

## Chapter 7 Sample Question and Answer

### 1. Write example code for JQuery Form Validation.

Jquery Validation

```
<script src="jquery.min.js"></script>

<h2>Example 1:</h2>

<form id="first_form" method="post" action="">

    <div>

        <label for="email">Email:</label>

        <input type="email" id="email" name="email"></input>

    </div>

    <div>

        <label for="password">Password:</label>

        <input type="password" id="password" name="password"></input>

    </div>

    <div>

        <input type="submit" value="Login" />

    </div>

</form>

<script>

$(document).ready(function() {

    $('#first_form').submit(function(e) {

        e.preventDefault();

        var email = $('#email').val();

        var password = $('#password').val();

        $(".error").remove();

        if (email.length < 1) {

            $('#email').after('<span class="error">This field is required</span>');

        }

    }

})

}
```

```

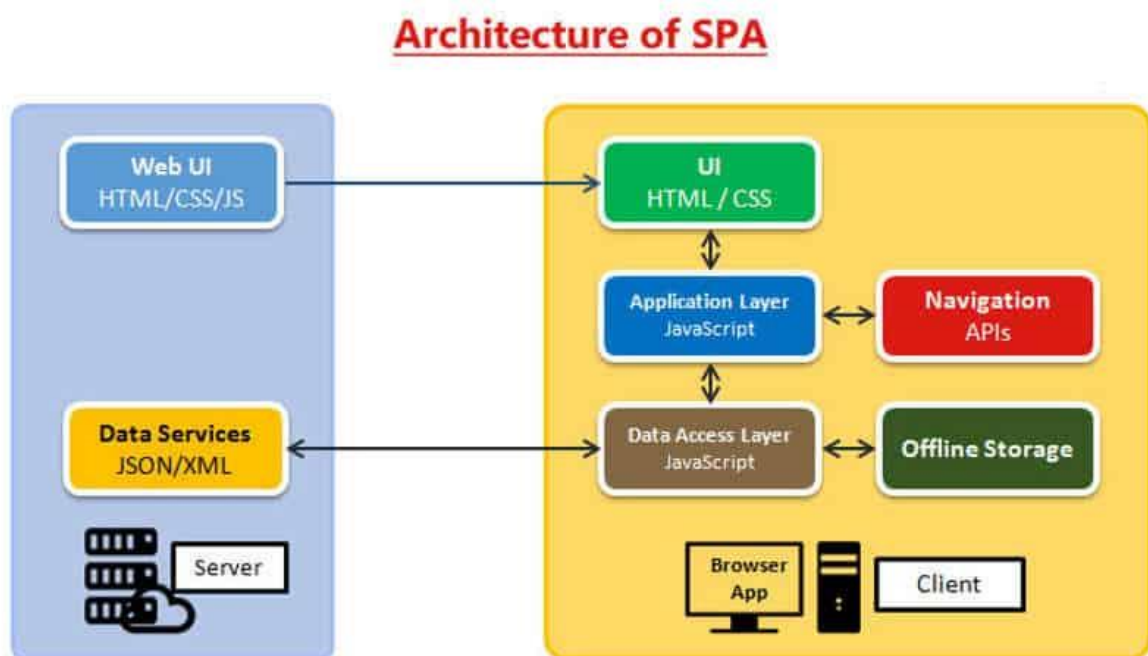
if (password.length < 8) {
    $('#password').after('<span class="error">Password must be at least 8 characters long</span>');
}
});

});
</script>

```

## 2. What is Single Page Application? Draw architecture of SPA and explain its features.

SPA is a web application taking a single HTML page. Delivering dynamic updates, it allows interacting with the page without refreshing it. Making use of a single page app you can significantly decrease the server load and enhance loading speed for a better UX. This is possible because SPA only boots data on demand while the entire page has previously been loaded.



Being quicker than traditional multi-page websites, a single page app may be the best solution for business. Let's consider SPA features to figure out what it is good for.

### SPA FEATURES

Some of the core features most competitive single page apps have are as follows:

- **No server roundtrip.** SPA can easily reshape any part of UI to restore the full HTML page preventing server roundtrip. This can be achieved by using Separation of Concerns (SoC) design principle that sets a goal for dividing the software system into parts so that each part could tackle a separate problem.

- **Templating and routing on the client side.** Supported by JS-based routers, SPA can monitor the user's actual state and location within the whole navigation experience.
- **The capability to work offline.** A single page app can still work offline in the event of a lost internet connection, for example. Once the connection is restored, the local data is synched with the web server.
- **Cross-platform functionality.** SPAs work on different operating systems from any browser. This feature is more advantageous for developers, however, a regular user working with numerous devices can also greatly benefit from it.
- **A reduced throughput.** The connection with the server is carried out in small fragments. Data is packed into smaller objects (e.g. JSON data format) which is especially helpful in the case of slow or traffic-limited connection.

These and other features significantly influence single page application performance hence making it more attractive for startups and other online projects. Single page application architecture is impeccable for dynamic apps, SaaS platforms, social media, and more.

## EXAMPLES OF SPAS

Angular and React.

### 3. What are the advantage of SPA?

**Fast and responsive design.** Since a single page web app updates the desired content only, it dramatically improves the loading time. Most resources like HTML, CSS, and Scripts are loaded just once, at the very beginning. Furthermore, by loading just small chunks of content SPAs make the interactions prompter.

**Adaptable layout.** SPAs are easy to adapt to mobile device browsers as well as mobile app design if you wish to offer your users such along with the web version.

**Caching capabilities.** SPAs can effectively cache any local data. They send a single request to a web server and after that save all the data it gets. Since the apps have ongoing access to this data, they let the users keep on working even if they're lacking strong connection.

**Increased single page application performance.** Compared to a standard web resource, single page apps load only the data that changes (without header, sidebar, and different parts of UI). Meanwhile, caching the status of the previously visited pages SPAs contribute to the immediate back and forth transitions.

**Continuous UX.** When you build a single page web application, you get simple continuous user experience. Coming with a clear beginning, middle, and end such apps contribute to a flawless interactive UX utilizing parallax scrolling along with different transition and animation effects.



#### 4. Compare SPA Framework over jQuery.

jQuery is a library.	Angular is a framework.
If you want to build a web site, jQuery is enough without Angular.	If you want to build web application, need to go with Angular.
Doesn't supports two-way data binding.	Supports two-way data binding.
It doesn't uses Dependency Injection (DI)	Much use of Dependency Injection (DI)
It can be used on any website or web application.	It is mostly used for Single Page Applications (SPA)
Unit Test not possible	Unit testing is possible

#### jQuery vs a SPA Framework

Factor	jQuery	Angular
Abstracts the DOM	<b>Yes</b>	<b>Yes</b>
AJAX Support	<b>Yes</b>	<b>Yes</b>
Declarative Data Binding	<b>No</b>	<b>Yes</b>
MVC-style Routing	<b>No</b>	<b>Yes</b>
Templating	<b>No</b>	<b>Yes</b>
Deep-Link Routing	<b>No</b>	<b>Yes</b>

#### 5. Compare angular and react?

Parameters	React	Angular
Type	React is a JavaScript library, and it is much older compared with Angular.	Angular is a complete framework.
Use of libraries	React js can be packaged with other programming libraries.	Angular is a complete solution in itself.
Learning curve	It is easier to grasp compared Angular. However, it is difficult to learn when augmented with Redux.	Learning Angular is not easy for beginners. Thus, it requires lots of training.
Community support	When it comes to community support React doesn't offer much.	It has a viable and dependable community support system
Installation time	React takes longer to set up. But, it is really fast for delivering projects and building apps.	Angular is easy to set up but may lead to an increase in coding time which also results in delayed project deliveries.
Best feature	It gives you the freedom to choose the tools, architecture, and libraries, for developing an app.	It offers a limited amount of freedom and flexibility.

Parameters	React	Angular
Data binding	React language uses one-way data binding, which means that the UI elements can't be changed without updating the corresponding model state.	Angular, on the other hand, uses the two-way data binding method. It helps you to ensure that the model state automatically changes when any change is made.
Testing & Debugging	It requires a set of tools to perform different types of testing.	The testing and debugging for a complete project is possible with a single tool.
Documentation	Although it is also undergoing regular updates, the documentation is relatively faster.	Due to the ongoing development process, the documentation is slower.
Updates	Updates in React are simple because scripts help in the migration.	It plans updates every six months, which gives some time to make needed changes for migration.
Application Types	Use this app if you want to develop Native apps, hybrid apps, or web apps	You should use this framework If you want to develop a SPA(Single Page Application) and mobile apps.
Ideal for	Ideal for modern web development and native- rendered apps for Android and iOS devices.	Ideal to use when you want to develop large-scale, feature-rich applications.
Model	It is based on Virtual DOM	Based on MVC (Model View Controller)
Written in	JavaScript	Typescript
Community Support	Facebook developers community	A large community of developers and supporters
Language preference	JSX - JavaScript XML	TypeScript
Companies Using	Facebook, Uber Technologies, Instagram, Netflix, Pinterest, etc.	Wepay, Beam, Auto Trader, Mesh, Streamline Social, etc.
Template	JSX + J% (ES5/ES6)	HTML + TypeScript
Git hub stars	180K	80.8 K
Fork	30.3 K	48.2 K