

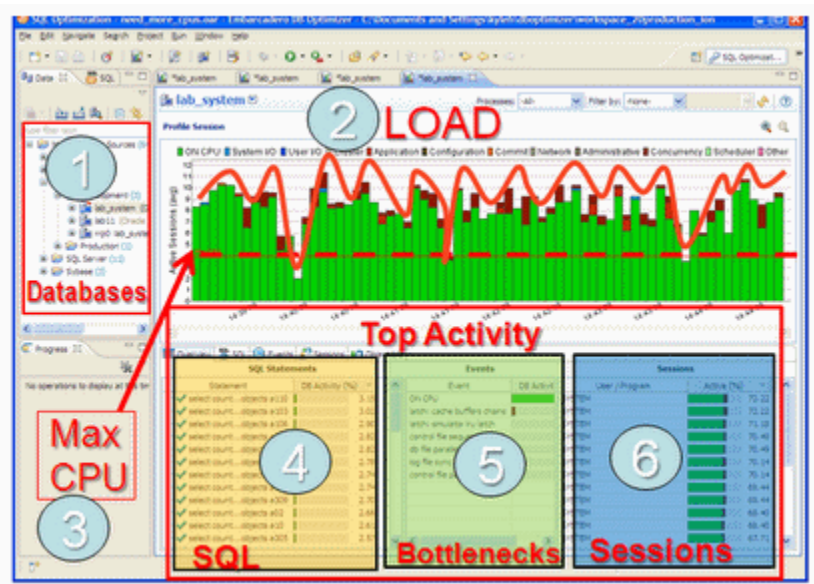
What's happening on the databases?

Is the database idle, working, or bottlenecked?

When a bottleneck happens how can you know which of these problems are causing the problem? A bottleneck could be caused by:

- An application problem
- An undersized machine
- SQL requiring optimization
- A misconfigured database

All of these can be easily identified from DB Optimizer's performance profiling screen. Let's look at the components of the performance profiling screen.



The screen has the following important areas.

1. **Databases.** For more information, see [Databases](#).
2. **Average Active Sessions (AAS) Load of selected database.** For more information, see [Average Active Sessions \(AAS\) Load of selected database](#).
3. **Maximum CPU line.** For more information, see [Maximum CPU line](#).
4. **Top SQL.** For more information, see [Top SQL](#), [Top Bottlenecks](#), and [Top Sessions](#).
5. **Top Bottlenecks.** For more information, see [Top SQL](#), [Top Bottlenecks](#), and [Top Sessions](#).
6. **Top Sessions.** For more information, see [Top SQL](#), [Top Bottlenecks](#), and [Top Sessions](#).

Databases

First, on top left, is a list of our databases we have registered.

Average Active Sessions (AAS) Load of selected database

The most important part of the screen is the Average Active Sessions (AAS) graph. AAS shows the performance of the database measured in the single powerful unified metric AAS. AAS easily and quickly shows any performance bottlenecks on the database when compared to the Maximum CPU line. The Max CPU line is a yardstick for performance on the database. When AAS is larger than the Max CPU line there is a bottleneck on the database. Bottleneck identification is that easy.

AAS or the average number of sessions active, shows how many sessions are active on average (over a 5 second range in DB Optimizer) and what the breakdown of their activity was. If all the users were running on CPU then the AAS bar is all green. If some users were running on CPU and some were doing IO, represented by blue, then the AAS bar will be partly green and partly blue.

Maximum CPU line

The line "Max CPU" represents the number of CPU processors on the machine. If we have one CPU then only one user can be running on the CPU at a time. If we have two CPUs then only 2 users can be on CPU at any instant in time. Of course users can go on and off the CPU extremely rapidly. When we talk about sessions on the CPU we are talking about the average number of sessions on CPU. A load of one session on the CPU thus would be an average which could represent one user who is consistently on the CPU or many users who are on the CPU for short time periods. When a CPU becomes a resource bottleneck on the database we will see the average active sessions in CPU state go over the Max CPU line. The number of sessions above the max CPU line is the average number of sessions waiting for CPU.

The Max CPU is a yardstick for performance on the database.

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