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WEB 425 Angular with TypeScript

Discussion 4.1 Observables and Observable Streams

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Observables in Angular are included in RxJS which is also known as the Reactive Extensions for JavaScript library (Angular). An observable is not a stream but instead a blueprint of the stream. It describes a stream of data that can be observed over time (Angular). An obserable also describes how the set of streams are connected with operations. Observable streams is the concept of using observables to create and manage a continuous stream of data (Angular).

Observables are used to provide support for passing messages between parts of an application. It is a technique used for event handling, asynchronous programming, and handling multiple values. Observables are defined using a function for publishing values, but it is not executed until the user ends up subscribed to it. This subscribed user then is able to receive the notifications until the function is completed, or until the user decides to unsubscribe (Sassi, 2022). By creating an Observable instance that defines the subscriber function, the subscriber() function can be used to obtain or generate values or messages that want to be published (Angular). There are three type of notifications that an obserable can send. These include next, error and complete. The notification type of next is required. The error notification type is optional and displays an error notification (Angular). The complete notification type is optional and is a complete notification. If no notification handler is supplied, the observer ignored notifications of that type (Angular).

An observable stream is pull-based where the consumer decides when the data is received from the data producer. The producer is not aware of when the data would be delivered to the consumer. So in order to pull a value from a collection, it has to be readily available (Sassi, 2022). An observable is push-based where the producer decides when the costumer receives the data (Sassi, 2022). In this way, a promise is used to push in JavaScript.

References

Angular. (n.d.). https://angular.io/guide/observables

Sassi, R. B. (2022, January 21). *What are the differences between promises, observables, and streams?*. Medium. https://levelup.gitconnected.com/promise-vs-observable-vs-stream-165a310e886f