-start the batch processing queues:

1. From the Windows **Start** menu, select **Control Panel** from the **Settings** sub-menu.

   The **Control Panel** window appears.

2. Double-click the **Toon Boom Harmony Control Panel** icon in the **Control Panel** window.

   The **Toon Boom HarmonyControl Panel** dialog box appears.

3. From the **Process Starter** drop-down list, select the **tbprocess-schedule** entry.

4. Click on the **Start button** to re-start the service. If the Start button is disabled, click **Stop** first, wait a couple of seconds, then click **Start**.
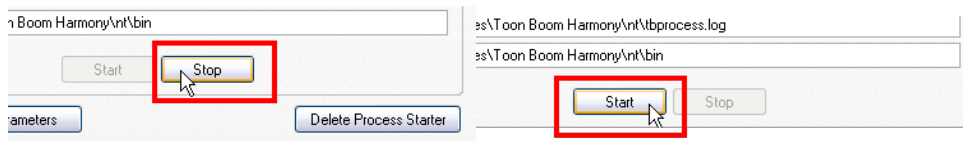
If you continue to have problems with batch processing, locate the **tbprocess.log** file and send it to support@toonboom.com.

• This file is usually in
  \Program Files\Toon Boom Animation\Harmony\nt

Problem: No Batch Vectorization or Rendering (Mac OS X)

If drawings are not being vectorized or rendered you should check the setup and configuration of batch processing.

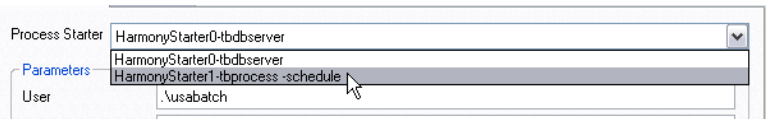**To check the status of the batch processing machines:**

‣ In the Terminal, type Status and press [Enter] twice.

   The machines that are set up to batch process should appear in the report.

   There should be an **R** next to the machine name and the status must be **On** to be able to batch process.

‣ If no machines appear in the list, make sure the **/USA_DB/schedules/machine-list** file lists all of the computers that will do batch vectorization or rendering. Re-try sending elements to the render queue.

‣ If your machine appears in the list, but that there is no R next to it, the tbprocess service may not be running. Verify that the tbprocess is active by using the steps described in the Verify that a tbprocess Session is active.

‣ If there is no tbprocess session active, perhaps the processes were not installed when you installed configured your installation. Verify that the **ToonBoomQueueServer** folder exists in the **/Library/StartupItems** folder. If it does not exist, see the section Starting a tbprocess Session on Mac OS X.
If the folder exists, start the tbprocess session by typing the following:
sudo /sbin/SystemStarter start ToonBoomQueueServer
The Terminal prompts you to type your password. Your user needs to be allowed to administer this computer for this command to work.

Advanced Batch Processing

Once the basic vectorization and rendering batch processing is started, there are more advanced options possible such as advanced scheduling.

Related Topics

About Batch Processing Schedules

By creating a schedule to monitor the batch processing, you can determine which machines perform the batch processing, and when they perform it. Each batch processing machine on your network has its own set of schedules and you can view and modify them from any machine on the network.

There are three types of schedules available for a machine:

- **Supervisory Schedule**: Assigns a one-time batch processing job to a machine.

   For example, you can define a **Supervisory Schedule** for a machine to perform batch processing work for the next four hours.

   Supervisory Schedules Have the highest priority of the three types of schedules. If you define a Supervisory Schedule for a specific period of time on a machine, it will perform the batch processing work according to that schedule, regardless of what the Periodic and Default Schedules define for that period of time.

- **Periodic Schedule**: Assigns recurring batch processing jobs.

   For example, you can define a **Periodic Schedule** for a machine to perform batch processing only on Saturdays and Sundays.

   Periodic Schedules use the days of the week so that you can have batch processing occurring each week on those specific days

   In terms of priority, a **Periodic Schedule** supersedes a **Default Schedule** but not a **Supervisory Schedule**. If you have a **Periodic Schedule** active on a machine, that machine performs this type of batch processing according to its **Periodic Schedule** before it uses the **Default Schedule**.

- **Default Schedule**: Defines which jobs the machine can process if there are no other schedules defined

   Default Schedules have the lowest priority, and are used only when **Supervisory** and **Periodic Schedules** do not exist, or do not define the work to be done for a particular period of time.

When creating or modifying a schedule, you must supply the following information:

- Dates and times for which the schedule applies

- Machine or machines for which the schedule applies

- Whether batch processing is ON or OFF (whether that machine does or does not perform batch processing work)

- The type of batch processing to be done: Vectorize and/or Rendering

- The environments for which batch processing processes the artwork

- The priority of the environments to be batch processed (optional)

For any given machine, you can define, clear, and view the **Supervisory** and **Periodic Schedules**. You can only modify or view the **Default Schedule** for a machine.

You can also shut down and start up environments to stop and start batch processing of a particular environment on a machine or machines. When you shut down an environment, you are overriding whatever you already scheduled for it (according to each type of schedule). Therefore, you will effectively stop any batch processing jobs on the environment until you start up that environment again. You can also view a schedule status to see an overview of all schedules set for a specified time.

Displaying the Schedule Status

You can monitor which machines are vectorizing or rendering animation data. The schedule status displays an overview of what each render or vectorize machine is processing at a specific time. The overview also displays a machine's status based on the highest priority schedule set for the time you select.

You can display this status list by typing the `Status` command in a Command Shell or Terminal on any machine in the network. When you run the `Status` command, you must specify the day and time for which you want to view the schedule status.

To display the schedule status list, follow these steps:

1. Open a Command Shell or Terminal and type `Status`.

You can view the status for one or more machines by listing them after the status command (instead of all the machines, which is the default). You can also type a prefix to search for machines with names that start with the same prefix.

For example:

- `Status hp`: Shows the status for all machines that begin with "hp".

- `Status cm hp6`: Shows the status for all machines that begin with 'cm" and for hp6.

- `Status`: Shows the status for all machines.

  When you press [Enter], the system prompts you to specify the time for which you want to view the schedule status.

  `INPUT BEGIN TIME in 24-hr. format [15:17]:`

2. Type the time you want to view the status for in 24-hour format. If you press [Enter] without specifying a time, the system uses the time displayed in brackets (the current time).

   When you press [Enter], the system prompts you for the day for which you want to view the status.

   `input day [wed]:`

3. Type the day of the week for which you want to view the status (you can not enter dates). If you press [Enter] without entering a day, the system uses the day displayed in brackets (the current day).

The schedule status for the time and day you specified appears.

Reading The Schedule Status List

When you display the **Schedule Status** list, the information appears in three separate sections:

- `Key`: Lists the abbreviations the status schedule uses for the Environments, the two types of batch processes you can schedule on a machine, and the abbreviations the other columns use in the list.

- `SCHEDULE STATUS`: Displays the processing status of each Rendering or Vectorizing machine in the network.

- `Summary`: (Appears directly below the `Schedule Status` section) displays a summary of which machines are performing a specific type of batch processing (`vectorize` or `render`).

The following table describes the contents of the `SCHEDULE STATUS` list:

Column Title	Description
`R`	The first column displays an R for each machine that has the **tbprocess** program running on it. **tbprocess** must be running on a machine in order for that machine to do batch process work. For more information on starting **tb**process on Linux, see Starting the Batch Processing Queue on Linux on page 74. For more information on starting tbprocess on Windows, see Starting the Batch Processing Queue on Windows on page 72. If an **R** does not appear for a machine, the **SCHEDULE STATUS** list displays what would be scheduled if the **tbprocess** program was running on it.

Column Title	Description
`SD`	The second column displays if an Environment is **shut down** for batch processing on that machine. You can specify that certain machines don't process Environments by selecting which machines should be shut down (or turned off). An asterisk (*) appears in the `SD` column to indicate that one or more Environments have been shut down for that machine. For more details on how to shut down Environments, see Shutting Down and Starting Up Environments on page 114.
`machine`	The third column displays the name of the networked machine that is configured to accept batch processing Jobs.
`state`	The fourth column indicates whether the machine is `ON` or `OFF`. `ON`: the machine is scheduled to batch process. `OFF`: the machine is not scheduled (for the time you specified) to batch process.
`vec` `status`	The fifth and sixth columns list the type of batch processing the machine is scheduled to do (**Vectorize** batch processing and/or **Render** batch processing). If an asterisk (*) appears in these columns for a machine, then this type of batch processing is scheduled for this machine. If a machine is scheduled to do both types of batch processing, the machine performs both types alternatively; it processes an entry from the **Vectorize Queue**, vectorizes the data, and then take an entry from the **Render Queue**.
`Environments`	The seventh column displays the Environments that are scheduled to be batch processed on a machine. The machine batch processes only the data from the Environments listed in this column.
`pri`	This eighth column displays the priority level for batch processing on a machine. You can prioritize Environments so that one machine can perform the batch processing before another. If an asterisk (*) appears in the `pri` column, the Environments are prioritized for that machine. The priority order for the environments appears in the `Environments` column (reads from left to right, highest to lowest priority).
`nexteventTime`	This final column displays the date and time of the next status change for that machine, according to the defined

Column Title	Description
	batch processing schedules.
	For example, even though the **hickey** machine is OFF at the moment, the Time column displays the next time its status will change is at 12:53 on Wednesday, March 8th. This can indicate that a Periodic or Supervisory Schedule is set for this machine.

Using Default Schedules

A Default Schedule sets batch processing for a machine when no other schedules are in effect. For example, if there are no Supervisory or Periodic Schedules that affect a particular machine on Monday at 9:00 AM, the Default Schedule determines the type of batch processing that this machine performs at that time.

Every Harmony system machine uses a Default Schedule to determine when it should perform batch processing. You can display or modify the Default Schedules for any machine in the Harmony system.

Related Topics

- Displaying Default Schedules below
- Modifying Default Schedules on page 101

Displaying Default Schedules

When you display a Default Schedule, you can see all the batch processing machines on the network and when they are scheduled to perform the batch processing work. The Default Schedule also displays the type of batch processing work (vectorize or render) and which environments are scheduled for the processing work.

After you display the default schedule, you can modify it to change the time, type of batch processing, or environments to process. For more information on modify the Default Schedule using the **Setdef** command, see Modifying Default Schedules on page 101.

To display a Default Schedule, follow these steps:

1. Type **Showdef** in a Linux shell and press [Enter]. The system prompts you for the machine or machines whose Default Schedule you want to see.

   `INPUT A SINGLE MACHINE NAME, THE PREFIX OF A MACHINE NAME, OR all [all]:`

2. Select which machines to view by typing the name of a single machine, a prefix (to select a range of machines that start with the same prefix), or **all** to view all the Default Schedules for all the machines.

   If you press [Enter] without specifying a machine, the command uses the machine name that appears in brackets.

> If you type a prefix, a list of machines that contain that prefix appears. Type the numbers that correspond to the machines you want to view.
>
> For example, if you have three machines that start with "hi", you can type **hi** as a prefix. The system would then display a list of all the machines that start with "hi":
>
> **input a set of machines, or hit return to indicate all these machines:**
>
> **1 = hickey, 2 = highlander, 3=high-definition**
>
> You can either press [Enter] to select all the machines in the list or you can select certain machines by typing their corresponding numbers.

The command then prompts you to ask if you want to view more machines.

DO YOU WANT TO INPUT MORE MACHINES (y/n) [n]:

3. Decide if you want to view more environments and machines.

- Type **y** to select more machines and press [Enter].

- Type **n** to not select any more machines and press [Enter].

The Default Schedule for the selected machines appears.

Related Topics

- [Reading The Default Schedule Status List](#) below

Reading The Default Schedule Status List

When you display the Default Schedule Status list, the system displays the information in two sections:

- **Key**: lists the abbreviations used in the status schedule for the environments, the two types of batch processes you can schedule on a machine, and the abbreviations used for the other columns in the list.

- **DEFAULT SETTINGS**: displays the processing status of each Rendering or Vectorizing machine in the network.

The following table describes the contents of the `SCHEDULE STATUS` list.

Column Title	Description
`Machine`	The first column displays the name of the networked machine that is configured to accept batch processing jobs.
`Status`	This second column indicates whether the machine is available for batch processing. **ON**: the machine is scheduled to batch process. **OFF**: the machine is not scheduled (for the time you specified) to batch process.

`vec`
 	
`ren`
	The third and fourth columns list the type of batch processing the machine is scheduled to do (**Vectorize** batch processing and/or **Render** batch processing).
	
	If an asterisk (*) appears in these columns for a machine, then this type of batch processing is scheduled for this machine.
	
	If a machine is scheduled to do both types of batch processing, the machine performs both types alternatively; it processes an entry from the **Vectorize Queue**, vectorizes the data, and then takes an entry from the **Render Queue**.

`environments`	This fifth column displays the environments that are scheduled to be batch processed on a machine. The schedule batch processes only the data from the environments listed in this column.
`pri`	This sixth column displays the priority level for batch processing on a machine. You can prioritize environments so that one machine can perform the batch processing before another. If an asterisk (*) appears in the `pri` column, the environments are prioritized for that machine. The priority order for the environments appears in the `environments` column (reads from left to right, highest to lowest priority).
`Time of Last Update`	The Default Schedule also indicates the last time the schedule was modified for each machine. This final column displays the date and time of the last time the default schedule was modified for each machine.

Modifying Default Schedules

When you are ready to modify your default schedule, you need to specify the following pieces of information:

- the machine(s) you want to update
- the type of batch processing work you want to assign
- the environments to process

After you modify the default schedule, you can use the **Showdef** command to view your changes. For more information on viewing the Default Schedule using the **Showdef** command, see Displaying Default Schedules on page 99.

To modify a Default Schedule, follow these steps:

1. In a Terminal, Command Prompt or Linux shell, type **Setdef** and press [Enter]. The system prompts you for the machine or machines whose Default Schedule you want to modify.

   ```
   INPUT A SINGLE MACHINE NAME, THE PREFIX OF A MACHINE NAME, OR all [all]:
   ```

2. Select the machines you want to modify by typing the name of a single machine, a prefix (to select a range of machines that start with the same prefix), or **all** to modify all the Default Schedules for all the machines.

   If you press [Enter] without specifying a machine, the command uses the machine name that appears in brackets.

If you type a prefix, a list of machines that contain that prefix appears. Type the numbers that correspond to the machines you want to modify.

For example, if you have three machines that start with "hi", you can type **hi** as a prefix. The system would then display a list of all the machines that start with "hi":

```
input a set of machines, or hit return to indicate all these
machines:

1 = hickey, 2 = highlander, 3=high-definition
```

You can either press [Enter] to select all the machines in the list or you can select certain machines by typing their corresponding numbers.

The command asks if you want to modify the Default Schedule for more machines.

```
DO YOU WANT TO INPUT MORE MACHINES (y/n) [n]:
```

3. Decide if you want to modify the Default Schedule on other machines.

- Type **y** to select more machines and press [Enter]. The system prompts you to select other machines (see step 1 of this procedure).

- Type **n** to not select any more machines and press [Enter].

   The system prompts you to select if you want vectorizing work performed on the machine.

   ```
   INPUT TYPE OF WORK ALLOWED is vectorize work allowed (y/n) [yes]
   ```

4. Select if you want the machines to perform vectorizing work on the selected machines.

- Type **y** to schedule Vector batch processing and press [Enter].

- Type **n** to not schedule Vector batch processing and press [Enter].

- If you press [Enter] without entering **y** or **n**, the prompt uses the answer shown in brackets.

   The system then prompts you to select if you want rendering work performed on the machine.

   ```
   is render work allowed (y/n) [yes]
   ```

5. Select if you want the machines to perform rendering work on the selected machines.

- Type **y** to schedule Render batch processing and press [Enter].

- Type **n** to not schedule Render batch processing and press [Enter].

- If you press [Enter] without entering **y** or **n**, the prompt uses the answer shown in brackets.

  You are prompted to select the environments to be scheduled for batch processing.

  ```
  INPUT A SET OF DATABASE ENVIRONMENTS

  1 = Production, 2 = Tutorials, 3 = Commercials default - [Production Commercials]
  ```

  All the environments in your system appear in this list, each one assigned to a number.

6. Type the number that corresponds to the environment(s) you want to schedule and press [Enter]. If you press [Enter] without typing anything, the system uses the environments listed in brackets.

   If you select more than one environment, the system asks if you want to establish a priority.

   ```
   should processing of the DBenv's be prioritized? (y/n) [yes]
   ```

   You can prioritize your environments so that batch processing works on the highest priority environment first. If you do not define a priority, the batch processing does an equal amount of work for each environment.

   The order in which you type the environment numbers can determine their batch processing priority in the schedule (the first environment you type has the highest priority). However, the order in which you type the environments is not important if you don't want to prioritize the environments (by answering **no** to the system prompt).

   In this example, if you want to schedule only the **Production** and **Tutorials** environments for batch processing, you would type: **1 2**, indicating that **Production** has a higher priority than **Tutorials** for batch processing.

7. Select if you want to assign a priority to the environments you selected. If you press [Enter] without entering anything, the system uses the answer shown in brackets.

- Type **y** to prioritize batch processing.

- Type **n** to not prioritize batch processing.

  The system prompts you to schedule the status of the machine(s).

  ```
  input ON or OFF [on]:
  ```

8. Select if you want to apply the Default Schedule right away, making the machines available immediately.

- Type **on** to make the machines available for batch processing according to their defined Default Schedules and press [Enter].

- Type **off** to make the machines unavailable for batch processing, regardless of their defined Default Schedules, and press [Enter].

- If you press [Enter] without entering **on** or **off**, the prompt uses the answer shown in brackets.

The Default Schedule for the specified machines is set. The new schedule appears.

Using Periodic Schedules

The Periodic Schedule is an optional schedule that defines a recurring period of time when a machine will perform batch processing. You can create a Periodic Schedule by specifying a day of the week (Monday, Tuesday, etc.) and the machine will perform batch processing on the specified days for every week.

A Periodic Schedule lists batch processing jobs for which you must define a start and end date, and time. Each job has its own set of batch processing parameters that are independent of the other jobs in the schedule.

For example, you can create a Periodic Schedule for a machine so that it performs batch processing every night from 20:00 that evening to 08:00 the following morning. Therefore, the machine would not perform batch processing work during the day when the users would be present.

The Periodic Schedule is between the Default Schedule and the Supervisory Schedule in terms of priority. If there are no Supervisory Schedules for a machine, or the Supervisory Schedule does not define the work to be done for a particular period of time, the machine uses the Periodic Schedule.

However, if you have an active Supervisory Schedule, the machine follows this schedule before it follows either the Periodic or Default schedules.

Related Topics

- Displaying Periodic Schedules below
- Setting a Periodic Schedule on the facing page
- Clearing a Periodic Schedule on page 108
- Using Default Schedules on page 99.
- Using Supervisory Schedules on page 109.

Displaying Periodic Schedules

When you display a Periodic Schedule, you can see all the batch processing machines that use this schedule and when they are scheduled to perform the batch processing. The Periodic Schedule also displays the type of batch processing work (vectorize or render) and the environments that are scheduled for the processing work.

After you display the Periodic Schedule, you can modify it to change the time, type of batch processing, or environments to process. For more information on modify the Periodic Schedule using the `Setper` command, see Setting a Periodic Schedule on the facing page.

You can only display the Periodic Schedule for one machine at a time.

To display a Periodic Schedule, follow these steps:

1. Type `Showper` in a Linux shell and press [Enter]. The system prompts you for the machine whose Periodic Schedule you want to view.

        INPUT MACHINE [hickey]:

2. Type the name of the machine for which you want to define a Periodic Schedule. If you press [Enter] without specifying a machine, the command uses the machine name that appears in brackets.

You can combine these two steps by adding the name of the machine you want to view at the end of the **Showper** command.

For example, if the machine you want to view is called **hickey**, then you would type the following command in a Linux shell to view its periodic schedule:

Showper hickey

The **Periodic Schedule** for that machine appears.

The Key lists the abbreviations used in the Periodic Schedule.

```
                 PERIODIC SCHEDULE   Tue Dec 11 10:50:03 2007
Key:
vec = Vectorize
ren = Render
tes = test
com = commercials
the = the_show
the = the_movie
tra = training
gro = group_402
pri:   indicates if database environments are prioritized,
       or if each environment is processed with equal priority
_____
                       allowed
   Event     vec ren   environments            pri      Time
_____
begin.ON     *   *    tes the tra gro           *     tue 10:48
   end.ON                                              thu 21:53
_____
   ----last updated   Tue Dec 11 10:50:03 2007
```

The schedule lists when each task starts and stops, the type of batch processing, and the affected environments.

The bottom of the schedule lists the date and time the schedule was last updated for the current machine.

Setting a Periodic Schedule

When you are ready to modify your Periodic Schedule, you need to specify the following pieces of information:

- The machine(s) for which you want to create or update the periodic schedule(s)
- The type of batch processing work you want to assign
- The environments to process
- When to start and stop the batch process

You can add jobs to the schedule if a Periodic Schedule already exists for a particular machine, or you can clear out any pre-existing jobs before setting new jobs in the schedule. You can clear a Periodic Schedule without setting any new jobs (see Clearing a Periodic Schedule on page 108).

To define a Periodic Schedule on a machine, follow these steps:

1. Type **Setper** in a Linux shell and press [Enter]. The system prompts you for the machine or machines whose Periodic Schedule you want to modify.

        INPUT A SINGLE MACHINE NAME, THE PREFIX OF A MACHINE NAME, OR all [all]:

2. Select the machines you want to modify by typing the name of a single machine, a prefix (to select a range of machines that start with the same prefix), or **all** to modify all the Periodic Schedules for all the machines.

   If you press [Enter] without specifying a machine, the command uses the machine name that appears in brackets.

If you type a prefix, a list of machines that contain that prefix appears. Type the numbers that correspond to the machines you want to modify.

For example, if you have three machines that start with "hi", you can type **hi** as a prefix. The system would then display a list of all the machines that start with "hi":

```
input a set of machines, or hit return to indicate all these
machines:

1 = hickey, 2 = highlander, 3=high-definition
```

You can either press [Enter] to select all the machines in the list or you can select certain machines by typing their corresponding numbers.

The command then prompts you to ask if you want to modify the Periodic Schedule on more machines.

```
DO YOU WANT TO INPUT MORE MACHINES (y/n) [n]:
```

3. Decide if you want to modify the Periodic Schedules for other machines.

- Type **y** to select more machines and press [Enter]. The system prompts you to select other machines (see step 1 of this procedure).

- Type **n** to not select any more machines and press [Enter].

   The system prompts you to clear the existing schedule before defining new entries.

```
WOULD YOU LIKE TO CLEAR THE SCHEDULE OF PRE-EXISTING ENTRIES? (y/n) [n]:
```

4. Decide if you want to remove the existing schedule or not.

- Type **y** to remove any existing schedules on the machine(s).

- Type **n** to preserve any existing schedules on the machine(s). The system will add your new entries to the existing set of entries.

   You are then asked if you would like to schedule any new entries.

```
WOULD YOU LIKE TO SCHEDULE ANY ENTRIES? (y/n) [y]
```

5. Decide if you want to schedule new entries in your Periodic schedule or not.

- Type **y** to schedule new entries. Proceed to the next step to define the schedule.

- Type **n** to not schedule any new entries. This cancels the **Setper** command without scheduling any new entries; the command returns you to the shell prompt.

6. If you typed **y** to the previous prompt, the command prompts you activate or deactivate the selected machines.

```
input ON or OFF [on]:
```

- Type **on** to activate the Periodic Schedule for the selected machines.

- Type **off** to deactivate the Periodic Schedule for the selected machines. The machine(s) will not perform any Periodic batch processing, regardless of what the other Periodic entries have been scheduled.

  The system prompts you to select if you want vectorizing work performed on the machine.

  ```
  INPUT TYPE OF WORK ALLOWED is vectorize work allowed (y/n) [no]
  ```

7. Decide if you want the machines to perform vectorizing work on the selected machines.

- Type **y** to schedule Vector batch processing and press [Enter].

- Type **n** to not schedule Vector batch processing and press [Enter].

- If you press [Enter] without entering **y** or **n**, the prompt uses the answer shown in brackets.

  The system then prompts you to select if you want rendering work performed on the machine.

  ```
  is render work allowed (y/n) [yes]
  ```

8. Decide if you want the machines to perform rendering work on the selected machines.

- Type **y** to schedule Render batch processing and press [Enter].

- Type **n** to not schedule Render batch processing and press [Enter].

- If you press [Enter] without entering **y** or **n**, the prompt uses the answer shown in brackets.

  You are prompted to select the environments to be scheduled for batch processing. All the environments in your system appear in this list, each one assigned to a number.

  ```
  INPUT A SET OF DATABASE ENVIRONMENTS

  1 = Production, 2 = Tutorials, 3 = Commercials default - [Production Commercials]
  ```

9. Type the number that corresponds to the environment(s) you want to schedule and press [Enter]. If you press [Enter] without typing anything, the system uses the environments listed in brackets.

  If you select more than one environment, the system asks if you want to establish a priority.

  ```
  should processing of the DBenv's be prioritized? (y/n) [yes]
  ```

  You can prioritize your environments so that batch processing works on the highest priority environment first. If you do not define a priority, the batch processing does an equal amount of work for each environment.

  The order in which you type the environment numbers can determine their batch processing priority in the schedule (the first environment you type has the highest priority). However, the order in which you type the environments is not important if you don't want to prioritize the environments (by answering **no** to the system prompt).

  In this example, if you want to schedule only the **Production** and **Tutorials** environments for batch processing, you would type: **1 2**, indicating that **Production** has a higher priority than **Tutorials** for batch processing.

10. Select if you want to assign a priority to the environments you selected. If you press [Enter] without entering anything, the system uses the answer shown in brackets.

- Type **y** to prioritize batch processing.

- Type **n** to not prioritize batch processing.

  The scheduler prompts you to define the time and day when to start the Periodic batch processing.

  ```
  INPUT BEGIN TIME in 24-hr. format [15:17] input day [wed]:
  ```

11. Type the time (in 24-hour format) and day (in day of the week format) when to begin batch processing and press [Enter].

    If you press [Enter] without entering anything, the scheduler uses the time and day that appear in brackets.

    The scheduler prompts you for the end time.

    ```
    INPUT END TIME in 24-hr. format: input day [thu]:
    ```

12. Type the time (in 24-hour format) and the day (in day of the week format) when to stop the batch processing and press [Enter].

    A summary of the job you just scheduled appears. The scheduler then prompts you to confirm that you want to enter this job in the schedule.

    ```
    HERE IS THE EVENT YOU JUST INPUT:
        Event    vec ren   environments            pri      Time
     begin.ON     *   *     tes the tra gro           *      tue 10:48
        end.ON                                               thu 21:53
    ```

13. Decide if you want create this scheduled job in your Periodic Schedule.

    - Type **y** if you want to add this job into your Periodic Schedule and press [Enter]

    - Type **n** if you do not want to add this job into your Periodic Schedule and press [Enter].

      The scheduler gives you the opportunity to add another job to your Periodic Schedule.

      ```
      DO YOU WANT TO SCHEDULE ANOTHER EVENT (y/n) [y]
      ```

14. Decide if you want to add another job to your Periodic Schedule.

    - Type **y** to add another job and press [Enter]. Repeat steps 7 to 13.

    - Type **n** if you do not want to enter another job and press [Enter].

When you finish add jobs to the Periodic Schedule, a summary of the entire Periodic Schedule appears.

Clearing a Periodic Schedule

If you decide you don't need to have anymore recurring batch jobs, you can clear the scheduled jobs from the Periodic Schedule. Once the Periodic Schedule is empty, the batch jobs in the Default Schedule come into effect.

You can clear existing jobs from a Periodic Schedule without creating any new jobs. However, when you clear a Periodic Schedule, you clear all of the jobs that exist for that schedule.

To clear your Periodic Schedule, simply follow Type Setper in a Linux shell and press [Enter]. The system prompts you for the machine or machines whose Periodic Schedule you want to modify.Decide if you want to remove the existing schedule or not. **listed in** Setting a Periodic Schedule **, then follow these steps:**

1. Type **y** when you reach the following prompt:

   ```
   WOULD YOU LIKE TO CLEAR THE SCHEDULE OF PRE-EXISTING ENTRIES? (y/n) [n]
   ```

2. Type **n** when you reach the following prompt:

   ```
   WOULD YOU LIKE TO SCHEDULE ANY ENTRIES? (y/n) [y]
   ```

   This clears the Periodic Schedule and displays an empty schedule, confirming that the system cleared the jobs.

```
                PERIODIC SCHEDULE  Tue Dec 11 11:09:48 2007
Key:
vec = Vectorize
ren = Render
tes = test
com = commercials
the = the_show
the = the_movie
tra = training
gro = group_402
pri:   indicates if database environments are prioritized,
       or if each environment is processed with equal priority

_____
                        allowed
    Event   vec ren  environments           pri     Time
_____
_____
  ----last updated  Tue Dec 11 11:09:48 2007
```

Using Supervisory Schedules

A Supervisory Schedule forces a machine to perform batch processing for a non-recurring period of time. This type of schedule, like the Periodic Schedule, is optional. If you have a Supervisory Schedule active for a period of time, the machine performs batch processing according to that schedule before it references the Periodic or Default schedules.

For example, you could force a machine to perform only Vectorize batch processing for the next 4 hours, ignoring any other scheduled type of batch processing during that time.

A Supervisory Schedule consists of a list of batch processing jobs for which you must define a start and end date and time. Each job has its own set of batch processing parameters that are independent of the other jobs in the schedule.

The Supervisory Schedule holds the highest priority level, superseding the Periodic Schedule and Default Schedule. Therefore, if you have an active Supervisory Schedule, the machine follows this schedule before it follows either the Periodic or Default schedules.

Related Topics

- Displaying Supervisory Schedules below
- Setting a Supervisory Schedule on the next page
- Clearing a Supervisory Schedule on page 113
- Using Default Schedules on page 99.
- Using Periodic Schedules on page 103.

Displaying Supervisory Schedules

When you display a Supervisory Schedule, you can see all the batch processing machines that use this schedule and when they are scheduled to perform the batch processing. The Supervisory Schedule also displays the type of batch processing work (vectorize or render) and the environments that are scheduled for the processing work.

After you display the Supervisory Schedule, you can modify it to change the time, type of batch processing, or environments to process. For more information on modifying the Supervisory Schedule using the `Setsup` command, see Setting a Supervisory Schedule on the next page.

You can display the Supervisory Schedule for only one machine at a time.

To display a Supervisory Schedule, follow these steps:

1. Type `Showsup` in a Linux shell and press [Enter]. The system prompts you for the machine whose Supervisory Schedule you want to view.

   `INPUT MACHINE [hickey]:`

2. Type the name of the machine for which you want to define a Supervisory Schedule. If you press [Enter] without specifying a machine, the command uses the machine name that appears in brackets.

You can combine these two steps into one by adding the name of the machine you want to view at the end of the `Showsup` command.

For example, if the machine you want to view is called `hickey`, then you would type the following command in a Linux shell to view its Supervisory Schedule.

`Showsup hickey`

The **Supervisory Schedule** for the machine appears.

The Key lists the abbreviations used in the Supervisory Schedule.

```
            SUPERVISORY SCHEDULE   Tue Dec 11 11:15:22 2007
Key:
vec = Vectorize
ren = Render
tes = test
com = commercials
the = the_show
the = the_movie
tra = training
gro = group_402
pri:    indicates if database environments are prioritized,
        or if each environment is processed with equal priority


_____
                        allowed
    Event    vec ren  environments            pri      Time
_____
  begin.ON    *   *    tes the gro              *     Tue Dec 11 21:00:00 2007
    end.ON                                            Wed Dec 12 07:00:00 2007
  begin.ON    *   *    tes com the tra          *     Wed Dec 12 15:00:00 2007
    end.ON                                            Fri Dec 14 16:30:00 2007
_____
   ----last updated   Tue Dec 11 11:15:22 2007
```

The schedule lists when each task starts and stops, including the type of batch processing and the affected environments.

The bottom of the schedule lists the date and time the schedule was last updated for the current machine.

Setting a Supervisory Schedule

When you are ready to modify your Supervisory Schedule, you need to specify the following:

- The machine(s) for which you want to create or update the supervisory schedule(s)
- The type of batch processing work you want to assign
- The environments to process
- When to start and stop the batch process

You can add jobs to the schedule if a Supervisory Schedule already exists for a particular machine, or you can clear out any pre-existing jobs before setting new jobs in the schedule. You can clear a Supervisory Schedule without setting any new jobs (see Clearing a Supervisory Schedule on page 113).

To define a Supervisory Schedule on a machine, follow these steps:

1. Type **Setsup** in a Linux shell and press [Enter]. The system prompts you for the machine or machines whose Supervisory Schedule you want to modify.

   INPUT A SINGLE MACHINE NAME, THE PREFIX OF A MACHINE NAME, OR all [all]:

2. Select the machines you want to modify by typing the name of a single machine, a prefix (to select a range of machines that start with the same prefix), or **all** to modify all the Supervisory Schedules for all the machines.

   If you press [Enter] without specifying a machine, the command uses the machine name that appears in brackets.

If you type a prefix, a list of machines that contain that prefix appears. Type the numbers that correspond to the machines you want to modify.

For example, if you have three machines that start with "hi", you can type **hi** as a prefix. The system would then display a list of all the machines that start with "hi" :

> **input a set of machines, or hit return to indicate all these machines:**
>
> **1 = hickey, 2 = highlander, 3=high-definition**

You can either press [Enter] to select all the machines in the list or you can select certain machines by typing their corresponding numbers.

The command then prompts you to ask if you want to modify the Supervisory Schedule on more machines.

> **DO YOU WANT TO INPUT MORE MACHINES (y/n) [n]:**

3. Decide if you want to modify the Supervisory Schedules for other machines.

- Type **y** to select more machines and press [Enter]. The system prompts you to select other machines (see step 1 of this procedure).

- Type **n** to not select any more machines and press [Enter].

  The system prompts you to clear the existing schedule before defining new entries.

  > **WOULD YOU LIKE TO CLEAR THE SCHEDULE OF PRE-EXISTING ENTRIES? (y/n) [n]:**

4. Decide if you want to remove the existing schedule or not.

- Type **y** to remove any existing schedules on the machine(s).

- Type **n** to preserve any existing schedules on the machine(s). The system will add your new entries to the existing set of entries.

  You are then asked if you would like to schedule any new entries.

  > **WOULD YOU LIKE TO SCHEDULE ANY ENTRIES? (y/n) [y]**

5. Decide if you want to schedule new entries in your Supervisory schedule or not.

- Type **y** to schedule new entries. You can proceed to the next step to define the schedule.

- Type **n** to not schedule any new entries. This cancels the **Setsup** command without scheduling any new entries; the command returns you to the shell prompt.

6. If you typed **y** to the previous prompt, the command prompts you activate or deactivate the selected machines.

```
input ON or OFF [on]:
```

- Type **on** to activate the Supervisory Schedule for the selected machines.

- Type **off** to deactivate the Supervisory Schedule for the selected machines. The machine(s) will not perform any Supervisory batch processing, even if the Supervisory schedule has jobs in it.

The system prompts you to select if you want vectorizing work performed on the machine.

```
INPUT TYPE OF WORK ALLOWED is vectorize work allowed (y/n) [no]
```

7. Decide if you want the machines to perform vectorizing work on the selected machines.

- Type **y** to schedule Vector batch processing and press [Enter].

- Type **n** to not schedule Vector batch processing and press [Enter].

- If you press [Enter] without entering **y** or **n**, the prompt uses the answer shown in brackets.

The system then prompts you to select if you want rendering work performed on the machine.

```
is render work allowed (y/n) [yes]
```

8. Decide if you want the machines to perform rendering work on the selected machines.

- Type **y** to schedule Render batch processing and press [Enter].

- Type **n** to not schedule Render batch processing and press [Enter].

- If you press [Enter] without entering **y** or **n**, the prompt uses the answer shown in brackets.

You are prompted to select the environments to be scheduled for batch processing. All the environments in your system appear in this list, each one assigned to a number.

```
INPUT A SET OF DATABASE ENVIRONMENTS

1 = Production, 2 = Tutorials, 3 = Commercials default - [Production Commercials]
```

9. Type the number that corresponds to the environment(s) you want to schedule and press [Enter]. If you press [Enter] without typing anything, the system uses the environments listed in brackets.

If you select more than one environment, the system asks if you want to establish a priority.

```
should processing of the DBenv's be prioritized? (y/n) [yes]
```

You can prioritize your environments so that batch processing works on the highest priority environment first. If you do not define a priority, the batch processing does an equal amount of work for each environment.

The order in which you type the environment numbers can determine their batch processing priority in the schedule (the first environment you type has the highest priority). However, the order in which you type the environments is not important if you don't want to prioritize the environments (by answering **no** to the system prompt).

In this example, if you want to schedule only the **Production** and **Tutorials** environments for batch processing, you would type: **1 2**, indicating that **Production** has a higher priority than **Tutorials** for batch processing.

10. Select if you want to assign a priority to the environments you selected. If you press [Enter] without entering anything, the system uses the answer shown in brackets.

- Type **y** to prioritize batch processing.

- Type **n** to not prioritize batch processing.

  The scheduler prompts you to define the time and day when to start the Supervisory batch processing.

  ```
  INPUT BEGIN TIME in 24-hr. format [15:17] input day [wed]:
  ```

11. Type the time (in 24-hour format) and day (in day of the week format) when to begin batch processing and press [Enter].

    If you press [Enter] without entering anything, the scheduler uses the time and day that appear in the brackets.

    The scheduler prompts you for the end time.

    ```
    INPUT END TIME in 24-hr. format: input day [thu]:
    ```

12. Type the time (in 24-hour format) and the day (in day of the week format) when to stop the batch processing and press [Enter].

    If you press [Enter] without entering anything, the scheduler uses the time and day that appear in the brackets.

    A summary of the job you just scheduled appears. The scheduler then prompts you to confirm that you want to enter this job in the schedule.

    ```
    HERE IS THE EVENT YOU JUST INPUT:
        Event    vec ren  environments          pri       Time
     begin.ON     *   *   tes the gro            *     Tue Dec 11 21:00:00 2007
        end.ON                                        Wed Dec 12 07:00:00 2007
    ```

13. Decide if you want create this scheduled job in your Supervisory Schedule.

- Type **y** if you want to add this job into your Supervisory Schedule and press [Enter]

- Type **n** if you do not want to add this job into your Supervisory Schedule and press [Enter].

  The scheduler gives you the opportunity to add another job to your Supervisory Schedule.

  ```
  DO YOU WANT TO SCHEDULE ANOTHER EVENT (y/n) [y]
  ```

14. Decide if you want to add another job to your Supervisory Schedule.

- Type **y** to add another job and press [Enter]. Repeat steps 7 to 13.

- Type **n** if you do not want to enter another job and press [Enter].

When you finish add jobs to the Supervisory Schedule, a summary of the entire Supervisory Schedule appears.

Clearing a Supervisory Schedule

If you decide you don't need to set a Supervisory Schedule for your batch processing jobs, you can clear the scheduled jobs from the Supervisory Schedule. Once the Supervisory Schedule is empty, the batch processing jobs in the Periodic and Default Schedules come into effect.

You can clear existing jobs from a Supervisory Schedule without creating any new jobs. However, when you clear a Supervisory Schedule, you clear all of the jobs that exist for that schedule.

To clear your Supervisory Schedule, simply follow Type Setsup in a Linux shell and press [Enter]. The system prompts you for the machine or machines whose Supervisory Schedule you want to modify. to Step3Decide if you want to remove the existing schedule or not. listed in Setting a Supervisory Schedule on page 110, but type **y** when you reach the following prompt:

```
WOULD YOU LIKE TO CLEAR THE SCHEDULE OF PRE-EXISTING ENTRIES? (y/n) [y]
```

This clears the Supervisory Schedule and displays an empty schedule, confirming that the system cleared the jobs.

```
            SUPERVISORY SCHEDULE   Tue Dec 11 11:22:10 2007
Key:
vec = Vectorize
ren = Render
tes = test
com = commercials
the = the_show
the = the_movie
tra = training
gro = group_402
pri:   indicates if database environments are prioritized,
       or if each environment is processed with equal priority

_____
                      allowed
   Event   vec ren  environments            pri     Time
_____
_____
  ----last updated  Tue Dec 11 11:22:10 2007
```

Shutting Down and Starting Up Environments

In some cases, you must shut down a machine so that it does not process any batch Jobs from an Environment or for a specific amount of time. For example, to shut down batch processing for all Environments on a single machine so that you can reboot that machine. Or you can shut down one Environment on all machines so you can move scenes in that Environment to other machines.

To determine if an Environment is shut down on a particular machine, type **Status** in a Command Shell or Terminal. If you see an asterisk (*) in the **SD** column for a particular machine, this means at least one Environment is shut down on that machine.

You can view the Supervisory and Periodic schedules for the shut down machines to isolate which Environments are shut down.

Related Topics

- Using Supervisory Schedules on page 109.

- Using Supervisory Schedules on page 109.

Shutting Down Environments

When you shut down an Environment, this overrides whatever was scheduled for that Environment (for all three types of schedules). The Environment remains shut down until you reinstate it by typing **Suenv** command in a Command Shell or Terminal (see Starting Up Environments on the facing page). You can shut down multiple Environments on multiple machines, from any machine in the network.

When shutting down an Environment, the command prompts you for the Environments you want to close and the machines on which you want them to be shut down.

To shut down an Environment on a machine, follow these steps:

1. Type **Sdenv** in a Command Shell or Terminal. The command prompts you for the Environments to shut down:

       INPUT DATABASES TO BE STOPPED

       INPUT A SET OF DATABASE Environments

        1 = Production, 2 = Tutorials, 3 = Commercials, default = [Production Tutorials Commercials]

All the Environments appear in this list and each one has its own number.

2. Type the number that corresponds to each Environment you want to shut down (separate each number by a space) and press [Enter].

The command prompts you for the machine or machines on which you want the Environments to be shut down:

```
INPUT MACHINE ON WHICH THESE DBENV'S ARE TO BE SHUTDOWN

INPUT A SINGLE MACHINE NAME, THE PREFIX OF A MACHINE NAME, OR all
[hickey]:
```

3. Select which machines should not process the shut down Environment by typing the name of a single machine, a prefix (to select a range of machines that start with the same prefix), or **all** to shut down all the Environments on all the machines.

If you press [Enter] without specifying a machine, the command uses the machine name that appears in brackets.

If you type a prefix, a list of machines that contain that prefix appears. Type the numbers that correspond to the machines you want to shut down.

For example, if you have three machines that start with "hi", you can type **hi** as a prefix. The system would then display a list of all the machines that start with "hi":

```
input a set of machines, or hit return to indicate all these
machines:1 = hickey, 2 = highlander, 3=high-definition
```

Either press [Enter] to select all the machines in the list or select machines by typing their corresponding numbers.

The command then prompts you to ask if you want to shut down more machines.

```
DO YOU WANT TO INPUT MORE MACHINES (y/n) [n]:
```

4. Decide if you want to shut down more Environments and machines.

- Type **y** to select more machines and press [Enter].

- Type **n** to not select any more machines and press [Enter].

When you finish, a summary of the shutdown appears:

```
here are the 3 machines you input: hickey weiner garneau

ALL MACHINES HAVE REPORTED. SHUT DOWN COMPLETE.
```

The **Sdenv** command waits for a response from all the selected machines. The **Sdenv** command does not terminate a batch process that is currently running on a machine. If a machine is currently performing a batch process, it will not shut down until it completes the queue entry.

Starting Up Environments

When you are ready to re-start the batch process on an Environment that was shut down, you can use the **Suenv** command. When you restart an Environment, the command prompts you for the Environments you want to start up and the machines you want them to start running on.

> If you accidentally restart an environment that is already active, nothing happens.

To start up an environment, follow these steps:

1. Type **Suenv** in a Command Shell or Terminal and press [Enter]. The command prompts you for the Environments you want to restart:

   ```
   INPUT DATABASES TO BE STARTEDINPUT A SET OF DATABASE Environments

    1 = Production, 2 = Tutorials, 3 = Commercials, default = []
   ```

   All the Environments in your system appear in this list and each one has a number.

2. Type the numbers that correspond to each Environment you want to restart (separate each number by a space) and press [Enter].

   You are prompted for the machine or machines to want to process the Environments:

   ```
   INPUT MACHINE ON WHICH THESE DBENV'S ARE TO BE STARTED

   INPUT A SINGLE MACHINE NAME, THE PREFIX OF A MACHINE NAME, OR all
   [hickey]:
   ```

3. At the prompt, select which machines should process the Environment by typing the name of a single machine, a prefix (to select a range of machines that start with the same prefix), or **all** to restart all the Environments on all the machines.

   If you press [Enter] without specifying a machine, the command uses the machine name that appears in brackets.

> If you type a prefix, a list of machines appears that contain that prefix. Type the numbers that correspond to the machines you want to restart.
>
> For example, if you have three machines that start with "hi", you can type **hi** as a prefix. The system would then display a list of all the machines that start with "hi":
>
> ```
> input a set of machines, or hit return to indicate all these
> machines:
>
> 1 = hickey, 2 = highlander, 3=high-definition
> ```
>
> Either press [Enter] to select all the machines in the list or select machines by typing their corresponding numbers.

The command then ask if you want to restart Environments on more machines.

```
DO YOU WANT TO INPUT MORE MACHINES (y/n) [n]:
```

4. Decide if you want to restart Environments on more machines.

- Type **y** to select more machines and press [Enter].

- Type **n** to not select any more machines and press [Enter].

When you finish, a summary of the started machines appears:

```
here are the 3 machines you input: hickey weiner garneau
```

```
ALL MACHINES HAVE REPORTED. STARTUP COMPLETE.
```

A Summary of Scheduling Commands

The following table summarizes the batch processing scheduling commands and parameters that were covered in more detail in this chapter.

Command	Effect
`Status`	Displays the Schedule Status (default for all machines). **Options** `[machine]`: limits the display to specified machines (separate machine names with spaces). `[prefix]`: limits the display to machines with specified prefix.
`Showdef`	Displays Default Schedules.
`Setdef`	Modifies Default Schedules.
`Showper`	Displays Periodic Schedule (for a single machine only). **Options** `[machine]`: specifies the machine for which you wish to display the Periodic Schedule.
`Setper`	Sets and/or clears Periodic Schedules.
`Showsup`	Displays Supervisory Schedule (for a single machine only). **Options** `[machine]`: specifies the machine for which you wish to display the Supervisory Schedule.
`Setsup`	Sets and/or clears Supervisory Schedules.
`Sdenv`	Shuts Down environments.
`Suenv`	Starts Up environments.
`start_process_starter`	Starts Process running on a machine (you must be logged into the machine, and should be SuperUser when running this command).
`tail -options file`	Displays last 10 lines of specified file (Linux). **Options** `-n`: specifies the number of line from the file to display `-f`: Updates the display as the file changes (must use [Ctr]l + [C] or [Break] key to quit)

Command	Effect
`ps`	Displays active processes of current user (Linux). **Options** `-f`: displays full listing `-u` [username]: limits display to specified Linux user name