



Operating System Tutorial

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An operating system (OS) is a collection of software that manages computer hardware resources and provides common services for computer programs. The operating system is a vital component of the system software in a computer system. This tutorial will take you through step by step approach while learning Operating System concepts.

Why to Learn Operating System?

An Operating System (OS) is an interface between a computer user and computer hardware. An operating system is a software which performs all the basic tasks like file management, memory management, process management, handling input and output, and controlling peripheral devices such as disk drives and printers.

Some popular Operating Systems include Linux Operating System, Windows Operating System, VMS, OS/400, AIX, z/OS, etc.

Following are some of important functions of an operating System.

- ☐ Memory Management
- ☐ Processor Management
- ☐ Device Management
- ☐ File Management
- ☐ Security
- ☐ Control over system performance
- ☐ Job accounting
- ☐ Error detecting aids
- ☐ Coordination between other software and users

Applications of Operating System

Following are some of the important activities that an Operating System performs –

- ☐ **Security** – By means of password and similar other techniques, it prevents unauthorized access to programs and data.
- ☐ **Control over system performance** – Recording delays between request for a service and response from the system.
- ☐ **Job accounting** – Keeping track of time and resources used by various jobs and users.
- ☐ **Error detecting aids** – Production of dumps, traces, error messages, and other debugging and error detecting aids.
- ☐ **Coordination between other softwares and users** – Coordination and assignment of compilers, interpreters,

assemblers and other software to the various users of the computer systems.

Audience

This tutorial has been prepared for the computer science graduates to help them understand the basic to advanced concepts related to Operating System.

Prerequisites

Before you start proceeding with this tutorial, we are making an assumption that you are already aware of basic computer concepts like what is keyboard, mouse, monitor, input, output, primary memory and secondary memory etc. If you are not well aware of these concepts, then we will suggest to go through our short tutorial on Computer Fundamentals.