

About large environments

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System configuration requirements for large environments

Precise configuration

Precise registry parameters should be set in the <Precise_root>\products\i3fp\registry\products\infrastructure\sts\settings.xml file:

Table 1 Registry parameters in the settings.xml file

Parameter	Value
correlation-queue-max-size	700000000
queue-max-size	200000000
backup-max-total-files-size	3000000000



To reserve more space in the backup folder, you can increase the size of the backup-max-total-files-size parameter. This may be useful when your database or PMDB is down or experiences a data load delay.

After changing the above parameters, you need to restart the Precise FocalPoint and Precise Listeners.

In the <Precise_root>\products\i3fp\registry\products\pw\maintain\db-sizes.xml file:

Table 2 Registry parameters in the db-sizes.xml file

Parameter	Value
save-oracle-db-sizes	false

In the <Precise_root>\products\i3fp\registry\products\insight\focalpoint.xml file:

Table 3 Registry parameters in the focalpoint.xml file

Parameter	Value
sts-max-number-of-threads-for-correlation	5
sts-max-files-in-processor-files-folder	50000



After changing the above parameters, you need to restart the Insight FocalPoint.

In large environments you have to update the memory configuration for the Precise framework JVMs in the relevant XML files. The following code example indicates where you have to insert the parameter in those files (replace <number> with a number). The <jvm-options> section appears in all files:

```
- <main>
...
...
...
- <jvm-options>
  <option>-Xmx<number>m</option>
  ...
  ...
  ...
</jvm-options>
...
...
...
</main>
```

The memory configuration for the Precise framework JVMs (XMX configuration) should be as follows:

Table 4 Memory configuration

Component	Size	Location
Precise FocalPoint	1024 MB	<Precise_root>\products\i3fp\bin\psin_i3fp_init.xml
J2EE FocalPoint	512 MB	<Precise_root>\products\j2ee\bin\psje_focal_init.xml
PMDB FocalPoint	768 MB	<Precise_root>\products\pw\bin\pspw_focal_init.xml
Insight FocalPoint	2048 MB	<Precise_root>\products\insight\bin\psis_focal_init.xml
Web FocalPoint	768 MB	<Precise_root>\products\www\bin\psww_focal_init.xml
Web Data Loader	768 MB	<Precise_root>\products\www\bin\psww_dataloader_init.xml
GUI FocalPoint	1024 MB	<Precise_root>\products\gui\website\bin\psin_gui_init.xml



After making changes in size of one or more of the components above, you must restart the related component(s).

If you define multiple alerts, you may want to increase the XMX-size of the Alerts FocalPoint and Informpoint.

If you intend to create several reports, you may want to increase the XMX-size of the Report Manager FocalPoint.

The memory configuration for each production server with either J2EE, Web, or .NET should be as follows

Table 5 Memory configuration

Component	Size	Location
Listener	356 MB	<Precise_root>\infra\bin\psin_listner_java_init.xml



After making changes in size of the component above, you will need to restart the related component.

Oracle-based PMDB configuration

This section provides recommended values for Oracle configuration. The following tables describe the Oracle-based PMDB configuration parameters and sizing recommendations.

If Automatic Memory Management is not used, the following parameter values are recommended.

Table 6 Oracle-based PMDB configuration parameters

Parameter	Value
MEMORY_TARGET	45 GB
MEMORY_MAX_TARGET	45 GB

LOG_BUFFER	5 MB+
SESSIONS	1500
PROCESSES	1000
UNDO_RETENTION	7200
DB_WRITER_PROCESSES	4

Table 7 Oracle-based PMDB sizing recommendation

Description	Value
Redo Log	500 MB for 90 instances 1000 MB for 180 instances 2000 MB for 450 instances
PMDB Temporary Tablespace	4 files and each file 32 GB
Undo Tablespace	4 files and each file 32 GB

If on a Linux server you get an ORA-845 error, you must mount /dev/shm with its proper size. The size is directly influenced by the SGA size of your PMDB. This error results when it is set too low.

To mount it, log in as a root user and use the following command: `# mount -t tmpfs shmfs -o size=<SGA size> /dev/shm`

To activate the setting and make it permanent after a restart, add the entry in /etc/fstab.

SQL Server-based PMDB configuration

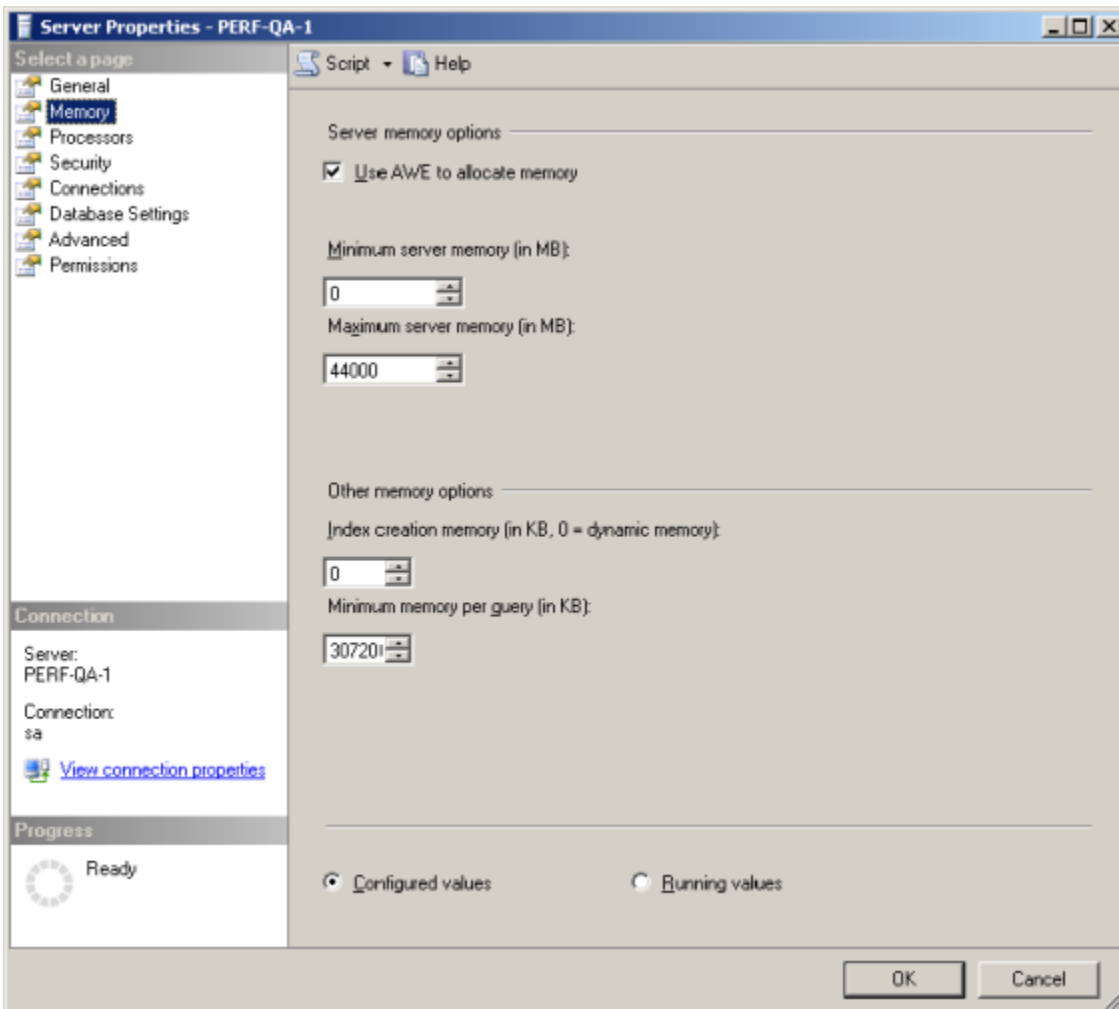
 You should place the data and log files on different disks.

The following table describes the SQL Server-based instance configuration parameters as displayed in Figure 1:

Table 10 SQL Server-based instance configuration parameters

Parameter	Value
SQL Server memory	44000 MB
Minimum memory per query	307200 KB

Figure 1 Server Properties with SQL Server-based instance configuration parameters



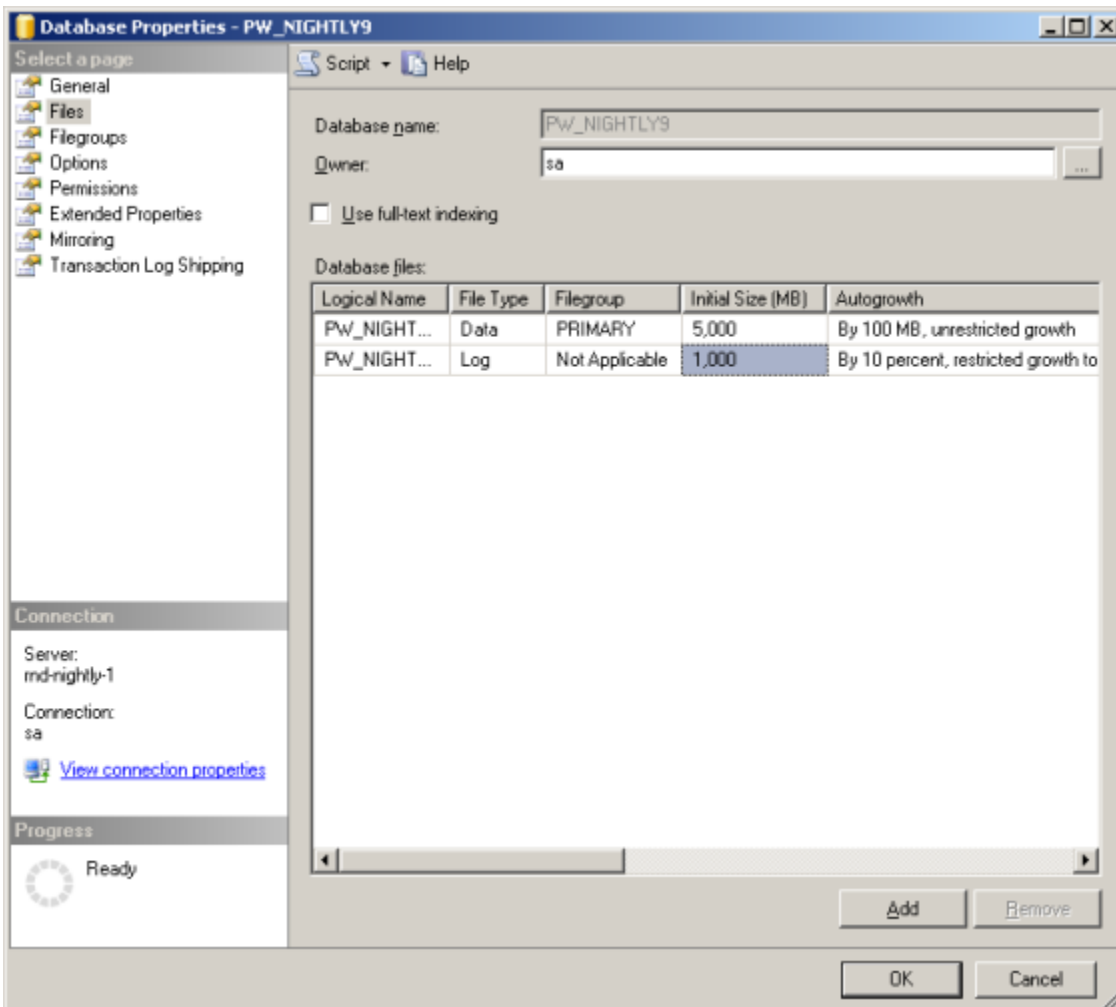
The following table describes the SQL Server-based PMDB (database) configuration parameters for the files as displayed in Figure 2:

Table 11 SQL Server-based PMDB (database) configuration parameters for the files

Parameter	Value
Data	5000 MB
Log	1000 MB

 The autogrowth parameter should be 100 MB.

Figure 2 Database Properties with SQL Server-based PMDB (database) configuration parameters for the files

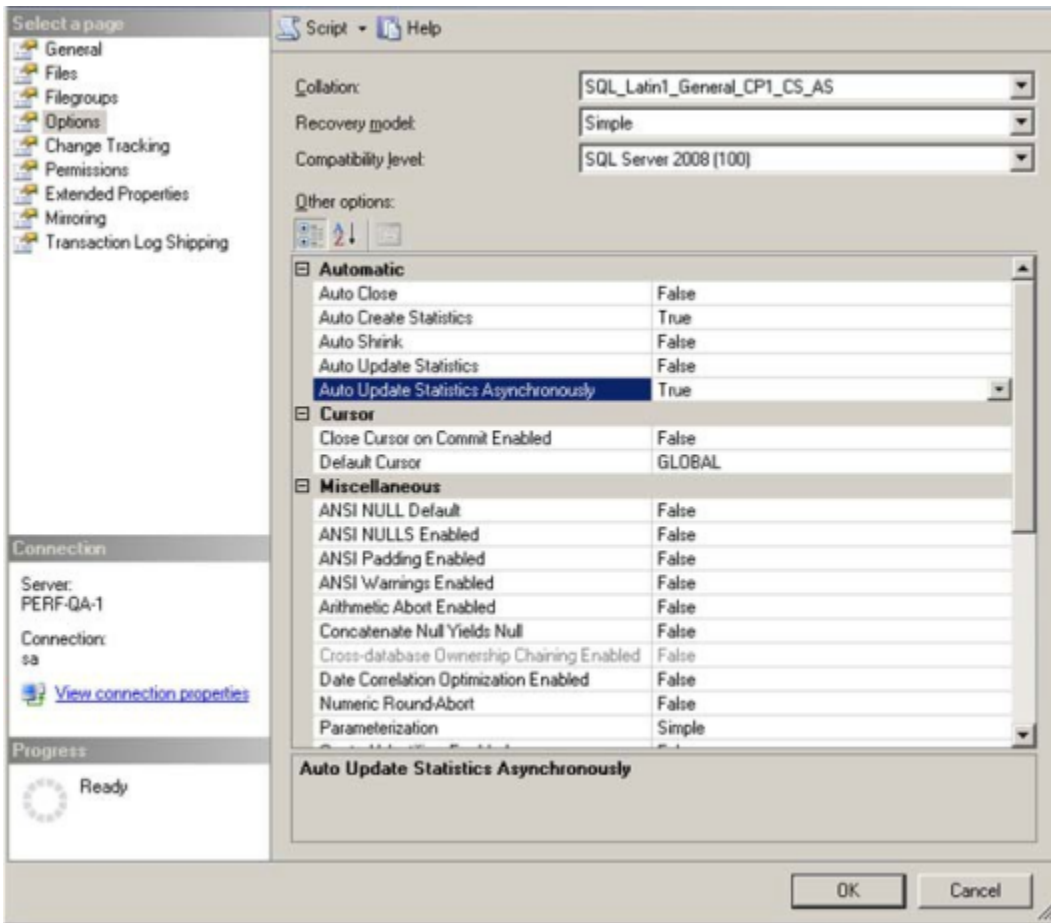


The following table describes the SQL Server-based PMDB (database) configuration parameters for the options as displayed in Figure 3:

Table 12 SQL Server-based PMDB (database) configuration parameters for the options

Parameter	Value
Auto Update Statistics	True
Auto Update Statistics Asynchronously	True
Auto Create Statistics	On
Recovery Model	Simple

Figure 3 Database Properties with SQL Server-based PMDB (database) configuration parameters for the options

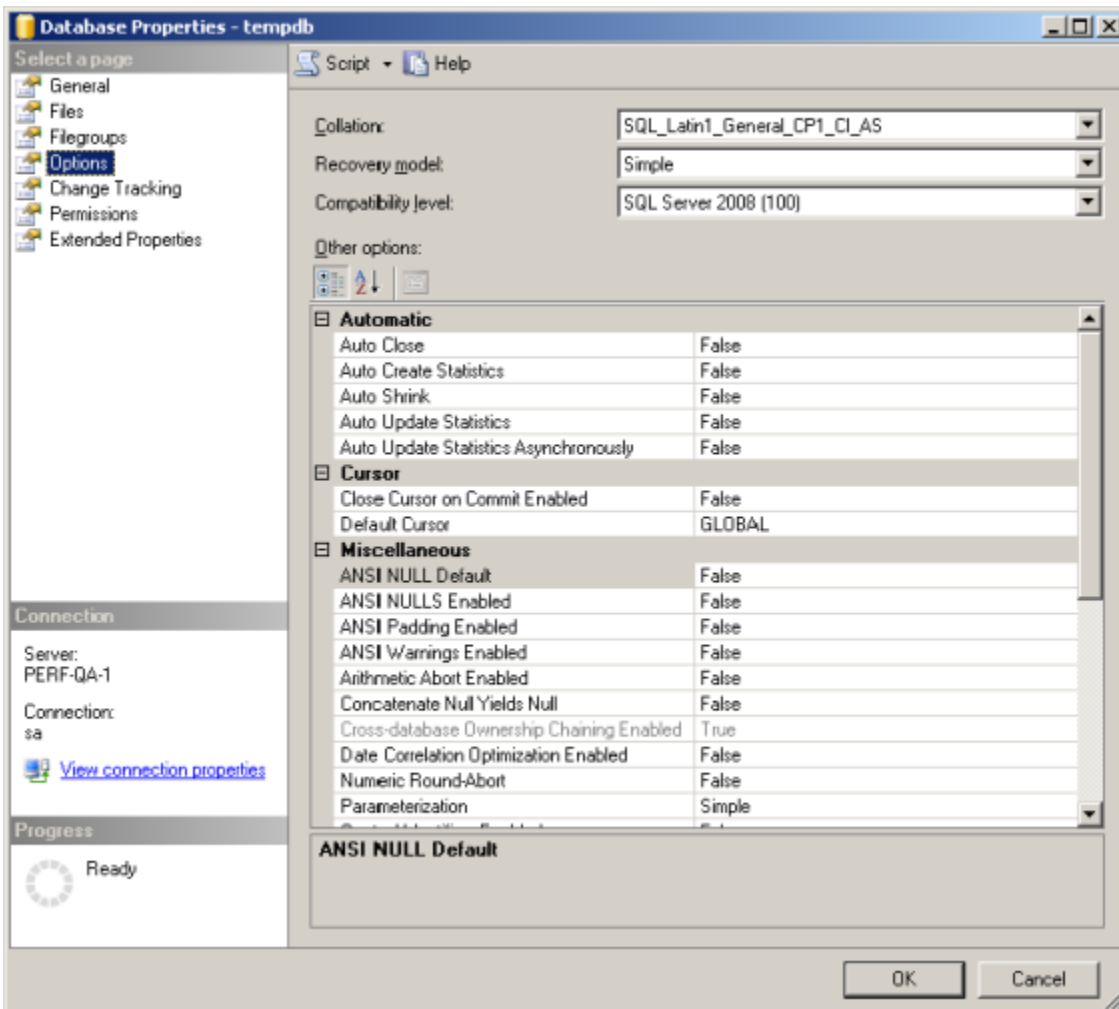


The following table describes the SQL Server-based tempdb configuration parameters as displayed in Figure 4:

Table 13 SQL Server-based tempdb configuration parameters

Parameter	Value
tempdb Auto Update Statistics	False
tempdb Auto Update Statistics Asynchronously	False
tempdb Auto Create Statistics	False

Figure 4 Database Properties with SQL Server-based tempdb configuration parameters



In our laboratory-tested environments

The following table shows the environments that we tested in our laboratory:

Table 14 Tested environments

Criteria	Oracle-based PMDB	SQL Server-based PMDB
J2EE instances	300	180
Web instances	150	90
Total number of instances	450	270
Server platform	Linux 64-bit	Windows 2008 64-bit
Processors	Dual quad core CPU X5570 (8 core)	Dual 6 core CPU X5670 (12 core)
Physical memory	68 GB (Oracle SGA - 45 GB)	60 GB (SQL Server memory - 44 GB)
Storage for data files	EMC Symmetrix VMAX	Local 15 K SAS disks
Data files size	1.5 TB	1 TB