IBM Informix OnLine

Quick Reference Guide

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Note:
Before using this information and the product it supports, read the information in the appendix entitled "Notices."

In This Guide

This guide provides a quick reference to the following IBM Informix OnLine features:

Object/Action

ARCHIVE
ARCHIVE TAPE DEVICE
BLOBSPACE
BUFFERS
CHECKPOINTS
CHUNK
CONFIGURATION
CONSOLE
DATA RESTORE
DATABASE
DBSPACE
FORCED RESIDENCY
LOCKS
LOGICAL LOGS
LOGICAL LOG TAPE DEVICE
MESSAGE LOG FILE
MIGRATING DATA
MIRRORING
MODES
PAGE CLEANERS
PAGE SIZE
PHYSICAL LOG
RESTORE DATA
ROOT DBSPACE
SERVER NAME
SERVER NUMBER
SERVER PROCESS
SHARED-MEMORY BASE ADDRESS
TBLSPACES
TRANSACTIONS
USERS

Object

ARCHIVE HISTORY
BLOBS IN BLOBSPACE
BLOBS IN DBSPACE
BUFFERS
CACHE PERCENTAGES
CHECKPOINT
CHUNK FRAGMENTATION
CHUNK STRUCTURE
CHUNK USAGE
CONFIGURATION PARAMETER VALUES
DATABASES
DATA ROWS
DBSPACES
DEADLOCKS
DISK PAGES
EXTENTS
INDEX STRUCTURES
LATCHES
LOCKS
LOGICAL LOG FILES
LRU QUEUES
MESSAGE LOG FILE
MIRRORING
PAGE CLEANERS
PAGES
PROFILE
RESERVED PAGES
ROWS
SERVER PROCESS ACTIVITY
SHARED MEMORY
SYSTEM CATALOG
TABLES
TBLSPACES
USER PROCESSES

Object/Action	Background and Instructions	DB-Monitor	Command Line
ARCHIVE	The archive process requires a dedicated terminal or window. Specify the archive level (0, 1, or 2) when prompted. Each time you perform a level-0 archive, save a dated copy of your configuration file for use during data restore.		
Create an archive, any level	**If your system has two tape drives:** You can create an online archive on one tape drive and keep the second drive available for logical log backups during the archive. Place a write-enabled tape in the archive drive (specified as TAPEDEV). Put the tape drive online; then begin the archive. Terminal messages prompt you to label tapes and mount new tapes as needed. **If your system has a single tape drive:** You must prevent the logical log files from filling during an online archive. One suggestion is to free as much logical log space as possible before you begin the archive by backing up any full logical logs. Check that the logical log Continuous-Backup option is turned off. Alternatively, you can avoid potential problems with a single tape drive by creating the archive when OnLine is in quiescent mode.	*Menu*: Archive *Option*: Create *Mode*: online or quiescent	*Execute*: **tbtape** *Option*: **-s** *Mode*: online
Determine status after an archive terminates prematurely	To determine if the archive must be redone, enter DB-Monitor and check the archive status. If the archive is not listed, repeat the archive.	*Menu*: Status *Option*: Archive	n/a
ARCHIVE TAPE DEVICE *(continued)*	A change to any archive tape device parameter takes effect immediately. If you change the physical characteristics of the tape device, you must create a level-0 archive to ensure a proper restore.	*Menu*: Archive *Option*: Tape-Parameters	*Edit*: TBCONFIG file *Parameters*:

Object/Action	Background and Instructions	DB-Monitor	Command Line
ARCHIVE TAPE DEVICE *(continued)*			
Change tape device	Verify block size and tape size for the new device. If the tape device is on another host machine, use the following syntax: *machine_name:device_name*	*Mode*: online	TAPEDEV
Change tape device from **/dev/null**	Verify block size and tape size for the specified tape device. We recommend a level-0 archive immediately after you make the device change to ensure a proper restore.	*Mode*: online	TAPEDEV
Change tape device to **/dev/null**	Ideally, OnLine should be offline if you make this change. This change prevents you from creating archives, which are required to restore the OnLine system.	*Mode*: offline	TAPEDEV
Change tape block size	Block size is expressed in kilobytes. Specify largest block size permitted by tape device.	*Mode*: online	TAPEBLK
Change size of tape	Tape size is expressed in kilobytes.	*Mode*: online	TAPESIZE
BLOBSPACE			
Create a blobspace *(continued)*	Verify that the DBSPACES value in your TBCONFIG file will not be exceeded. Specify a blobspace name, blobpage size, linked pathname, and chunk size. If the initial chunk is on raw disk, check if an optional offset is needed to protect UNIX control information. Blobpage size is specified via *page_unit*, the number of disk pages per blobpage. Chunk size, *size*, is specified in kilobytes. Be aware that OnLine must switch to a new logical log file before blobs can be inserted into a newly created blobspace. To force OnLine to switch to the next logical log file, execute **tbmode -l**.	*Menu*: Dbspaces *Option*: BLOBSpace *Mode*: online	*Execute*: **tbspaces** *Options*: **-c** **-b** *blobspace_name* **-g** *page_unit* **-p** *pathname* **-o** *offset* **-s** *size* **-m** *pathname offset* *Mode*: online

Object/Action	Background and Instructions	DB-Monitor	Command Line
BLOBSPACE *(continued)*	You can mirror the blobspace if the MIRROR parameter in your TBCONFIG file is set to one. Use **-m** to specify an optional mirror chunk pathname and offset for the blobspace primary chunk. Mirroring takes effect immediately.		
Drop a blobspace	The blobspace must be unused. Execute **tbcheck -pe** to verify that no table is currently storing data in the blobspace.	*Menu*: Dbspaces *Option*: Drop *Mode*: online	*Execute*: **tbspaces** *Option*: **-d** *blobspace_name* *Mode*: online
BUFFERS	New buffer values do not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)		
Change the number of buffers in the shared-memory buffer pool	Minimum value is four buffers per user process. Maximum value is 32,000.	*Menu*: Parameters *Option*: Shared-Memory *Mode*: online	*Edit*: TBCONFIG file *Parameter*: BUFFERS
Change the size of the physical log buffers	Recommended value is the kilobyte equivalent of 16 pages.	*Mode*: online	PHYSBUFF
Change the size of the logical log buffers	Recommended value is the kilobyte equivalent of 16 pages.	*Mode*: online	LOGBUFF
CHECKPOINTS Change checkpoint interval	The new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)	n/a	*Edit*: TBCONFIG file *Parameter*: CKPTINTVL
CHUNK Add a chunk *(continued)*	Verify that the CHUNKS value in your TBCONFIG file will not be exceeded. Specify a blobspace or dbspace name, linked pathname, and chunk size. If the chunk is on raw disk, check if an optional offset is needed to protect UNIX control information. Chunk	*Menu*: Dbspaces *Option*: Add_chunk *Mode*: online	*Execute*: **tbspaces** *Options*: **-a** *space_name* **-p** *pathname* **-o** *offset* **-s** *size*

Object/Action	Background and Instructions	DB-Monitor	Command Line
CHUNK *(continued)*	size, *size*, is specified in kilobytes. Optional mirroring (**-m**) is valid only if the blobspace or dbspace is already mirrored.		**-m** *pathname offset* *Mode*: online
Change chunk size	You cannot change the size of a chunk.		
Change maximum number of chunks	The new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)	*Menu*: Parameters *Option*: Shared-Memory *Mode*: online	*Edit*: TBCONFIG file *Parameter*: CHUNKS
Drop a chunk	You cannot drop a chunk unless you drop the entire blobspace or dbspace.		
End chunk mirroring	You can end mirroring only for an entire blobspace or dbspace, not on a per-chunk basis. See **MIRRORING**.		
Restore a down chunk	See **MIRRORING**.		
Take down a chunk	You can take down a chunk only if it is part of a mirrored pair. See **MIRRORING**.		
CONFIGURATION			
Display a copy of the configuration file specified by TBCONFIG	If you change the value of a configuration parameter, the change is written to your TBCONFIG file immediately, but often the change does not take effect until you reinitialize shared memory. Until reinitialization occurs, the values stored in the TBCONFIG file may not be same as the values reflected in your current, effective configuration.	n/a	*Execute*: **tbstat** *Option*: **-c**
Obtain a copy of the current, effective configuration		*Menu*: Status *Option*: Configuration *Mode*: online	n/a
CONSOLE	If you change the console message path through DB-Monitor, you risk inadvertently reinitializing OnLine disk space and destroying all data. This operator error cannot occur if you make the change by editing your	*Menu*: Parameters *Option*: Initialize *Mode*: online	*Edit*: TBCONFIG file *Parameter*: CONSOLE
Change console message path *(continued)*			

Object/Action	Background and Instructions	DB-Monitor	Command Line
CONSOLE *(continued)*	TBCONFIG file. The new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)		
DATA RESTORE Perform a restore	OnLine must be offline during a restore. Gather all archive and logical log backup tapes needed for the restore. Verify that the current shared memory, device, and mirroring configuration matches the configuration that was in effect at the time of the last level-0 archive. (Refer to the copy of your configuration file created at the time of the archive.)	*Menu*: Archive *Option*: Restore *Mode*: offline	*Execute*: **tbtape** *Option*: **-r** *Mode*: offline
DATABASE Add logging to a database *(continued)*	Adding logging to a database is a two-step task: first you create a level-0 archive, then you add logging to the database. To ensure that the database remains unchanged from the time that the archive begins until the time that you change the logging status, create the level-0 archive in quiescent mode or use the **tbtape** utility. The **tbtape** utility collapses the two steps into one. When you execute **tbtape**, OnLine concurrently creates an online archive and adds logging to the database. The database that receives logging remains locked for the duration of the archive. The **-B** parameter specifies buffered logging, the **-U** parameter specifies unbuffered logging. If users need access to the database during the archive, request an online, level-0 archive through DB-Monitor. When the archive ends, take OnLine to quiescent mode. Add logging to the database from the Logical-Logs menu. (Remain within DB-Monitor throughout this procedure. If you exit DB-Monitor after the	*Menu*: Archive *Option*: Create *Mode*: quiescent is recommended; online is possible *Menu*: Logical-Logs *Option*: Databases *Mode*: quiescent	*Execute*: **tbtape** *Options*: **-s -B** or **-s -U** *Mode*: online

Object/Action	Background and Instructions	DB-Monitor	Command Line
DATABASE *(continued)*	level-0 archive, you will be forced to repeat the archive when you attempt to change the database logging status.)		
Change database logging from buffered to unbuffered	No archive is needed. Use the **tbtape** option if you prefer to keep OnLine online.	*Menu*: Logical-Logs *Option*: Databases *Mode*: quiescent	*Execute*: **tbtape** *Options*: **-U** *Mode*: online
End logging for a database	No archive is needed. Use the **tbtape** option if you prefer to keep OnLine online.	*Menu*: Logical-Logs *Option*: Databases *Mode*: quiescent	*Execute*: **tbtape** *Options*: **-N** *Mode*: online
Make a database ANSI-compliant	Databases that become ANSI-compliant automatically receive unbuffered logging status.	*Menu*: Logical-Logs *Option*: Databases *Mode*: quiescent	n/a
Migrate a database from OnLine to another OnLine	The **tbunload**/**tbload** utilities work with binary copies of disk pages. To use **tbunload** and **tbload**, page size must be the same for both the exporting and receiving machines. You can use **dbexport** to unload the database into ASCII files and use **dbimport** to re-create the database and reload the data. A third option is to use the UNLOAD statement, the **dbschema** utility, and either the LOAD statement or the **dbload** utility to migrate ASCII data by table or by column.		
Migrate a database from OnLine to SE	Use either **dbexport** or the UNLOAD statement to prepare data for migration. See the *IBM Informix SE Administrator's Guide* for information about loading the data.		
Restore a database	OnLine restores all data during a data restore. You cannot restore a specified database. See **DATA RESTORE**.		

Object/Action	Background and Instructions	DB-Monitor	Command Line
DBSPACE			
Change maximum number of dbspaces	The new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)	*Menu*: Parameters *Option*: Shared-Memory *Mode*: online	*Edit*: TBCONFIG file *Parameter*: DBSPACES
Create a dbspace	Verify that the DBSPACES value in the TBCONFIG file will not be exceeded. Specify a dbspace name, linked pathname, and chunk size. If the initial chunk is on raw disk, check if an optional offset is needed to protect UNIX control information. Chunk size, *size*, is specified in kilobytes. You can mirror the dbspace if the MIRROR parameter in your TBCONFIG file is set to one. Use **-m** to specify an optional mirror chunk pathname and offset for the dbspace primary chunk. Mirroring takes effect immediately.	*Menu*: Dbspaces *Option*: Create *Mode*: online	*Execute*: **tbspaces** *Options*: **-c** **-d** *dbspace_name* **-p** *pathname* **-o** *offset* **-s** *size* **-m** *pathname* *offset* *Mode*: online
Drop a dbspace	The dbspace must be unused. Execute **tbcheck -pe** to verify that no table or log is currently storing data in the dbspace.	*Menu*: Dbspaces *Option*: Drop *Mode*: online	*Execute*: **tbspaces** *Option*: **-d** *dbspace_name* *Mode*: online
FORCED RESIDENCY	Shared memory remains resident when the RESIDENT parameter in the TBCONFIG file is set to one. Residency is not enforced when the parameter is set to zero. Not all machines support forced residency.		
Temporarily enforce residency of shared memory	This change remains in effect until you execute **tbmode -n** or take OnLine offline.	n/a	*Execute*: **tbmode** *Option*: **-r** *Mode*: online

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Object/Action	Background and Instructions	DB-Monitor	Command Line
FORCED RESIDENCY *(continued)*			
Change configuration to enforce residency at all times	The new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)	*Menu*: Parameters *Option*: Shared-Memory *Mode*: online	*Edit:* TBCONFIG file *Parameter*: RESIDENT
Temporarily turn off forced residency	This change remains in effect until you execute **tbmode -r** or take OnLine offline.	n/a	*Execute*: **tbmode** *Option*: **-n** *Mode*: online
Change configuration to turn off forced residency at all times	The new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)	*Menu*: Parameters *Option*: Shared-Memory *Mode*: online	*Edit*: TBCONFIG file *Parameter*: RESIDENT
LOCKS	The minimum value for LOCKS is 20 locks per user process. The maximum value is 256,000.	*Menu*: Parameters *Option*:	*Edit*: TBCONFIG file *Parameter*: LOCKS
Change the maximum number of locks	The new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)	Shared-Memory *Mode*: online	
LOGICAL LOGS			
Add a logical log file	Verify that the LOGSMAX value in the TBCONFIG file will not be exceeded. Explicitly enter the dbspace name when prompted. The new log file becomes available after OnLine completes a level-0 archive. You cannot add a log file during an archive.	*Menu*: Parameters *Option*: Add-Log *Mode*: quiescent	*Execute*: **tbparams** *Options*: **-a** **-d** *dbspace_name* *Mode*: quiescent
Back up logical log files continuously	OnLine backs up logical log files as they fill when Continuos-Backup is operating. Continuous-Backup requires a dedicated terminal (or window) and tape device. Keep a tape mounted in the tape device while	*Menu*: Logical-Logs *Option*: Continuous-Backup *Mode*: online	*Execute*: **tbtape** *Option*: **-c** *Mode*: online

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Object/Action	Background and Instructions	DB-Monitor	Command Line
LOGICAL LOGS *(continued)*	Continuous-Backup is running. Continuous-Backup starts immediately and backs up all logical logs except the current log.		
Back up logical log files upon specific request	OnLine backs up logical logs on command when you request Auto-Backup or execute **tbtape -a**.	*Menu*: Logical-Logs *Option*: Auto-Backup *Mode*: online	*Execute*: **tbtape** *Option*: **-a** *Mode*: online
Change the location of logical log files	Changing the location of the logical log files is actually a combination of two simpler actions: dropping log files from their current location, then adding log files to a new location. Perform the drop-then-add as follows: 1. Free all logs except the current log. (A log is freed if it is backed up and all transactions within the log are closed.) 2. Ensure that the LOGSMAX value in the TBCONFIG file is greater than or equal to the number of log files after the move, plus three. 3. Drop all but three of the logs that you wish to move. You must drop the log files one at a time. Execute **tbstat -l** to obtain the *logid*. OnLine must retain at least three log files. You cannot drop the current log. 4. Add new logs to the new location. You must add the log files one at a time. 5. Create a level-0 archive to make the new log files available. 6. Back up the current log file to free it. 7. Drop the three files that remain in the old location. 8. We recommend that you mirror the new dbspace if it is not already mirrored. 9. Create another level-0 archive.	*Menu*: Parameters *Option*: Drop-Log *Mode*: quiescent *Menu*: Parameters *Option*: Add-Log *Mode*: quiescent	*Execute*: **tbparams** *Options*: **-d -l** *logid* *Mode*: quiescent *Execute*: **tbparams** *Options*: **-a -d** *dbspace_name* *Mode*: quiescent

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Object/Action	Background and Instructions	DB-Monitor	Command Line
LOGICAL LOGS *(continued)*			
Change log file size	You cannot change the size of the logical log files unless you reinitialize OnLine disk space. To change the log file size, you must first unload all OnLine data, then reconfigure and reinitialize OnLine disk space, re-create all databases and tables, and last, reload all OnLine data.	*Menu*: Parameters *Option*: Initialize *Mode*: online	n/a
Change maximum number of logical log files	The new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)	*Menu*: Parameters *Option*: Shared-Memory *Mode*: online	*Edit*: TBCONFIG file *Parameter*: LOGSMAX
Change the number of logical log files	The number of logical log files is specified in the TBCONFIG file as LOGFILES and is automatically maintained by OnLine. Do not alter this value by editing the TBCONFIG file.		
Drop a logical log file	You can drop a logical log file if it is free and if at least three logical log files remain. Use DB-Monitor or execute **tbstat -l** to obtain the log file id number and to verify that the log file is free. Specify the id number of each logical log file that you wish to drop. You must drop log files one at a time. After you drop the logical log files, create a level-0 archive.	*Menu*: Status *Option*: Logs *Mode*: online *Menu*: Logical-Log *Option*: Drop-Log *Mode*: quiescent	*Execute*: **tbstat** *Option*: **-l** *Mode*: online *Execute*: **tbparams** *Options*: **-d -l** *logid* *Mode*: quiescent
End Continuous-Backup option	Press Interrupt at the dedicated terminal (or window) where backups are occurring. If OnLine is currently backing up a log file, the process completes the backup before it ends.	n/a	n/a

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Object/Action	Background and Instructions	DB-Monitor	Command Line
LOGICAL LOGS *(continued)*			
Free a logical log file	A logical log file is considered free if it is backed up and all transactions in the log file are closed.		
Switch to the next logical log file	You can switch to the next logical log file anytime. Switching the logical log file starts a new "current" log, enabling you to back up the former "current" log. (Switching the logical log file also enables you to insert blobs into a newly created blobspace.)	n/a	*Execute*: **tbmode** *Parameter*: **-l** *Mode*: online
LOGICAL LOG TAPE DEVICE	A change to any logical log tape device parameter takes effect immediately. If you change the physical characteristics of the tape device, you must create a level-0 archive to ensure a proper restore.	*Menu*: Logical-Logs *Option*: Tape Parameters	*Edit*: TBCONFIG file *Parameter*:
Change tape device	Verify block size and tape size for the new device. If the tape device is on another host machine, use the following syntax: *machine_name*:*device_name*	*Mode*: online	LTAPEDEV
Change tape device from **/dev/null**	Verify block size and tape size for the new device. We recommend a level-0 archive immediately after you make the device change.	*Mode*: online	LTAPEDEV
Change tape device to **/dev/null**	Ideally, OnLine should be offline for this change. This change prevents you from logging transactions. You will be able to restore OnLine data only from archive tapes.	*Mode*: offline	LTAPEDEV
Change block size	Block size is expressed in kilobytes. Specify largest block size permitted by tape device.	*Mode*: online	LTAPEBLK
Change tape size	Tape size is expressed in kilobytes.	*Mode*: online	LTAPESIZE

Object/Action	Background and Instructions	DB-Monitor	Command Line
MESSAGE LOG FILE	The default pathname for the OnLine message log file is **/usr/informix/online.log**. If you change the log file location through DB-Monitor, you risk inadvertently reinitializing OnLine and destroying all data. This operator error cannot occur if you make the change by editing the TBCONFIG file. The new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)	*Menu*: Parameters *Option*: Initialize *Mode*: online	*Edit*: TBCONFIG file *Parameter*: MSGPATH
MIGRATING DATA	See **DATABASES**.		
MIRRORING			
Enable mirroring	The MIRROR parameter in the TBCONFIG file must be set to one to enable mirroring. If you change the MIRROR parameter through DB-Monitor, you risk inadvertently reinitializing OnLine and destroying all data. This operator error cannot occur if you make the change by editing the TBCONFIG file. The new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)	*Menu*: Parameters *Option*: Initialize *Mode*: online	*Edit*: TBCONFIG file *Parameter*: MIRROR
End blobspace or dbspace mirroring *(continued)*	All primary chunks in the blobspace or dbspace must be online to end mirroring.	*Menu*: Dbspaces *Option*: Mirror *Mode*: online	n/a

Object/Action	Background and Instructions	DB-Monitor	Command Line
MIRRORING *(continued)*			
Restore a down, mirrored chunk from the online chunk	OnLine begins chunk recovery immediately. The mirror recovery daemon copies the contents of the online chunk to the chunk in recovery. The recovery chunk is brought online immediately after recovery is complete.	*Menu*: Dbspaces *Option*: Status *Mode*: online	*Execute*: **tbspaces** *Options*: **-s** *space_name* **-p** *pathname* **-o** *offset* **-O** *Mode*: online
Start mirroring an existing blobspace	The MIRROR parameter in the TBCONFIG file must be set to one. Specify a mirror chunk pathname (and optional offset) for each blobspace chunk. Mirroring takes effect immediately. We recommend a level-0 archive immediately after you begin mirroring.	*Menu*: Dbspaces *Option*: Mirror *Mode*: online	n/a
Start mirroring an existing dbspace	The MIRROR parameter in the TBCONFIG file must be set to one. Specify a mirror chunk pathname (and optional offset) for each dbspace chunk. Mirroring takes effect immediately, unless you are mirroring a chunk that contains logical log files. If this is the case, mirroring for that chunk takes effect after a level-0 archive. We recommend a level-0 archive immediately after you begin mirroring.	*Menu*: Dbspaces *Option*: Mirror *Mode*: online	n/a
Take down a chunk	You can take down a chunk only if it is part of a mirrored pair. You can take down either the primary chunk or the mirror chunk, as long as the other chunk in the pair is online.	*Menu*: Dbspaces *Option*: Status *Mode*: online	*Execute*: **tbspaces** *Options*: **-s** *space_name* **-p** *pathname* **-o** *offset* **-D** *Mode*: online

Object/Action	Background and Instructions	DB-Monitor	Command Line
MODES			
Offline to online	Shared memory is initialized. OnLine passes through fast recovery and quiescent mode, and is immediately available to all users.	n/a	*Execute*: **tbinit** *Option*: (none)
Offline to quiescent	Shared memory is initialized. OnLine passes through fast recovery and enters quiescent mode.	*Menu*: Mode *Option*: Startup	*Execute*: **tbinit** *Option*: **-s**
Quiescent to online	OnLine becomes available to all users.	*Menu*: Mode *Option*: online	*Execute*: **tbmode** *Option*: **-m**
Online to quiescent, gracefully	Server processes finish their tasks before OnLine enters quiescent mode. Shared memory is unchanged.	*Menu*: Mode *Option*: Graceful-Shutdown	*Execute*: **tbmode** *Option*: **-s**
Online to quiescent, immediately	Server processes end immediately in a controlled manner and OnLine enters quiescent mode. Shared memory is unchanged.	*Menu*: Mode *Option*: Immediate-Shutdown	*Execute*: **tbmode** *Option*: **-u**
Any mode to offline	Server processes are terminated from shared memory, active cursors are closed, and active transactions are rolled back. Shared memory is deallocated. OnLine enters offline mode.	*Menu*: Mode *Option*: Take-Offline	*Execute*: **tbmode** *Option*: **-k**
PAGE CLEANERS Change the number of page-cleaner processes	The new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)	*Menu*: Parameters *Option*: Shared Memory *Mode*: online	*Edit*: TBCONFIG file *Parameter*: CLEANERS
PAGE SIZE Change machine page size	Page size is specified as BUFFSIZE in the TBCONFIG file. Page size is established for each machine platform and cannot be altered. A change to BUFFSIZE has no effect.		

Object/Action	Background and Instructions	DB-Monitor	Command Line
PHYSICAL LOG			
Change log location	Specify the new dbspace location and the log size (in kilobytes). When you reinitialize shared memory, OnLine searches the dbspace for the first block of contiguous space large enough to contain the log. If adequate space cannot be found, a fatal shared-memory error occurs. Perform a level-0 archive immediately after you reinitialize shared memory with the new physical log location.	*Menu*: Parameters *Option*: Physical-Log *Mode*: quiescent	*Execute*: **tbparams** *Options*: **-p** **-d** *dbspace_name* **-s** *size* *Mode*: quiescent
Change log size	Specify the new log size in kilobytes. When you reinitialize shared memory, OnLine searches the dbspace for the first block of contiguous space large enough to contain the log. If adequate space cannot be found in the dbspace, a fatal shared-memory error occurs during the reinitialization. The physical log may move to a different location in the dbspace as a consequence of the size change. Perform a level-0 archive immediately after you reinitialize shared memory with the new physical log size.	*Menu*: Parameters: *Option*: Physical-Log *Mode*: quiescent	*Execute*: **tbparams** *Options*: **-p** **-s** *size* *Mode*: quiescent
RESTORE DATA	See **DATA RESTORE**.		
ROOT DBSPACE	The name, location, offset, and size of the root dbspace are determined when you initialize disk space for OnLine. The information is stored in the TBCONFIG file. If you change these parameters, you destroy all existing data and create, in effect, a new OnLine system.	*Menu*: Parameters *Option*: Initialize *Mode*: online	*Edit*: TBCONFIG file *Parameters*: ROOTNAME ROOTPATH ROOTOFFSET ROOTSIZE
Change the root dbspace parameters: name, location, offset, and size.			

SERVER NAME **SERVER NUMBER** Change the OnLine identification name or number	A change to the DBSERVERNAME value affects the values returned from the SQL DBSERVERNAME or SITENAME functions. If you change SERVERNUM while OnLine is online and you start a new session (by launching an application), the new database server process attaches to the shared-memory area indicated by the new SERVERNUM, if one exists. If no shared-memory area exists, OnLine reports that shared memory is not initialized. If you change SERVERNUM while OnLine is offline, a new shared-memory area will be initialized when you bring OnLine online. DBSERVERNAME is limited to 18 characters, digits, or the underscore. Valid values for SERVERNUM are 0-255. Default value is zero.	*Menu*: Parameters *Option*: Initialize *Mode*: online	*Edit*: TBCONFIG file *Parameters*: DBSERVERNAME SERVERNUM
SERVER PROCESS Kill a database server process	Never kill a database server process that is within a critical section or holding a latch. If you do, OnLine will abort. Execute **tbstat -u** to obtain the server process identification number (*pid*) and to check for critical sections. The server process is in a critical section if the third-position flag for the server process is **X**. Note the address for the server process. To check for latches, execute **tbstat -s**. Verify that the address of this server process is not listed as the owner of any latch.	n/a	*Execute*: **tbmode** *Option*: **-z** *pid* *Mode*: online

Object/Action	Background and Instructions	DB-Monitor	Command Line
SHARED-MEMORY BASE ADDRESS Change base address	Execute **tbstat -c** to obtain the value of the shared-memory base address. *Do not change this value unless directed by Technical Support.* The new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)	n/a	*Edit*: TBCONFIG file *Parameter*: SHMBASE
TBLSPACES Change maximum number of active tblspaces	The minimum value for TBLSPACES is 10 tblspaces per user process (specified as USERS). The minimum value must also be greater than the number of tblspaces in any single database, plus two. The maximum value is 32,000. The new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)	*Menu*: Parameters *Option*: Shared-Memory *Mode*: online	*Edit*: TBCONFIG file *Parameter*: TBLSPACES
TRANSACTIONS	The value of TRANSACTIONS should be equal to the value of USERS unless you are using IBM Informix STAR.	n/a	*Edit*: TBCONFIG file *Parameter*: TRANSACTIONS
USERS Change the maximum number of concurrent user processes	The minimum value for USERS is the value of CLEANERS plus four, plus one if you have mirroring enabled. The maximum value is 1,000. A change in the number of users should be accompanied by appropriate changes to the values that specify the maximum number of buffers, locks, tblspaces, and transactions. A new value does not take effect until shared memory is reinitialized. (To reinitialize shared memory, take OnLine offline; then take it to quiescent mode.)	*Menu*: Parameters *Option*: Shared-Memory *Mode*: online	*Edit*: TBCONFIG file *Parameter*: USERS

Object/Action	Background and Instructions	DB-Monitor	Command Line

Object	Monitoring Information	DB-Monitor	Command Line
ARCHIVE HISTORY	Archive levels; Time that the most recent archives began; Logical log files used during the time spanned by each archive	*Menu*: Status *Option*: Archive	**tbcheck -pr** (PAGE_ARCH reserved page)
BLOBS IN BLOBSPACE for a database or for a table	Size (in kilobytes) of the blobpage; Blobpage fullness; Blobpages allocated to each blob	n/a	**tbcheck -pB** *dbname* or *dbname:tblname*
	Number of free blobpages in each chunk	*Menu*: Dbspaces *Option*: Info	**tbstat -d**
BLOBS IN DBSPACE for a database or for a table	Tables that store blobs in each chunk	n/a	**tbcheck -pe**
	Pages allocated for blob storage; Blob page fullness; Unused bytes within the blob pages	n/a	**tbcheck -pT** *dbname* or *dbname:tblname*
BUFFERS	User process currently holding a buffer; *First* entries on the buffers' waiting lists	n/a	**tbstat -b**
	User process currently holding a buffer; *All* entries on the buffers' waiting lists	n/a	**tbstat -X**
	Statistics for *all* buffers, not just those in use	n/a	**tbstat -B**
	Statistics about buffers in each LRU queue	n/a	**tbstat -R**
	ovbuff field displays the number of times that OnLine attempted to exceed the maximum number of buffers (specified as BUFFERS in the TBCONFIG file).	n/a	**tbstat -p**
CACHE PERCENTAGES	*%cached* appears twice in the display: the first occurrence displays the percentage of reads cached; the second occurrence displays the percentage of writes cached.	*Menu*: Status *Option*: Profile	**tbstat -p**

Object	Monitoring Information	DB-Monitor	Command Line
CHECKPOINT	Time of the last checkpoint	*Menu*: Force-Ckpt	**tbstat -m**
	Time of the last checkpoint check	*Menu*: Force-Ckpt	n/a
CHUNK FRAGMENTATION	Internal allocation of space and physical layout for every chunk	n/a	**tbcheck -pe**
CHUNK STRUCTURE	Listing of reserved pages, which provide a summary of OnLine control information	n/a	**tbcheck -pr**
CHUNK USAGE	Ownership and allocation information	n/a	**tbcheck -pe**
	Number of free pages in the chunk	*Menu*: Dbspaces *Option*: Info	**tbstat -d**
	Number of free blobpages (statistics from the disk version of the blob free-map page);	n/a	**tbstat -d**
for a database or for a table	Number of free blobpages (statistics from the shared-memory version of the blob free-map page)	*Menu*: Dbspaces *Option*: Info	**tbcheck -pB** *dbname* or *dbname:tblname*
CONFIGURATION PARAMETER VALUES	DB-Monitor and **tbcheck -pr** output the effective values of the current OnLine configuration. If you changed the configuration file but have not reinitialized shared memory, **tbcheck** displays both sets of values.	*Menu*: Status *Option*: Configuration	**tbcheck -pr** (PAGE_CONFIG reserved page)
	tbstat displays the values stored in the OnLine configuration file specified by TBCONFIG (or, by default, the file **tbconfig** stored in **$INFORMIXDIR/etc**)		**tbstat -c**
DATABASES	List of databases in the OnLine system	*Menu*: Status *Option*: Databases	n/a

Object	Monitoring Information	DB-Monitor	Command Line
DATA ROWS for a database or for a table or for a page	Types of data pages in the tblspace; Rowid and length of each data row (rowid is expressed in hexadecimal); Data page contents in hexadecimal and ASCII; For data rows containing blob descriptors, the blob storage medium is listed	n/a	**tbcheck -pD** *dbname* or *dbname:tblname* or *dbname:tblname* and *logical page number*
DBSPACES	General dbspace information: size, status, id numbers, chunk location and offset, mirroring information	*Menu*: Dbspaces *Option*: Info	**tbstat -d**
DEADLOCKS (potential)	The `deadlocks` (DB-Monitor) or `deadlks` (**tbstat**) field displays the number of potential deadlock situations that OnLine detected and prevented.	*Menu*: Status *Option*: Profile	**tbstat -p**
DISK PAGES for a specified rowid or for a tblspace page	Page type; Number of slot table entries on the page; Data page contents in ASCII To obtain *rowid*, execute **tbcheck -pD**. Enter the rowid preceded by the 0x hexadecimal identifier. To obtain *hex tblspace number*, use the query: SELECT tabname, partnum, HEX(partnum) FROM systables	n/a	**tbcheck -pp** *dbname:tblname* and *hex rowid* or **tbcheck -pp** *hex tblspace number* and *logical page number*
EXTENTS	Physical layout of chunk space by table; Number of pages used by a table Number of pages used by a table, separate figures for data pages and index pages	n/a n/a	**tbcheck -pe** **tbcheck -pT** *dbname* or *dbname:tblname*

Object	Monitoring Information	DB-Monitor	Command Line
INDEX STRUCTURES for a database or for a table	Check and repair indexes interactively; lowercase options check B+ tree structure, uppercase options also check rowids	n/a	**tbcheck -ci** or **-cI** *dbname* or *dbname:tblname*
	Index key information: print all index key values and their associated rowids	n/a	**tbcheck -pk** or **-pK** *dbname* or *dbname:tblname*
	Index leaf information: print key values that appear in the index leaf node pages and their associated rowids	n/a	**tbcheck -pl** or **-pL** *dbname* or *dbname:tblname*
LATCHES	User address of the owner of the latch; Wait list of processes waiting for the latch	n/a	**tbstat -s**
LOCKS	General lock information: address, waitlist, lock owner, lock type, and tblspace and rowid affected by the lock	n/a	**tbstat -k**
	The `Over Lock` (DB-Monitor) or `deadlks` (**tbstat**) field displays the number of times that OnLine attempted to exceed the maximum number of locks (specified as LOCKS in the TBCONFIG file).	*Menu*: Status *Option*: Profile	**tbstat -p**
LOGICAL LOG FILES	General log file status information: size, number of pages used, percentage of pages used, status	*Menu*: Status *Option*: Logs	**tbstat -l**
	General log usage information in greater detail, including the date and time the log file filled		**tbcheck -pr** (PAGE_CKPT reserved page)
LRU QUEUES	Number of buffers in each queue; Number and percentage of buffers that have been modified; Summary information for all queues	n/a	**tbstat -R**

Object	Monitoring Information	DB-Monitor	Command Line
MESSAGE LOG FILE	Filename and the 20 most-recent entries	n/a	**tbstat -m**
MIRRORING	Detailed status of all mirrored chunks	*Menu*: Dbspaces *Option*: Info or *Menu*: Status *Option*: Spaces	n/a
PAGE CLEANERS	Number of foreground writes; Number of LRU writes; Current state of the page cleaner; Address of the user structure assigned to this page-cleaner process	n/a	**tbstat -F**
PAGES	See **DISK PAGES**.		
PROFILE (OnLine Usage)	OnLine profile statistics can reflect a single event or a short-lived drain on resources. Use **tbstat -z** to reset profile counts and gather specific resource statistics.	*Menu*: Status *Option*: Profile	**tbstat -p** or **tbstat -P**
RESERVED PAGES	Contents of the reserved pages	n/a	**tbcheck -pr**
ROWS	See **DATA ROWS**.		
SERVER PROCESS ACTIVITY	Status of the database server processes, including if the process is in a critical section; Process id number; number of locks held	*Menu*: Status *Option*: User	**tbstat -u**
	If the user is waiting, the address of the lock or latch the user is waiting for	n/a	**tbstat -u**
SHARED MEMORY	Saves a copy of the shared-memory segment to **tbstat.out** in the current directory (or to the optional filename)	n/a	**tbstat -o** *filename*

Object	Monitoring Information	DB-Monitor	Command Line
SYSTEM CATALOG	Structure and allocation information for the specified database; for information for all databases, do not specify a database	n/a	**tbcheck -pc** *dbname*
TABLES for a database or for a table	General allocation information by table: maximum row size, number of keys, number of extents and sizes, pages allocated and used per extent, current serial value, and table-creation date	n/a	**tbcheck -pt** *dbname* or *dbname:tblname*
	Complete allocation information by table: includes index-specific information and page allocation by page type	n/a	**tbcheck -pT** *dbname* or *dbname:tblname*
TBLSPACES	General information for *active* tblspaces: tblspace number, pages allocated, pages used, number of extents	n/a	**tbstat -t**
	The `Over Tbls.` (DB-Monitor) or `ovtbls` (**tbstat**) field displays the number of times OnLine attempted to exceed the maximum number of available tblspaces (specified as TBLSPACES in the TBCONFIG file).	*Menu*: Status *Option*: Profile	**tbstat -p**
USER PROCESSES	The `Over User` (DB-Monitor) or `ovuser` (**tbstat**) field displays the number of times OnLine attempted to exceed the maximum number of users (specified as USERS in the TBCONFIG file).	*Menu*: Status *Option*: Profile	**tbstat -p**

Appendix

A

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