

Real-World Scenario 16-1: Configuring RAID

Scenario: You have a mission-critical server that cannot be allowed to fail completely, and you have some IT budget to work with. You must make sure that the operating system, applications, *and* data do not fail.

What type of RAID should you use to make sure the OS and applications are available all the time?

What type of RAID should you implement to ensure that data will be accessible, even in the event of a failure? For the fault tolerance of the data, should you opt for a hardware solution or a software solution? Should it be internal or external?

Real-World Scenario 16-1 Solution

You should strongly consider RAID 1 (mirroring) with disk duplexing to protect the OS and the applications. This is the type of solution that will mirror the C: drive. If one drive fails, the other will continue to work with no downtime. You can replace the drive during off-hours.

For the data, RAID 5, 6, and possibly 10 are highly recommended. With RAID 5, if one drive fails, the data remains accessible. In RAID 6, two drives can fail and the data remains accessible. And of course, the data can be rebuilt from the parity data when you are ready. If you have the budget backing you, the best option is to use external hard drive boxes with hot-swappable capabilities.

NOTE The video for this solution is broken into three pieces.

First, I show a RAID 1 hardware-based solution within the BIOS and the resulting volume within Windows. Next, I show how to create a RAID 1 array using Windows only (software-based RAID). Finally, I show how to create a RAID 5 array using a virtual machine (Windows Server).

Video Solution: Watch the video solution “16-1: Configuring RAID.”

Simulation: Complete the simulation “16-1: Configuring RAID.”