APPLICATION SERVER

An application server is a server specifically designed to run applications. The "server" includes both the hardware and software that provide an environment for programs to run.

Application servers are used for many purposes. Several examples are listed below:

- running web applications.
- hosting a hypervisor that manages virtual machines.
- distributing and monitoring software updates.
- processing data sent from another server.
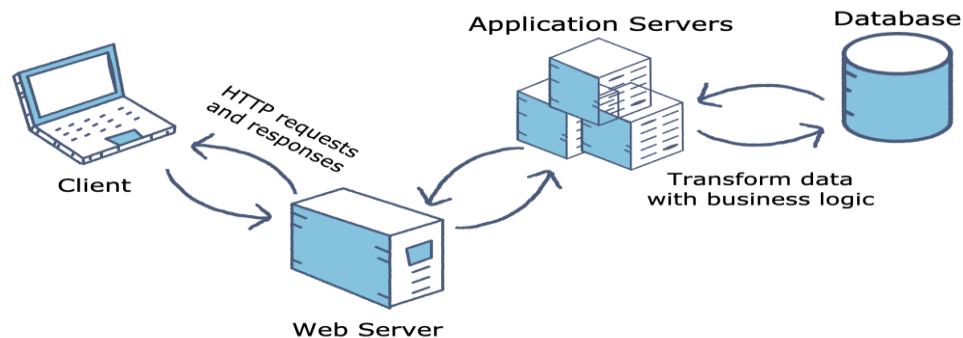
The application server is frequently viewed as part of a three-tier application, consisting of a graphical user interface (GUI) server, an application (business logic) server, and a database and transaction server. More descriptively, it can be viewed as dividing an application into:

1. A first-tier, front-end, Web browser-based graphical user interface, usually at a personal computer or workstation.
2. A middle-tier business logic application or set of applications, possibly on a local area network or intranet server.
3. A third-tier, back-end, database and transaction server, sometimes on a mainframe or large server.

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<u>Why Use an Application Server?</u>

A web server is designed – and often optimized – to serve webpages. Therefore, it may not have the resources to run demanding web applications. An application server provides the processing power and memory to run these applications in real-time. It also provides the environment to run specific applications.

For example, a cloud service may need to process data on a Windows machine. A Linux-based server may provide the web interface for the cloud service, but it cannot run Windows applications. Therefore, it may send input data to a Windows-based application server. The application server can process the data, then return the result to the web server, which can output the result in a web browser.

Advantages of an Application Server	Disadvantages of an Application Server
Easy to install application in one place	Over-kill for a network with only a few client computers
Simple to manage software licences to ensure only the allowed number of users can run the application at any one time	Can be expensive to set up
Software patches and security updates can be easily deployed	Increased network bandwidth as people run the application over the network
Saves much time compared to installing a copy on every client machine	

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