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Web Development

Skill overview

— Web Development Overview

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   What are web applications?   ⊘

— Web Applications Concepts

   Objectives: Web Applications Concepts   ⊘

   Web application architecture   ⊘

   What are the different types of web applications?   ○

Web application architecture

Web application development encompasses many different technologies, from web server software that serves content in HTML, cascading style sheet (CSS), or JavaScript files, to relational databases and server-side programming. These technologies can enable you to build a web application that users can access on the internet by using their web browsers.

The main components of a web application are shown in *Figure 1*.

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Firewall

Web server
(presentation)

Application
server
(business
logic)

Database

Client tier
(browser)
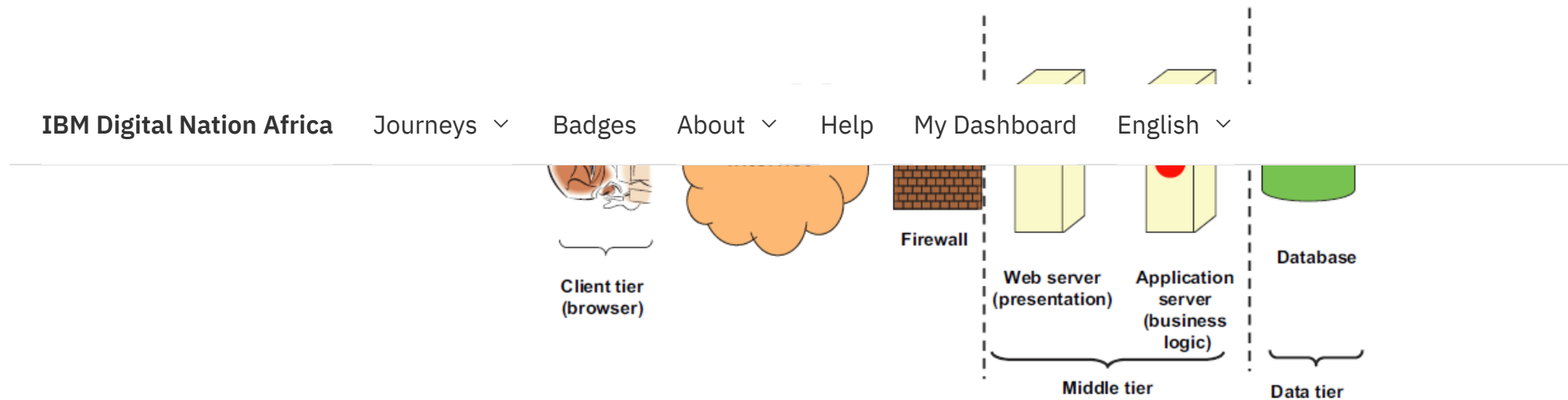
Middle tier

Data tier

Figure 1: Web application components

Although many variations are possible, a web application is commonly structured as a three-tiered application. In its most common form, these tiers have the following characteristics:

- The *client tier* (also known as the frontend or the presentation tier) represents the portion of the application that is seen by the user. It is responsible for displaying the user interface and for the direct interaction with the user. In a web application, this tier is written in HTML and JavaScript.

- The *internet* is the wide area network that connects user devices and servers across the globe.

- The *firewall* is software that monitors all incoming and outgoing connections and prevents unauthorized connections.

- The *web server* is software that serves static content, such as images that are stored in a directory hierarchy on the server's hard drive.

interacting with the database to read data or to add and update data. This part
of the application is also known as the *business logic tier* and *middle tier*.

responsible for keeping the application data; therefore, it is also known as the
data tier.

The web browser sends requests to the middle tier, which services the requests by
making queries and updates against the database, and then generates a user
interface.

The web server is responsible for serving static content, such as images and videos,
to the user.

The application server is responsible for handling user interactions and interacting
with dynamic content, such as payment records that are stored (and updated) in
the database. The database is responsible for the permanent storing of important
data.

The database is responsible for the permanent storing of important data.

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