

# 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<br>1000 MB for 180 instances<br>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**

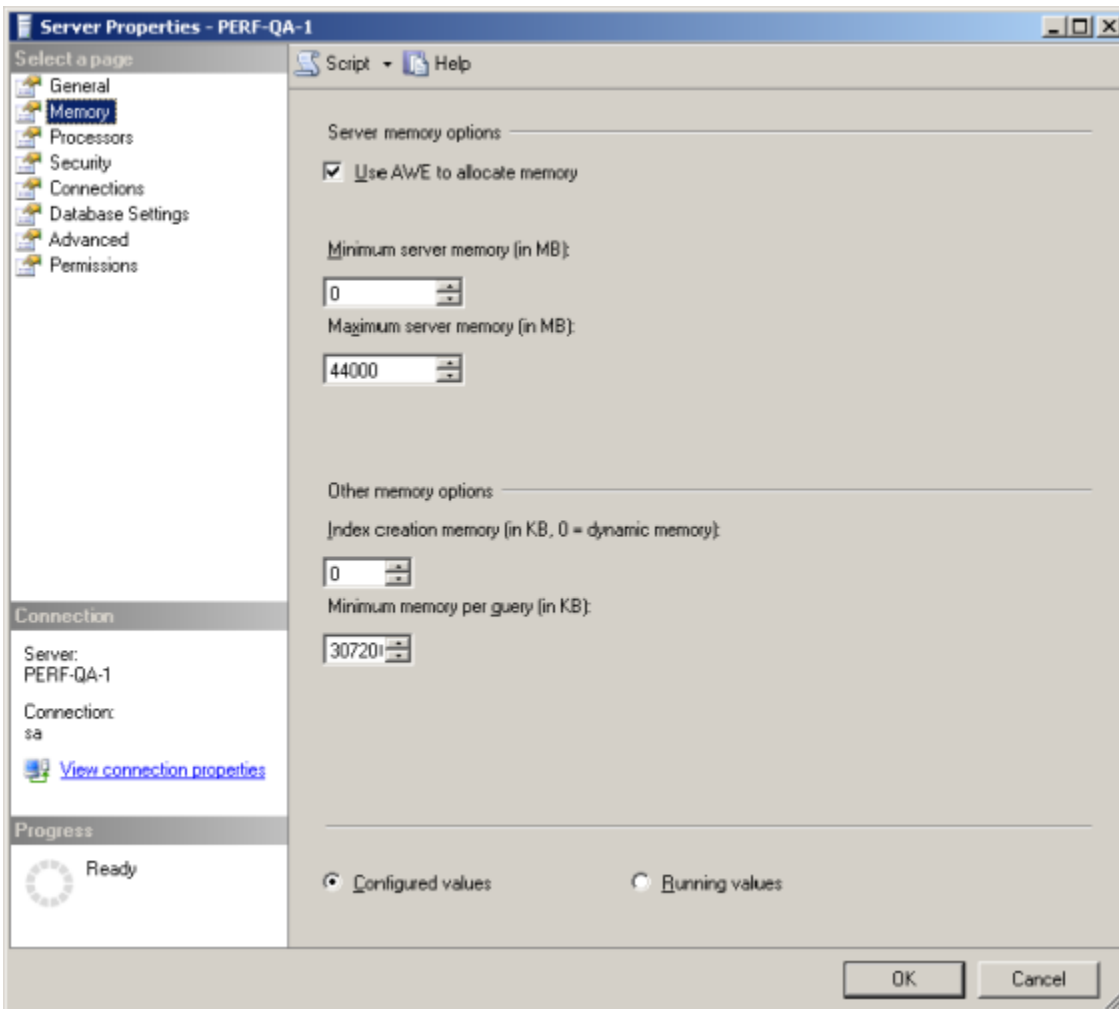
 You should place the data and log files on different disks.

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



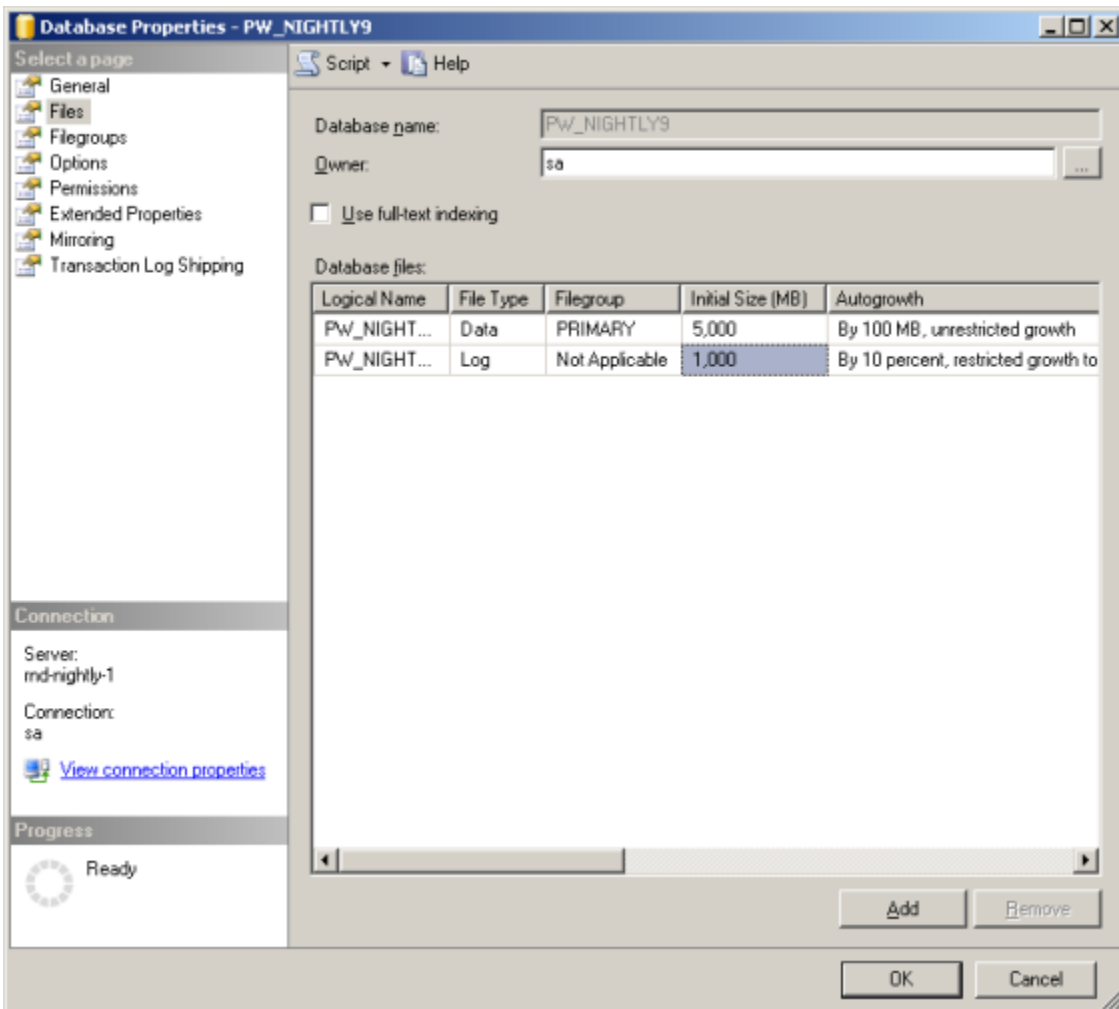
The following table describes the SQL Server-based PMDB (database) configuration parameters for the files as displayed in Figure 2:

**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

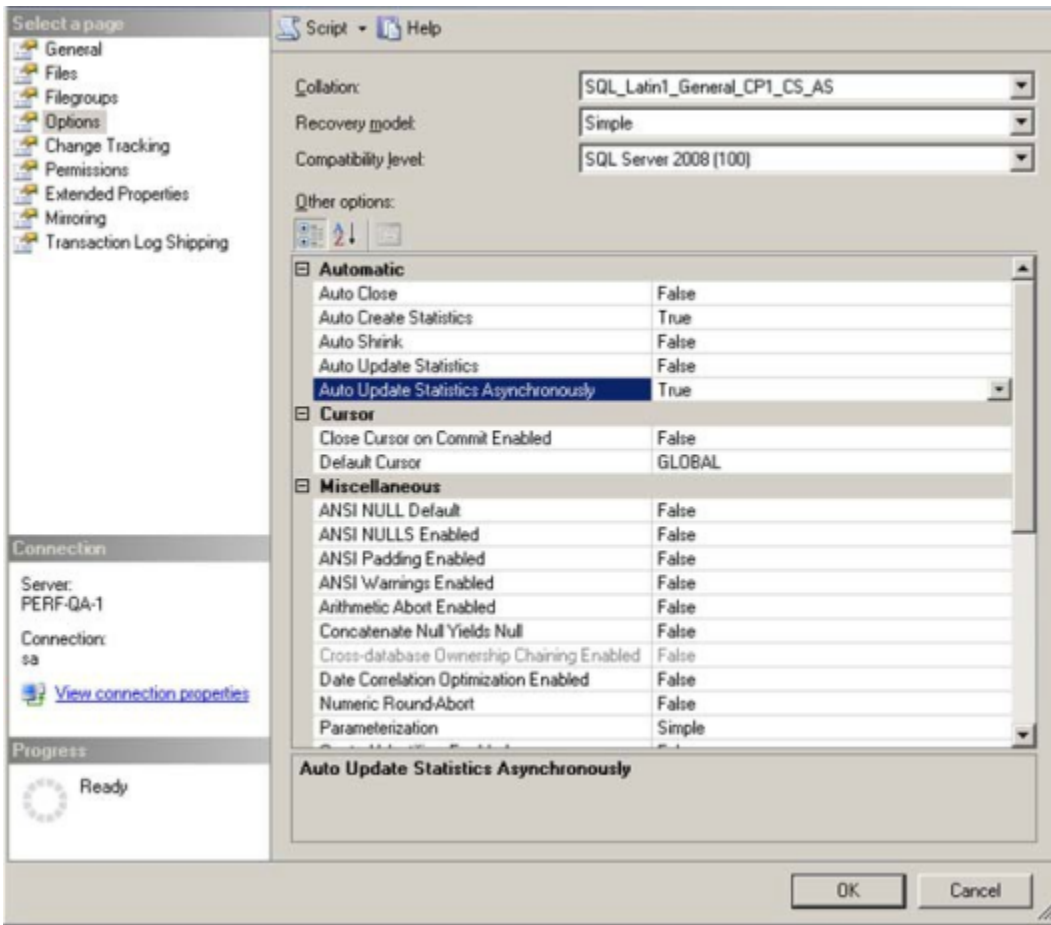


The following table describes the SQL Server-based PMDB (database) configuration parameters for the options as displayed in Figure 3:

**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

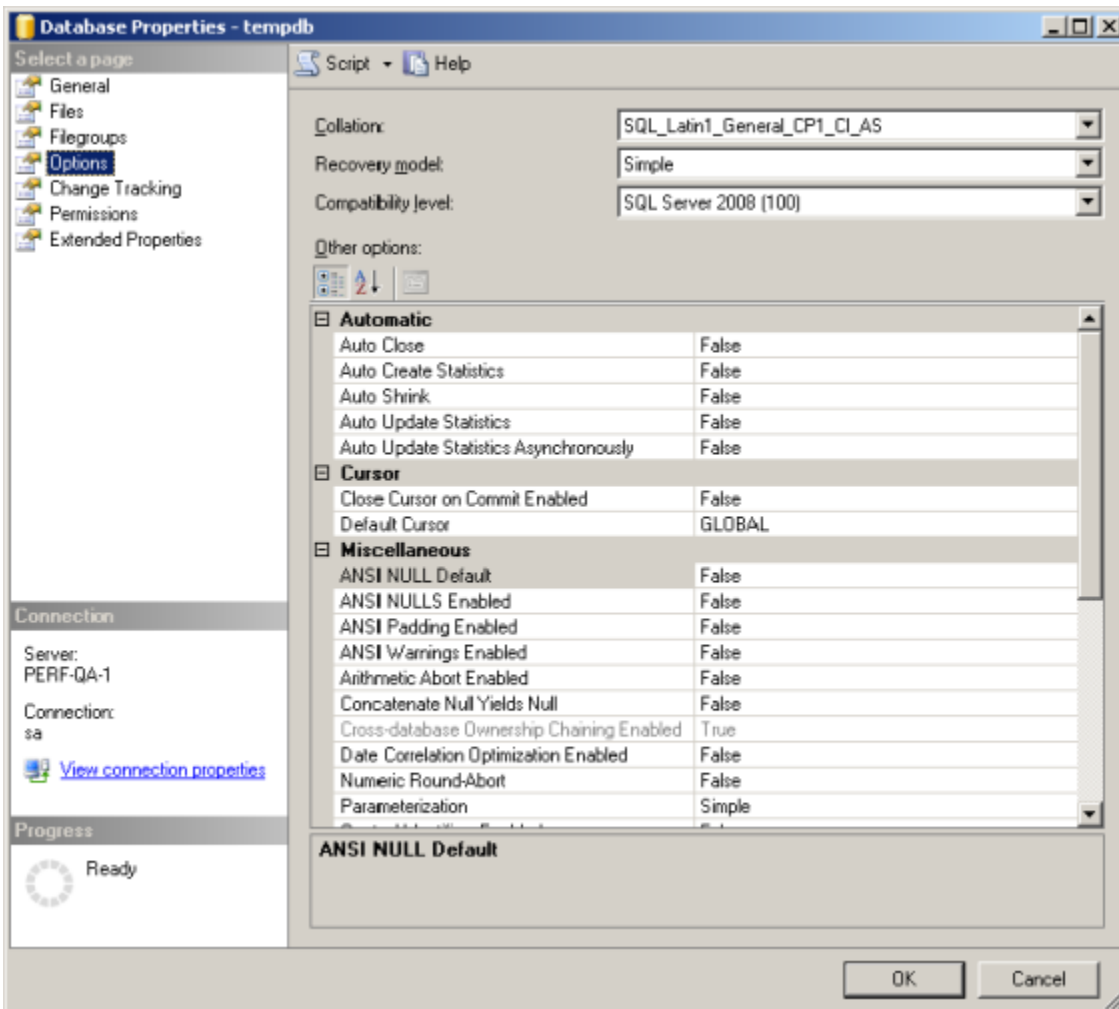


The following table describes the SQL Server-based tempdb configuration parameters as displayed in Figure 4:

**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                              |