Getting current Precise for Sybase application information

This section includes the following topics:

About the Current tab

The Current tab displays near real-time information on all sessions that were connected to your Sybase database during the last minute. If you have recognized an immediate performance issue and are looking for an indication as to where to begin your analysis, start with the Current tab. It is also worthwhile to start with the Current tab if your system appears to hang and there is no throughput.

You can use this tab to monitor your system's current activities and resource consumption and to identify performance problems, such as current locking problems and sessions involved in locks, as they occur.

The Current tab provides answers to the following types of questions: "How many sessions are currently running?" or "Why doesn't my application work when I click OK?" The Current tab also shows you which sessions are currently active, and which machines are connected to which users.

Using the Current tab, you can monitor current connections to your Sybase instance, check the state of each connection, and identify the resources currently utilized by each session. Further investigation of each session provides a thorough understanding of the SQL statement being executed, the login name executing the statement, the program, and the resource utilization for the session. In addition, you can view the statements and batches executed by the selected session within the last time slice.

In the Current tab, data on a current session is continuously updated to provide information on what happened during the last minute or time slice. Because the displayed session information is derived from a dynamic application, it is recommended to regularly refresh the screen, either manually or automatically, to ensure that the information displayed is up-to-date.

> The Current tab displays information on the last minute of activity. For example, if you have worked at your screen for ten minutes and then refresh the information displayed on your screen, you will be able to view new information that occurred during the last minute of activity.

See About the Dashboard tab.

How the Current tab is structured

The Current tab displays information on a selected entity and its associated entities. For example, if the parent entity is a Session, its associated entities would be Statements or Batches.

When you open the Current tab from the Dashboard tab, the selected entity is by default Instance, meaning that information is displayed on the instance level. When you open the Current tab from the Activity tab, the tab is launched with the selected instance or entity (in the case of an entity, this is only valid for the database entity), meaning that the information is displayed on the instance or entity level. If you open the Current tab from another tab, the historical settings (meaning those settings which were selected when you left the tab, such as a drill-down to a Locked Objects entity) are taken into account and the information displayed the last time you viewed this tab is displayed (similar to clicking the History button and returning to a previous tab).

The selected entity is always reflected in the Tab heading, which serves as a point of orientation. The highest-level entity you can view information for in the Current tab is Instance. You can view another instance by selecting it from the Instance list.

About the Main area in the Current tab

The Main area shows comprehensive information on the selected entity, such as the In Sybase data for the last minute, and the number of active sessions.

About the Association area in the Current tab

The Association area provides corresponding information on the entities associated with the selected entity (displayed in the Main area). For example, you can associate to the Active Sessions related to the selected instance. The selection you make is reflected in the Association area only; the Main area remains unchanged. For some entities, tabs above the Association area enable you to view additional information. For example, the tabs displayed for a database are: General, In Sybase and Statistics. Clicking a tab displays different table columns with the same type of child entities.

From the Association area, you can also drill down to another entity by clicking a table row. A drilldown affects the entire tab. When you drill down to another entity, the Tab heading displays the new selection, the Main area displays information on the newly selected entity, and the Association area displays the entities associated with the selected entity.

For example, when you want to view information on a specific session, in the Current tab, choose Sessions from the Association controls. The Association area changes to display sessions-related information. Note that the Tab heading and the Main area remain unchanged.

In the Association area, click the row of the session that you want to view detailed information for. The Tab heading indicates the newly selected entity; the Main area displays detailed information on the session you drilled down to, and the Association area shows information on the statements associated with this session.

See About Precise for Sybase tabs and About the Dashboard tab.

About the entities you can examine in the Current tab

The Current tab displays information on different entities. This section provides an overview of all entities, their meaning, and their views.

The following entities can be examined in the Current tab:

- Instance entities
- Database entities
- Session entities
- Statement and Batch entities

About the Instance entity

The Instance entity displays information on the resource consumption of the entire instance and allows you to focus on how it is performing, during the last minute.

About getting an overview of current Instance entities

The Overview displays information on the activity of the instance, such as number of sessions and the resource consumption breakdown of the instance.

The table below describes the information displayed in the Instance overview.

Table 1 Instance overview

View Area	Description
Sessions	Displays the following session-related information: • **Sessions**. Indicates the number of sessions (different SPIDs) that were connected to the Sybase instance during the last sample. • **Active Sessions**. Number of sessions (different SPIDs) connected to the Sybase instance during the last sample that were not in a state that is not part of the In Sybase group. • **Locked Sessions**. Number of blocked sessions in the last sample.
Statistics	Displays information on the following statistical parameters: • **CPU Time**. Cumulative CPU time for all sessions connected to the instance during the last minute. • **Physical I/O**. The total number of physical I/O requests performed by all sessions connected to the instance during the last minute. • **Memory Pages Used**. Displays the total number of memory pages, currently used by all of the open sessions.
In Sybase (Last Minute)	Displays the resource consumption breakdown of the instance during the last minute (that is, 60 samples of the Collector agent). In addition to the resource distribution, the view displays the number of sessions in each state during the last sample. It is important to remember that since this view only displays last minute's activities, you will always be viewing the activities that occurred during the last minute and not the activities that occurred since the last refresh action. The following information is displayed: • **State**. Displays the In Sybase state. • **In Sybase**. Graphical representation of the Time column. • **Time**. Amount of time the selected entity was in this state. • **%**. Percentage of time the selected entity was in this state. • **Sessions (Last Sample)**. Current number of sessions in the specified state. For example, there are currently three sessions experiencing a Lock Wait state. All the information displayed in this table represents information collected during the last minute, with the exception of the Sessions column, which represents the number of sessions, in the last sample, that were in a particular state.

See About session states.

About the Database entity

The Database entity displays information on the activity and resource consumption of the database, including the number of sessions connected to the database during the last sample taken, various session-related statistics and the database resource consumption breakdown for the last minute.

About getting an overview of current database activities

The Overview displays information on the activity and resource consumption of the database, including the number of sessions connected to the database during the last sample taken, various session-related statistics and the database resource consumption breakdown for the last minute.

The table below describes the information displayed in the Database overview.

Table 2 Database entity overview

View Area	Description
Session	Displays the following session-related information: • **Sessions**. Number of sessions (different SPIDs) that were connected to the database during the last sample. • **Active Sessions**. Number of sessions (different SPIDs) connected to the database during the last sample that were not in Request Wait state. • **Locked Sessions**. Number of blocked sessions connected to the database during the last sample.
Statistics	Displays information on the following statistical parameters: • **CPU Time**. Cumulative CPU time for all sessions connected to the database during the last minute. • **Physical I/O**. Total number of physical I/O requests performed by all sessions connected to the database during the last minute. • **Memory Pages Used (Total)**. Displays the total memory (in pages) consumed by all sessions that were opened in Sybase during the last 15 minutes and were connected to the current database.
In Sybase (Last Minute)	Displays the resource consumption breakdown of the database during the last minute (that is, 60 samples of the Collector agent). In addition to the resource distribution, the view displays the number of sessions in each state during the last sample. It is important to remember that since this view only displays the last minute's activities, you will always be viewing the activities that occurred during the last minute and not the activities that occurred since the last refresh action. The following information is displayed: • **State**. Displays the In Sybase state. • **In Sybase**. Graphical representation of the Time column. • **Time**. Amount of time the selected entity was in this state. • **%**. Percentage of time the selected entity was in this state. • **Sessions (Last Sample)**. Current number of sessions in the specified state. For example, there are currently three sessions experiencing a Lock Wait state. All the information displayed in this table represents information collected during the last minute, with the exception of the Sessions column, which represents the number of sessions in the last sample that were in a particular state.

See About session states.

About the Session entity

The Session entity displays information on a single connection with Sybase. Precise for Sybase identifies a session by the following attributes:

- **System Process ID (SPID)**. A unique integer assigned to each user connection when the connection is made.
- **Host Process (PID)**

When one of these attributes changes, a new session is recorded and displayed.

About getting an overview of a session entity

The Overview displays information on the session identifier's connection details, session-related statistics and a breakdown of session resource consumption, during the last minute.

The table below describes the information displayed in the Session overview.

Table 3 Session overview

View Area	Description

Session Tab	Displays information on the following session identifiers: • **State**. Current state of the session. • **In Sybase**. Graphical representation of the Time column. Text -Text of the statement which is currently running. • **Status**. Current status of the session as reported by Sybase. The Session status can be one of the following: • **Alarm sleep**. Waiting for alarm to wake process up. • **Background**. A process, such as a threshold procedure, run by Adaptive Server rather than by a user process. • **Infected**. Server has detected a serious error condition; extremely rare. • **Latch sleep**. Waiting on a latch acquisition. • **Lock sleep**. Waiting on a lock acquisition. • **PLC sleep**. Waiting to access a user log cache. • **Recv sleep**. Waiting on a network read. • **Remote I/O**. Performing I/O with a remote server. • **Runnable**. In the queue of runnable processes. • **Running**. Actively running on one of the server engines. • **Send sleep**. Waiting on a network send. • **Sleeping**. Waiting on a disk I/O, or some other resource (often indicates a process that is running, but doing extensive disk I/O). • **Stopped**. Stopped process. • **Sync sleep**. Waiting on a synchronization message from another process in the family. • **Last Batch Time**. If the session is currently executing a batch, this field displays the time the batch started; otherwise it displays the time the previous batch finished executing. Idle Time -Time elapsed since last batch. • **Parallel Sessions**. Current number of sub-threads used to execute a batch in parallel. This counter is calculated from the fid column in the `sysprocesses`. It enables you to verify that Sybase uses the best execution plan for the current statement. • **Blocked By**. If the session is blocked by another session, displays the SPID of the blocker session.
Connection Tab	A connection includes session identifiers, such as database, login, machine and user, as reported by the `sysprocesses`. The following information is displayed: • **Session status**. Current status of the session as reported by Sybase. • **Last Batch Time**. If the session is currently executing a batch, this field displays the time the batch started; otherwise it displays the time the previous batch finished executing. • **Idle Time**. Time elapsed since last batch.
In Sybase (Last Minute)	Displays the resource consumption breakdown of the session during the last minute (that is, 60 samples of the Collector agent). It is important to remember that since this view only displays the last minute's activities, you will always be viewing the activities that occurred during the last minute and not the activities that occurred since the last refresh action. The following information is displayed: • **In Sybase**. Graphical representation of the Time column. • **Time**. Amount of time the selected entity was in this state. • **%**. Percentage of time the selected entity was in this state.
Locks Tab	Displays information on the current session locks that exists in the instance. Contains the following information on each session: • **Blocked by**. If the session is blocked by another session, displays the SPID of the blocker session. • **Blocker user/program**. • **Locking chain**. For more than one locked session. • **Lock wait**. Lock duration.
Statistics Tab	Displays information on the following statistical parameters: • **CPU Time**. CPU time for the sessions during the last minute. • **Physical I/O Operations**. Total number of physical I/O requests performed by the session during the last minute. • **Memory Pages Used**. Number of pages in the procedure cache that are currently allocated to the SPID.

See About session states.

About viewing the current statement's text

The Text view displays the text of the current statement. If the session is not active and executing a statement, a message notifying you that the session is not active and that no text is available, is displayed.

About Statement and Batch entities

The Statement and Batch entities display information on a SQL statement that was executed by the selected session during the last time slice.

About getting an overview of current Statement and Batch entities

Displays general information on the statement or batch, including overall statement properties, the breakdown of the statement In Sybase during the last time slice, and some statistics regarding the resource consumption of the statement.

When the selected entity is a Batch, the information area displays the entire text of the improvised batch or stored procedure. When the selected entity is a Statement, the information area only displays the part of the batch text that forms the statement.

The table below describes the information displayed in the Statement or Batch overview.

Table 4 Statement or Batch overview

Parameter	Description
Statement /Batch ID	Internal statement hash value (SHV) calculated by the Collector agent.
Database	Identifies the database on which the statement or batch is run. This information is used by Precise for Sybase to display the statement's execution plan.
User	Displays the parsing user who runs the statement or batch. This information is used by Precise for Sybase to display the statement's execution plan.
Executions	Number of times the Collector agent identifies that the statement or batch was executed.
Duration	Total time required to execute the selected statement or batch during the last time slice.
Duration (Avg)	Average duration of each statement execution during the last time slice.
CPU Time	Cumulative CPU time for the statement during the last time slice.
Physical I/O Operations	Total number of physical I/O requests during the execution of the statement or batch during the last time slice.
Parallel Sessions (Min)	Minimum number of threads used to execute the statement or batch in parallel. This counter is calculated from the fid column in `syspro cesses`. This enables you to verify that Sybase is using the best execution plan for the current statement.
Parallel Sessions (Max)	Maximum number of threads used to execute the statement or batch in parallel. This counter is calculated from the fid column in `syspro cesses`. This enables you to verify that Sybase is using the best execution plan for the current statement.
In Sybase (Last minute)	Displays the resource consumption breakdown of the statement or batch during the last minute (that is, 60 samples of the Collector agent). In addition to the resource distribution, the view displays the number of sessions in each state during the last sample. It is important to remember that since this view only displays the last minute's activities, you will always be viewing the activities that occurred during the last minute and not the activities that occurred since the last refresh action. The following information is displayed: • **State**. Displays the In Sybase state. • **In Sybase**. Graphical representation of the Time column. • **Time**. Amount of time the selected entity was in this state. • **%**. Percentage of time the selected entity was in this state.

See How information is collected.

About viewing current Statement or Batch text

Displays text of the selected statement or batch.

About the Statement and Batch Association area

It is possible to view statement or batches in the Association area while drilling down from a single session. The table includes only statements or batches that were executed during the last time frame. A time frame is a 15-minute interval. If a statement or batch was executed in an earlier time frame, this statement or batch no longer appears in the Current tab. Instead, you can view information on this statement or batch in the Activity tab.

The table below describes the information displayed in the Association area, when viewing a statement or batch entity.

Table 5 Statement/Batch Association table

Association Tab	Function
General	Shows general information on the displayed statements or batches.
In Sybase	Shows information on performance and statistics of the displayed statements or batches.

Statistics	Shows statistics of the displayed statements or batches.

See About session states, Understanding In Sybase session states, and Understanding Non-In Sybase session states.

How the Current tab can help you identify performance problems

You can identify a performance problem by doing one or more of the following actions.

Examining the resource consumption of an entire instance and database

The Current tab provides an almost real-time picture of the performance and behavior of your Sybase instance. It displays information on the last minute of activity.

To examine the resource consumption of an entire instance and database

1. Examine the activities of the entire instance level to determine what is happening in your system.
2. Examine the current activity at an instance level of display to see how the system is currently behaving and determine if there is an overall problem that affects all sessions or if there is a problem with specific sessions.
3. Start your investigation in the Overview view of an Instance or Database entity. This will show you a breakdown of resource consumption for the last minute.

Observing session activity

In the Association area you can see which sessions are currently connected to the Instance, or view which sessions are currently using a specific database or holding a specific object.

To observe session activity

1. Observe the current state of the session and determine if it is active or waiting for a resource.
2. Identify the session by different identifiers such as its login, the machine it is running on, or the programs it is running. The current active SQL code is displayed for active sessions.
3. If you have hundreds of sessions running, and you want to focus your investigation on the sessions that were active in Sybase during the last minute, select Active Sessions from the Association Controls in the Association area.

Examining a single connection

You may need to explore a single running SPID, to obtain more information for it. To examine a single connection

1. Drill down to the specific SPID in question. Continue examining its resource breakdown, its recent statements, or the batches in which the session was executed, during the last few minutes.
2. Check if the session is blocked and by whom.