

## Fundamental Programming Concepts

Accessibility (a11y)	Web accessibility means that people with disabilities can use the Web.
Asynchronous (Async) Requests	Asynchronous is a form of input/output processing that permits other processing to continue before the transmission has finished. Asynchronous is used to improve throughput, latency, and/or responsiveness.
Availability	Guarantee that every request receives a response about whether it succeeded or failed.
Caching	Cache is a component that stores data so future requests for that data can be served faster.
Clustering	Grouping a set of objects in such a way that objects in the same group (called a cluster).
Concurrency	Several computations are executing simultaneously, and potentially interacting with each other.
Data binding	The process of creation a connection between <b>UI</b> of a client application and business logic, it binds data sources from the provider and consumer together and synchronizes them.
Data migration	The process of transferring data between data storage systems, data formats or computer systems, used to replace/upgrade servers or storage equipment, to conduct server maintenance or to relocate a data center, for a website consolidation,
Distributed System	Software system in which components located on networked computers communicate and coordinate their actions by passing messages. Three significant characteristics of distributed systems are: concurrency of components, lack of a global clock, and independent failure of components.
Failover	A backup operational mode in which the functions of a system component (processor, server, network, or database) are assumed by secondary system components when the primary component becomes unavailable.
High-Performance Computing	A technology where supercomputers are used to aggregate power for higher performance than an ordinary desktop can provide, hence it is also called supercomputing. HPC is used for advanced analysis, modelling and simulation in multidisciplinary fields, such as Biosciences, Climate Modelling and Electronic Design Automation.
Internationalization (i18n)	Process of planning and implementing products and services so that they can easily be adapted to specific local languages and cultures. Internationalisation - an adaptation of the product for potential use virtually anywhere. Reduction of "i18n".
Localization (l10n)	Addition of special features for use in a particular region. «L10n», the number 10 - the number of letters between "L" and "n".
Multithreading	Widespread programming and execution model that allows multiple threads to exist within the context of a single process.
Performance optimization	Performance tuning is the improvement of system performance.
Redundancy	Computer or network system components that are installed to back up primary resources in case they fail. Redundant data can protect a storage array against data loss in the event of a hard disk failure.
Refactoring	Restructuring existing computer code without changing its external behavior. Code refactoring may also resolve hidden, dormant, or undiscovered computer bugs or vulnerabilities in the system by simplifying the underlying logic and eliminating unnecessary levels of complexity.
Robust	Ability of a computer system to cope with errors during execution.
Scalability	Ability of a system, network to handle a growing amount of work in a capable manner or its ability to be enlarged to accommodate that growth.The capability of a system to increase its total output under an increased load when resources (typically hardware) are added.
Security	Processes and mechanisms by which digital equipment, information and services are protected from unintended or unauthorized access, change or destruction.
Thread	A part of a program that can perform separately from other parts.
Tuning	Improvement of system performance.
Web sockets	Providing full-duplex communication channels over a single TCP connection. Web Socket protocol makes more interaction between a browser and a website possible, facilitating live content and the creation of real-time games.

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