

6- Components of E-Commerce

6- 1 Introduction

This section explains what you need to setup an e-commerce business starting with the basics of business leading to implement new technology of e-commerce.

6-1 BACK-END

Before doing any work on the front-end web site, **you need to make sure the back-end is in place and working seamlessly** بسلاسة. **Most dot.com businesses that failed in the last several years didn't have a:**

1. **Good and solid back-end**
2. **Setting up a consists back-end**
3. **securing the products or services**
4. **order fulfillment and customer service.**

Q Why some business failed to be established by many of dot.com?

So what makes the front-end of a website possible? Where is all that data stored? This is where the back-end comes in. The back- end of a website consists of:

1. **Server**
2. **Application**

3. Database.

A back-end developer builds and maintains the technology that powers those components which, together, enable the user-facing side of the website to fulfill all the process.

6-1-1 Skills and Tools Required for Back-End Development

In order to make the server, application, and database communicate with each other, back-end devs use server-side languages like PHP, Ruby, Python, Java, and .Net to build an application, also tools like MySQL, Oracle, and SQL Server to find, save, or change data and serve it back to the user in front-end code.

Job openings for back-end developers often also call for experience with PHP frameworks like Zend, Symfony, and CakePHP; experience with version control software like SVN, CVS, or Git; and experience with Linux as a development and deployment system.

Back-end devs use these tools to create or contribute to web applications with clean, portable, well-documented code. But before writing that code, they need to collaborate with business stakeholders to understand their particular needs, then translate those into technical requirements and come up with the most effective and efficient solution for architecting the technology.

Recently public and private APIs have become an essential part of trading data between mobile devices, websites, and other connected systems.

6-2 FRONT-END

Once **حالما** the back-end is in place you can proceed with the front-end. There are five basic parts to setting up any e-commerce site:

1. Database
2. Dynamic HTML
3. Document Object Model
4. Security
5. Payment processing
5. Merchant account **حساب التاجر**

1) Database

A database is needed to store customer information including some but n limit to:

- Name
- Address
- E-mail address
- Phone Number
- Shipping Method
- Payment Method
- Payment History
- Order History
- Current Items on Order

The database should also have information about all of the products and services including :

- Product ID
- Description
- Picture
- Thumbnail Picture
- Availability/On-hand quantity
- Shipping Costs
- Shipping Time
- Tax Tables (if applicable)

This database also needs to tie ربط into the back-end systems for processing and shipping of orders, either through اما من خلال a direct link or by importing استيراد and exporting تصدير the data.

2) DHTML

Dynamic HTML is needed to give your website special effects, interactivity and access to the database. Special effects and interactivity for the site may include roll-over pictures, animated gifs and cascading menus قوائم متتالية which be done using either VBScript or JavaScript programming languages.

Access to the database would need to be accomplished تنجز so users can see and select the products and services available. **Before a web site can be accessed, a database preferred يفضل to (not mandatory ليس الزامي) to be registered تسجيل on the reliable server and has good reputation in order to hosting the site. Once the database is**

registered it can be accessed using either Active Server Pages or Java Server Pages.

3) Document Object Model **مهمة جدا**

Document Object Model (DOM) is a W3C specification, not a standard, which means it's still changing. **DOM was developed** **تم** **تطويرها** **to provide a standard programming interface that can be used** **في** **in a variety of environments** **بيئات** **and applications.**

DOM is a programming API for HTML and XML documents. “An application program interface (API) is a set of routines, protocols, and tools for building software applications. A good API makes it easier to develop a program by providing all the building blocks. A programmer then puts the blocks together.”

What is an API? **مهمة**

APIs are mechanisms that enable two software components to communicate with each other using a set of definitions and protocols. For example, the weather bureau's software system contains daily weather data. The weather app on your phone “talks” to this system via APIs and shows you daily weather updates on your phone.

What does API stand for? **مهمة**

API stands for Application Programming Interface. In the context of APIs, the word Application refers to any software with a distinct function. **Interface can be thought of as a contract of service between two applications.** This contract defines how the two communicate with each other using requests and responses. Their API documentation contains

information on how developers are to structure those requests and responses.

How do APIs work? مهمة

API architecture is usually explained in terms of client and server. **The application sending the request is called the client, and the application sending the response is called the server.** So in the weather example, the bureau's weather database is the server, and the mobile app is the client.

4) Security

There are two levels to securing information over the internet. **The first level is a digital certificate الشهادة الثبوتية الرقمية , the second level is SSL (Secure Sockets Layer).**

4-1 Digital Certificates مهم جدا

Digital certificates are electronic files that are used to uniquely identify people and resources over the internet. Digital certificates also enable secure, confidential communications تمكن من ايجاد اتصال امن وسري between two parties بين جهتين. There are four types of certificates available:

A. Authority Certificate

This certificate is used by CA (Certifying Authorities الجهة المانحة للشهادة), such as VeriSign or Entrust Technologies, to sign other certificates. A CA is a trusted entity كيان موثوق به whose main responsibility is certifying the authenticity of others.

B. Server Certificates

Web servers use these types of certificates to identify the company running the server and to allow for encrypted SSL (Secure Sockets Layer) sessions and SET (Secure Electronic Transactions) processing.

C. Personal Certificates

Individuals use personal certificates to send S/MIME messages and access web servers using SSL and SET.

D. Publisher Certificates

Software authors use this type of certificate to identify their release codes لا يخدعون إصدار البرنامج أو التطبيق so users know it hasn't been tampered with بالنسخ المزورة.

Q: Who uses each type of certification?