



Topic Guide: Learn the Basics of Edge Computing

Concept of Edge Computing

Created in the 1990s Edge Computing was started as a concept in content delivery networks that delivers videos and web content but later on, in the 2000s they evolved and adapted the concept of hosting apps and app components using edge servers deployed closer to the users. The area of hosting edge computing solutions and services includes apps like shopping carts, data aggregation, ad insertion, and others used by different [Top Web Development Companies](#).

Introduction to Edge Computing

Edge Computing is a modern and distributed networking philosophy or a computing architecture that possesses the capabilities of bringing the cloud close to the end-user. Edge computing takes place near a physical location other than a centralized server that helps save bandwidth and improves the response time.

In general terms, edge computing refers to the fewer processes running in the cloud server and moving those to different edge-related places like to a user's computer, IoT device, edge server, etc. It is an enhanced response for deconcentrated infrastructure.

Benefits of Edge Computing to Avail

- **Cost-efficient:** As stated before the process of edge computing helps minimize the bandwidth use and server resources which directly or indirectly saves money. Using edge computing services and its server resources can be cost-efficient other than spending heavy amounts for each.
- **Data protection & security:** The fair concern of data moving on different servers can be a matter of concern that is why edge computing provides the best of data protection and security. Edge computing keeps the data closer and within the boundaries of data laws like HIPAA and GDPR.

- **Speed:** Edge computing provides the benefit of speed and faster response time. It helps reduce latency by computing processes at the edge of the devices and helps process data on a local data center or the spot.
- **New functionality:** Edge computing provides the benefit of new functions and their functionalities that helps different businesses use edge computing and analyze their data.
- **Easy maintenance:** Edge computing providers the benefits of minimal efforts and cost to maintain the devices and system operating. It intakes less electricity for the data processing and keeps the systems cool.

Challenges Involved in Edge Computing

- **Limited scope:** Edge computing serves limited scope and purpose as compared to the cloud. The fact of limited scope is what makes users switch and use the cloud.
- **Connectivity:** The other problem often occurring is connectivity issues. If by any means connectivity is lost, a solid plan is needed to settle the issues.
- **Security loopholes:** High usage of smart devices is what leads to security risk and loopholes.

Applications of Edge Computing

With the growing trend of technology, the usage of edge computing is in various industries.

Edge Computing is used to aggregate, analyze, filter, and process data. Some areas where Edge computing is used are:

- **IoT Devices:** Used in smartphones, smart vehicles, locks, and watches.

- **Healthcare:** Used in storing and managing patient data, medical equipment, and other devices.
- **Retail:** Used in storing and managing data related to stock, sales, and other business-related data.

Manufacturing: Used in monitoring the manufacturing process, applying ML, and managing real-time analytics.

