

Bootstrap Interview Questions & Answers



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An Author and Blogger

 **DotNetTricks**

BootstrapInterview Questions & Answers

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Release History

- Initial Release 1.0 - 7th Jan 2019
- Second Release 1.1 - 13th Feb 2019



About Dot Net Tricks

Dot Net Tricks is founded by Shailendra Chauhan (Microsoft MVP), in Jan 2010. Dot Net Tricks came into existence in form of a blog post over various technologies including .NET, C#, SQL Server, ASP.NET, ASP.NET MVC, JavaScript, Angular, Node.js and Visual Studio etc.

The company which is currently registered by a name of Dot Net Tricks Innovation Pvt. Ltd. came into the shape in 2015. Dot Net Tricks website has an average footfall on the tune of 300k+ per month. The site has become a cornerstone when it comes to getting skilled-up on .NET technologies and we want to gain the same level of trust in other technologies. This is what we are striving for.

We have a very large number of trainees who have received training from our platforms and immediately got placement in some of the reputed firms testifying our claims of providing quality training. The website offers you a variety of free study material in form of articles.

Dot Net Tricks Training Solutions

Dot Net Tricks provide you training in traditional as well as new age technologies, via various formats.

Master Courses (Instructor-led)

For a beginner who needs regular guidance, we have a fully packed Master Courses. They are almost equal to semester courses taught in engineering colleges when it comes to length, breadth of content delivery, the only difference instead of 5-6 months, they take approx. 16-weekend classes (2 months).

The detail about Master courses can be found here: <https://www.dotnettricks.com/instructor-led-courses>

Hands-On Learning (Learn to code)

Hands-On Learning courses give you the confidence to code and equally helpful to work in real-life scenarios. This course is composed of hands-on exercise using IDE or cloud labs so that you can practice each and everything by yourself. You can learn to code at your own pace, time and place.

The detail about Hands-On Learning courses can be found here: <https://www.scholarhat.com>

Skill Bootcamps (Instructor-led)

Professionals who don't have two months' time and want to get skilled up in least possible time due to some new project that their company has to take in very near future, we have designed Skill Bootcamps Concept, where you will get trained on consecutive days in a fast-paced manner, where our full focus is going to be on hands-on delivery of technological exercises.

The detail about Skill Bootcamps can be found here: <https://www.dotnettricks.com/skill-bootcamp>

Self-paced Courses

Self-paced courses give you the liberty to study at your own pace, time and place. We understand everyone has their own comfort zone, some of you can afford to dedicate 2 hours a day, some of you not. Keeping this thing in

mind, we created these self-paced courses. While creating these courses we have ensured that quality of courses doesn't get compromise at any parameter, and they also will be able to produce the same results as our other course formats, given the fact you will be able to put your own honest effort.

The detail about Self-paced courses can be found here: <https://www.dotnettricks.com/self-paced-courses>

Corporate Training (Online and Classroom)

Dot Net Tricks having a pool of mentors who help the corporate to enhance their employment skills as per changing technology landscape. Dot Net Tricks offers customized training programs for new hires and experienced employees through online and classroom mode. As a trusted and resourceful training partner, Dot Net Tricks helps the corporate to achieve success with its industry-leading instructional design and customer training initiatives.

The detail about Corporate Training can be found here: <https://www.dotnettricks.com/corporate-training>

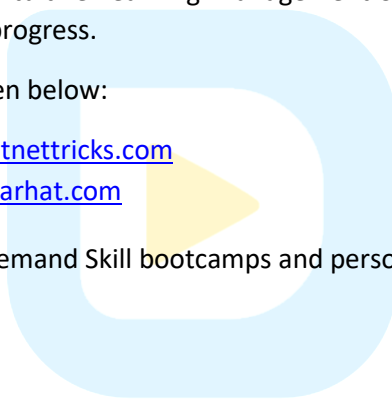
Learning Platform

We have a very robust technology platform to answer the needs of all our trainees, no matter which program they enrolled in. We have a very self-intuitive Learning Management System (LMS), which help you in remain focused and keeping an eye over your progress.

We offer two Learning Platforms as given below:

1. Dot Net Tricks: <https://www.dotnettricks.com>
2. Scholar Hat: <https://www.scholarhat.com>

Apart from these, we also provide on-demand Skill bootcamps and personalized project consultation.



Dedication

To my parents, Mr Kedarnath Samantaray(Father) and Mrs Charulata Samantaray(Mother)for everything they did for me. I would like to thank my friends, Deb and Gourav, for their ideas and feedback on the technical aspects of this book.

-Satyaprakash Samantaray



Introduction

What Where Author Qualification to Write This Book

Satyaprakash Samantaray is a software developer currently working with an MNC company in Bangalore, India. He acquired a bachelor's degree in E&TC from Biju Patnaik University of Technology, Odisha. He has over six years of extensive experience in Microsoft technologies including C#, ASP.NET, MVC, and SQL Server, Entity Framework as well as in other technologies such as jQuery, CSS, Angular and Bootstrap and also has experience in Business intelligence tool like MSBI tool.

He is a technical author and speaker who loves to contribute to the technical community. He writes articles for multiple platforms including Microsoft Asp.net Community and TechNet Wiki. For his dedicated contribution to the developer community, he has been recognized as an MVP(Microsoft Most Valuable Professional), MVB(Most Valuable Blogger) and Monthly award winner in Microsoft TechNet wiki.

What This Book Is

Bootstrap is a free and open-source front-end framework for developing websites and web applications. Here you can get bootstrap interview Questions& Answers which are very important for fresher as well as experienced professional. This book covers every Question and Answer with code description which will be helpful for writing code and passing a system test in an interview. Here you can learn also how to integrateBootstrapwith ASP.NET MVC, ASP.NET, PHP, HTML, Angular and React.

What You'll Learn

This book is for UI designer and Web developer who are looking for a change or want to make a bright future in Bootstrap. This book covers the interview questions on the following topics:

- Bootstrap core concepts.
- Bootstrap CSS and configuration.
- Responsive website using Bootstrap
- Different layout components In Bootstrap
- How to write bootstrap code using Visual Studio and Visual Studio code.
- Bootstrap JavaScript Plugins.
- Customizing or extending Bootstrap.
- Bootstrap integration with ASP.NET MVC, ASP.NET Core, PHP, HTML, Angular, React

Share to Help Others

Hope you will enjoy this book and find it valuable for yourself. The author is truly delighted about this if you will share this book among others because he wants it to reach as many technical people as possible.

Our best wishes always with you for your learning and growth!

About the Author

Satyaprakash Samantaray - An Author and Blogger



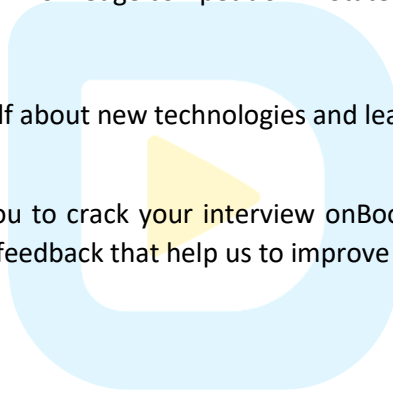
He is working as a software developer in an MNC organization and having more than 6 years of experience. He is very passionate about the Microsoft Technologies. He is an author, speaker, MVP and MVB.

He has experience to develop enterprise application using Microsoft technologies such ASP.NET MVC, Entity Framework, ASP.NET Core, C#, SQL server, etc. and other technologies such as Angular, Bootstrap as well as in MSBI tool etc.

During his education, he has achieved awards for participating in Quiz, Speech in state level. He received medals for participating in General Knowledge competition in State level.

He always tries to keep updated himself about new technologies and learning new skills and shared with other in a better and easy way.

He hopes that this e-book will help you to crack your interview onBootstrap. This is the first edition of this book but not last. Please provide your feedback that help us to improve this book quality.



How to Contact Us

Although the author of this book has tried to make this book as accurate as it possible but if there is something strikes you as odd, or you find an error in the book please drop a line via e-mail.

The e-mail addresses are listed as follows:

- mentor@dotnettricks.com
- info@dotnettricks.com

We are always happy to hear from our readers. Please provide your valuable feedback and comments!

You can follow us on [YouTube](#), [Facebook](#), [Twitter](#), [LinkedIn](#) and [Google Plus](#) or subscribe to [RSS feed](#).



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Introducing Bootstrap

Q1. What is the Bootstrap?

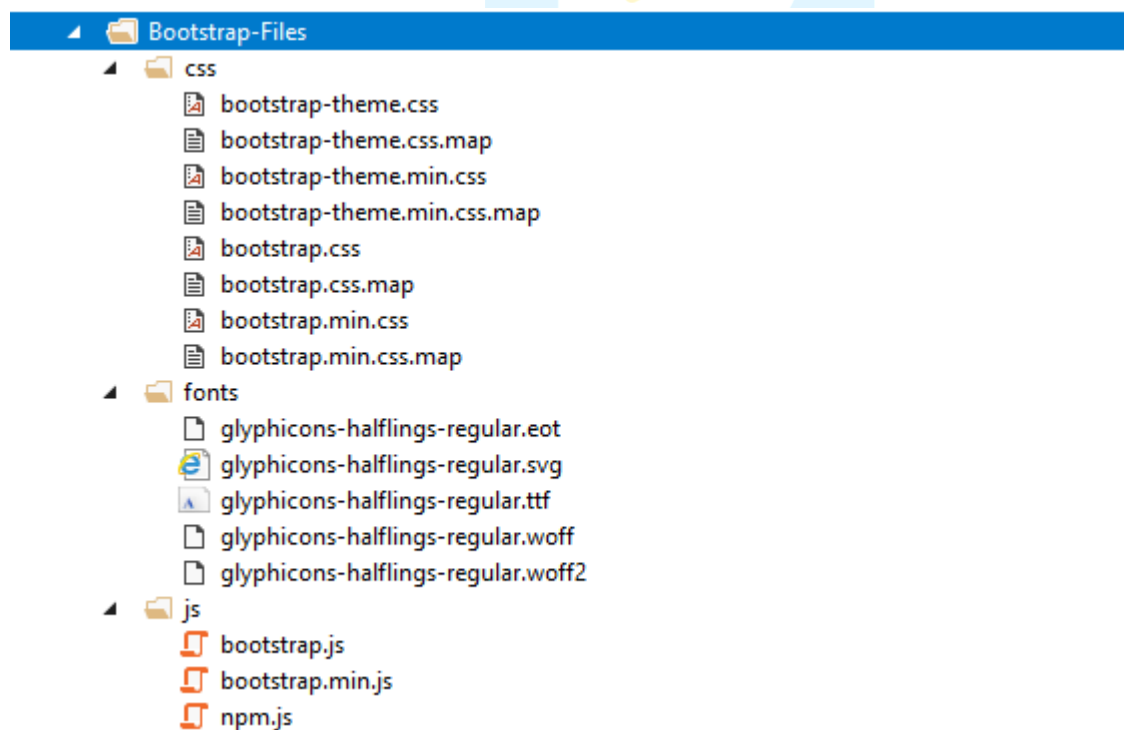
Ans. Bootstrap is a mobile first front-end framework for easier web development with supporting all virtual devices. It uses HTML, CSS, JavaScript.

Q2. Why we should use Bootstrap?

Ans. Every browser can support bootstrap features. With the knowledge of HTML, CSS and JavaScript anyone can start working with Bootstrap. Bootstrap responsive CSS adjusts to Desktops, Mobiles and Tablets. It provides web-based customization. Bootstrap is open source. It can be used for mobile first design styles using the entire library instead of separate and different files.

Q3. How does Bootstrap File structure look?

Ans. There are 3 sub-folders. These are CSS, JS and Fonts. Let's check how does it look in Visual Studio.



Q4. How to get Bootstrap files?

Ans. You can get Bootstrap files in 2 ways.

1. First, download above files from below link and then upload in your project and use it.
<http://getbootstrap.com/docs/3.3/getting-started/#download>
2. By using Bootstrap CDN links. No need to download these above files manually.
<https://www.bootstrapcdn.com/>

Q5. What are Responsive websites?

Ans. Responsive means a website can be used on any platform with all types of screen size. A platform like it may be a desktop, laptop, tablet or smartphones. It automatically adjusts with changing the width and height of the screen.

In today's era, people, as well as business, follow the smartphones for their personal and professional use. So, bootstrap is the best choice to make the website one time and it supports all kinds of devices.

Q6. What is the difference between a normal page and Bootstrap page?

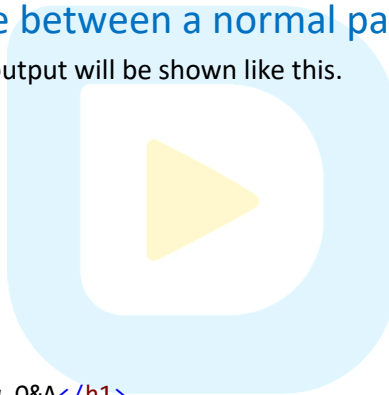
Ans. For normal website code with output will be shown like this.

```
<!DOCTYPE html>
<html lang="en">

<head>
<meta charset="utf-8">
<title>Bootstrap Interview</title>
</head>

<body>
<h1>Welcome to Bootstrap Interview Q&A</h1>
</body>

</html>
```



For Bootstrap website code will be shown like this. Here I have added Bootstrap CSS and JS to make it responsive.

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<title>Bootstrap Interview</title>
<meta name="viewport" content="width=device-width,initial-scale=1">
<link rel="stylesheet" type="text/css" href="~/Bootstrap-Files/css/bootstrap.min.css">
</head>
<body>
<h1>Welcome to Bootstrap Interview Q&A</h1>
<script src="~/Bootstrap-Files/js/bootstrap.min.js"></script>
</body>
</html>
```

Q7. What is Bootstrap CDN?

Ans. CDN means Content Delivery Network. CDN is a global network by using which you can access files by online.

So, in below code we can use CDN to make website responsive.

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<title>Bootstrap Interviews</title>
<meta name="viewport" content="width=device-width,initial-scale=1">
<!-- Updated compiled and minified CSS -->
<link rel="stylesheet"
href="http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css">
</head>
<body>
<h1>Bootstrap Interview Q&A</h1>
<!-- jQuery library -->
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.12.0/jquery.min.js"></script>
<!-- Updated compiled JavaScript -->
<script src="http://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"></script>
</body>
</html>
```

Q8. When Bootstrap was released first time?

Ans. The initial release of Bootstrap was on August 19, 2011.

Q9. Who was developed Bootstrap?

Ans. Bootstrap was developed by two employees Mark Otto and Jacob Thornton at Twitter.

Q10. What are the features of Bootstrap v1?

Ans. The initial release of bootstrap v1.x was 1.0.0 and final release was 1.4.0 ;

- It provided support for IE7 and IE8
- It updated grid without .column or columns
- It updates CSS selectors by removing unwanted tags
- It updated grid by adding .one-third and .two-thirds columns
- It provided support for HTML5 form selectors that is input
- It updated grid column styles by removing the static .span1-16 classes
- It has added JavaScript plugins for modals, alerts, dropdowns, scroll spy, tabs, tooltips.
- It has added Inline labels control for creating inline content
- It supports media thumbnails and Breadcrumbs
- It has added active states to all buttons, links, and inputs
- It has added updates of JavaScript plugin for button states
- It has added new data attribute controls to JavaScript plugins
- It has added tables without border by default

- It has updated tables with extra features of condensed and bordered

Q11. What are the features of Bootstrap v2?

Ans. The initial release of bootstrap v2.x was 2.0.0 and final release was 2.3.2:

- The Progress bars are added in this version with striped and animated variation
- New plugins are added like Collapse, Carousel, Typeahead
- The new class .alert, .alert-block are used by replacing the old version
- The new .thumbnail class is required for each thumbnail
- The class .navbar is added for the navbar
- The .form- prefix used in form classes standardization
- The .btn- prefix used in classes for colors and sizes
- The .table- prefix used in table classes standardization
- The colspan and rowspan are updated with new support
- The bootstrap-responsive.css is added as the compiled version
- The data-attrs for tooltip is updated
- The event type in the dropdown is updated
- The dropdown for firefox and mobile are updated
- The .table-bordered and .table-striped are updated in tables
- The utility classes like .text-center, and .text-right are used for typographic alignment.
- The utility classes are used to display and hide content called print utility classes

Q12. What are the features of Bootstrap v3?

Ans. The initial release of bootstrap v3.x was 3.3 and final release was 3.4:

- The positioning of checkboxes and radio buttons are improved by using position: relative
- The duplication of tip() method in popover.js is erased
- The vertical parameter is updated in Tooltip.replaceArrow()
- The memory leaking in tooltip plugins is solved
- The <button> is updated to work with .list-group-items
- In the modals, aria-hidden usage is removed
- The carousel controls are updated to work in IE9
- The padding on jumbotrons are adjusted inside containers
- The hover border around active links is fixed in case of pagination
- The .embed-responsive-* classes are updated with new features
- The .row-no-gutters class is updated
- Cross-site scripting problem is solved in Alert, Carousel, Collapse, Dropdown, Modal, and Tab components

Q13. What are the features of Bootstrap v4?

Ans. The initial release of bootstrap v4.x was 4.0 and final release in 2018-2019 is 4.2 ;

- The spinner component is added for loading
- The toast component is added for showing notifications
- The utility class .text-decoration-none is added
- The bootstrap-grid.css file updates the margin and padding of the grid system
- The .modal-xl class is used for modals
- The .font-weight-lighter and .font-weight-bolder are added as utility classes
- The validation styles for file inputs is added with new features
- The print feature of dark tables is updated with new quality
- The new utility class .dropdown-item-text is added for dropdown items
- The Tooltips supports Shadow DOM
- The double transitions issue on carousels is improved now

Q14. How to check responsive web page using the browser?

Ans. To check the web page is responsive or not, right click on the web page and select inspect element. In the case of chrome browser, the shortcut to access inspect element is ctrl+shift+I. There you can see the page web page is auto resize the content according to the size of the browser.

Q15. What is the easy way to practice for building a responsive website in minutes?

Ans. First of all, there are so many Bootstrap 3 and 4 free templates and paid templates for pro. Just visit those templates and download these source code and customize as per your requirement.

2

Bootstrap CSS

Q1. What are the various Bootstrap CSS files?

Ans. Bootstrap CSS folder contains 8 types of files.

- **bootstrap.css:** It gives styles and looks for all Html controls. It is the non-minified version. It is used in the development environment.
- **bootstrap.css.map:** This is called source map file. It maps the line numbers to the original files during debugging of the minified code. Source map file for bootstrap.css
- **bootstrap.min.css:** It is the minified version of bootstrap.css. It is used on a production server during deployment of the application.
- **bootstrap.min.css.map:** Source map file for bootstrap.min.css
- **bootstrap-theme.css:** It is the theme file for bootstrap and it can be used in 3D effects and shadows.
- **bootstrap-theme.css.map:** Source map file for bootstrap-theme.css
- **bootstrap-theme.min.css:** Minified version of bootstrap-theme.css
- **bootstrap-theme.min.css.map:** Source map file for bootstrap-theme.min.css

Q2. What is a Source map file?

Ans. A source map file allows the web debuggers to refer to the original context from where the code was generated. The file has the .map extension.

Q3. What is min version of the Bootstrap CSS?

Ans. Every core CSS file has its own minified version. It is easy to debug if there are issues. This is the compressed version that means all the whitespaces, line breaks and any other extra characters have been removed.

Q4. How to create a list using a nav-list class?

Ans. To create lists you need to add nav-list class of Bootstrap CSS. See the code below,

```
<body>
<ul class="nav nav-list">
<li><a href="#">DotNetTricks</a></li>
<li><a href="#">Infosys</a></li>
<li><a href="#">Wipro</a></li>
</ul>
</body>
```

Q5. How to create header using nav-header class?

Ans. To create header of the lists you need to add nav-header class of Bootstrap CSS. See the code below,

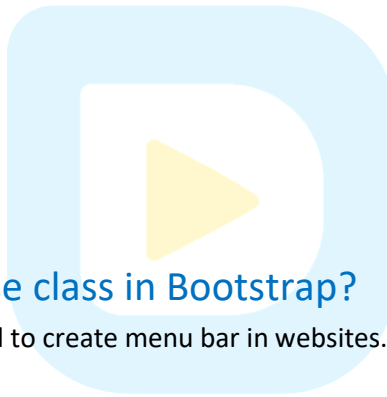
```
<body>
<ul class="nav nav-list">
<li class="nav-header">Company Names</li>
<li><a href="#">DotNetTricks</a></li>
<li><a href="#">Infosys</a></li>
<li><a href="#">Wipro</a></li>
</ul>
</body>
```

Q6. How to create Caret sign using caret class?

Ans. The caret class is used to create a caret sign. Open the bootstrap.css and search for a .caret.

See the code for implementation,

```
.caret {
display: inline-block;
width: 0;
height: 0;
margin-left: 2px;
vertical-align: middle;
border-top: 4px dashed;
border-top: 4px solid \9;
border-right: 4px solid transparent;
border-left: 4px solid transparent;
}
```



Q7. What is navbar-inverse class in Bootstrap?

Ans. The navbar-inverse class is used to create menu bar in websites. See code for implementation.

```
<body>
<div class="navbar-inverse">
<ul>
<li><a href="#">Profile</a></li>
<li><a href="#">Contact</a></li>
<li><a href="#">Details</a></li>
<li><a href="#">Service</a></li>
<li><a href="#">Location</a></li>
</ul>
</div>
</body>
```

You can find this class in bootstrap.css and search for .navbar-inverse

Q8. What is Container class in Bootstrap CSS?

Ans. Container class is used to create a container to host the menu along with .navbar-inverse class

```
<div class="navbar-inverse">
<div class="Container">
<ul>
<li><a href="#">Profile</a></li>
<li><a href="#">Contact</a></li>
```

```

<li><a href="#">Details</a></li>
<li><a href="#">Service</a></li>
<li><a href="#">Location</a></li>
</ul>
</div>
</div>

```

Q9. What is navbar-nav class in Bootstrap CSS to create Menu?

Ans. This one is the final component to create a complete menu bar along with .navbar-inverse and container class

```

<body>
<div class="navbar-inverse">
<div class="Container">
<ul class="nav navbar-nav">
<li><a href="#">Profile</a></li>
<li><a href="#">Contact</a></li>
<li><a href="#">Details</a></li>
<li><a href="#">Service</a></li>
<li><a href="#">Location</a></li>
</ul>
</div>
</div>
</body>

```

Q10. How to create caret sign In Bootstrap menu?

Ans. I have described about caret class in Bootstrap css in previous question number. Here is the code to see how to implement caret class.

```

<body>
<div class="navbar-inverse">
<div class="Container">
<ul class="nav navbar-nav">
<li><a href="#">Profile</a></li>
<li><a href="#">About</a></li>
<li><a href="#">Contact</a></li>
<li><a href="#">service</a></li>
<li><a href="#">Location <b class="caret"></b></a></li>
</ul>
</div>
</div>
</body>

```

Q11. What is Dropdown-Menu class in Bootstrap?

Ans. This class is used to create a dropdown which contains lists of records as menu. open up the bootstrap.css file and check out the.dropdown-menu CSS class.

```

<head>
<title></title>
<script src="Scripts/jquery-1.4.1.min.js" type="text/javascript"></script>
<link href="Bootstrap-files/css/bootstrap.css" rel="stylesheet" type="text/css"/>
<script src="Bootstrap-files/js/bootstrap.min.js" type="text/javascript"></script>
<script src="Bootstrap-files/js/bootstrap.min.js" type="text/javascript"></script>
<script src="Bootstrap-files/js/bootstrap.js" type="text/javascript"></script>

```



```

</head>
<body>
<div class="navbar navbar-inverse">
<div class="Container">
<ul class="nav navbar-nav">
<li><a href="#">Profile</a></li>
<li><a href="#">Contact</a></li>
<li><a href="#">About</a></li>
<li><a href="#">Service</a></li>
<li class="dropdown">
<a href="#" class="dropdown-toggle">Location <b class="caret"></b></a>
<ul class="dropdown-menu">
<li><a href="#">Delhi</a></li>
<li><a href="#">Mumbai</a></li>
<li><a href="#">Bengaluru</a></li>
<li><a href="#">Pune</a></li>
</ul>
</li>
</ul>
</div>
</div>
<script src="Bootstrap-files/js/jquery.js" type="text/javascript"></script>
<script src="Bootstrap-files/js/dropdown.js" type="text/javascript"></script>
<script type="text/javascript">
$(document).ready(function () {
    $('.dropdown-toggle').dropdown();
});
</script>
</body>

```

Q12. What is container-fluid class in Bootstrap?

Ans. It is used to create content of a container will appear in full width without any space on the left and right side of the page. Containers can't be nested that means we can't use one container inside another container.

```

<div class="container-fluid">
<h1>My Interview Q&A</h1>
<p>This one is available in Amazon and Flipkart.</p>
</div>

```

Always use the below references to support Bootstrap CSS and JS to make the page responsive or you can CDN URL as described in earlier Q&A.

```

<script src="Scripts/jquery-1.4.1.min.js" type="text/javascript"></script>
<link href="Bootstrap-files/css/bootstrap.css" rel="stylesheet" type="text/css"/>
<script src="Bootstrap-files/js/bootstrap.min.js" type="text/javascript"></script>
<link rel="stylesheet" type="text/css" href="Bootstrap-files/css/bootstrap.min.css"/>
<script src="Bootstrap-files/js/bootstrap.js" type="text/javascript"></script>

```

Q13. What is responsive fixed width container class in Bootstrap?

Ans. This container class has fixed width container which will make the page responsive. There is some space on left and right side of the page.

```

<div class="container">
<h1>My Interview Q&A</h1>
<p>This one is available in Amazon and Flipkart.</p>

```

```
</div>
```

Q14. How many types of button styles in Bootstrap?

Ans. The bootstrap has inbuilt classes to apply styles in buttons.

.btn-info: This class is used for information action. Let's see the code,

```
<body>
<div class="container">
<button type="button" class="btn btn-info">My Info Button</button>
</div>
</body>
```

.btn-success: This class is used for success action. Let's see the code,

```
<body>
<div class="container">
<button type="button" class="btn btn-success">My Success Button</button>
</div>
</body>
```

.btn-primary: This class is used for primary action. Let's see the code,

```
<body>
<div class="container">
<button type="button" class="btn btn-primary">My Primary Button</button>
</div>
</body>
```

.btn-default: This class is used for default action. Let's see the code,

```
<body>
<div class="container">
<button type="button" class="btn btn-default">My Default Button</button>
</div>
</body>
```

.btn-danger: This class is used for danger action. Let's see the code,

```
<body>
<div class="container">
<button type="button" class="btn btn-danger">My Danger Button</button>
</div>
</body>
```

.btn-warning: This class is used for warning action. Let's see the code,

```
<body>
<div class="container">
<button type="button" class="btn btn-warning">My Warning Button</button>
</div>
</body>
```

.btn-link: This class is used as a link button. Let's see the code,

```
<body>
<div class="container">
<button type="button" class="btn btn-link">My Link Button</button>
</div>
</body>
```

Q15. How to set button size in Bootstrap?

Ans. We can use bootstrap class to apply in button size. The following classes are,

.btn-lg : This is used for large size of button. Let's see the code,

```
<body>
<div class="container">
<button type="button" class="btn btn-info btn-lg">My Large Size Button</button>
</div>
</body>
```

.btn-md: This is used for medium size of button. Let's see the code,

```
<body>
<div class="container">
<button type="button" class="btn btn-info btn-md">My Medium Size Button</button>
</div>
</body>
```

.btn-sm: This is used for small size of button. Let's see the code,

```
<body>
<div class="container">
<button type="button" class="btn btn-info btn-sm">My Small Size Button</button>
</div>
</body>
```

.btn-xs: This is used for extra small size of button. Let's see the code,

```
<body>
<div class="container">
<button type="button" class="btn btn-info btn-xs">My Extra Small Size Button</button>
</div>
</body>
```

Q16. How to make state of button in Bootstrap?

Ans. The following bootstrap classes are used for make the state of buttons.

.active: This class is used to make state of button as active. Let's see the code,

```
<body>
<div class="container">
```

```
<button type="button" class="btn btn-primary active">My Active Button</button>
</div>
</body>
```

.disabled: This class is used to make state of button as disabled. Let's see the code,

```
<body>
<div class="container">
<button type="button" class="btn btn-primary disabled">My Disabled Button</button>
</div>
</body>
```

Q17. How to make link button without .btn-link class?

Ans. We can make link button without using .btn-link bootstrap class. It is possible with in anchor element.

```
<body>
<div class="container">
<a href="#" class="btn btn-primary" role="button">Active Link Button</a>
</div>
</body>
```

Q18. How to make state of Link button in Bootstrap?

Ans. Here same classes are used for making the state of link button inside anchor element. Let's see code,

For Active Link button:

```
<body>
<div class="container">
<a href="#" class="btn btn-primary active" role="button">Active Link Button</a>
</div>
</body>
```

For Disabled Link button:

```
<body>
<div class="container">
<a href="#" class="btn btn-primary disabled" role="button">Disabled Link Button</a>
</div>
</body>
```

Q19. How to create button usinga .btn-block class?

Ans. We can create block level buttons using .btn-block class. Let's see the code,

```
<body>
<div class="container">
<button type="button" class="btn btn-default btn-block">My Block level Button</button>
</div>
</body>
```

Q20. How to create basic table using bootstrap css?

Ans. The table structure will be shown as responsive using .table class in bootstrap.

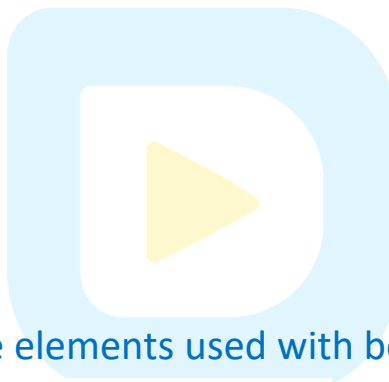
.table: This is the basic class is used for making bootstrap table. Let's see the code,

```
<body>
<div class="container">
```

```

<table class="table">
<thead>
<tr>
<th>EMP ID</th>
<th>EMP Name</th>
<th>EMP Email</th>
<th>EMP City</th>
</tr>
</thead>
<tbody>
<tr>
<td>1001</td>
<td>Satyapraksh</td>
<td>S@gmail.com</td>
<td>BBSR</td>
</tr>
<tr>
<td>1002</td>
<td>Prakash Sam</td>
<td>PS@mail.com </td>
<td>Banglore</td>
</tr>
<tr>
<td>1003</td>
<td>S Samantaray</td>
<td>ss@mail.com</td>
<td>Mumbai</td>
</tr>
</tbody>
</table>
</div>
</body>

```



Q21. How many basic table elements used with bootstrap?

Ans. You can see the table elements are used in the above code,

- **<table>**: wrapping element for displaying data in a tabular format
- **<thead>**: container element for table header rows (<tr>) to label table columns.
- **<tbody>**: container element for table rows (<tr>) in the body of the table.
- **<tr>**: container element for a set of table cells (<td> or <th>) that appears on a single row.
- **<th>**: table cell for column or row labels. It can be used within a <thead>
- **<td>**: It can be used for a default table cell.
- **<caption>**: It can be used for the description of what the table contains.

Q22. How to create a table using a .table-striped class?

Ans. We can create table with Striped Rows by using .table-striped class. Let's see the code,

Here We can create table data as in previous examples. In previous example just change below line,

```

<table class="table table-striped">

```

Q23. How to create responsive table using bootstrap

Ans. We can create a responsive table by using `.table-responsive` class. Let's see the code,

We can create table data same as Q27. In the previous example just change the below line of code. Here the class is used in div tag.

```
<div class="container">
<div class="table-responsive">
    <table class="table">

    <table>

</div>
</div>
```

Q24. What is `.table-bordered` class in bootstrap

Ans. We can create a table with borders on every side of the table and cells by using `.table-bordered` class. We can create table data same as Q27. In the previous example just change the below line of code.

```
<div class="container">
    <table class="table table-bordered">

    <table>

</div>
```

Q25. What is a `.table-hover` class in bootstrap

Ans. We can create table by using a `.table-hover` class. The background color of table rows will be changed when we put mouse cursor over it.

We can create table data same as Q27. In the previous example just change the below line of code.

```
<div class="container">
    <table class="table table-hover">

    <table>

</div>
```

Q26. What is contextual class in bootstrap table?

Ans. Contextual classes can be used to change the background color of table rows or table cells. We can use these to `<tr>`, `<td>` or `<th>`.

- **.active:** the hover color to the table row or table cell
- **.info:** indicates a informative change or action
- **.success:** indicates a successful or positive action
- **.danger:** indicates a dangerous or negative action
- **.warning:** indicates a warning

```
<div class="container">
<table class="table">
```

```

<thead>
<tr>
<th>EMP ID</th>
<th>EMP Name</th>
<th>EMP Email</th>
<th>EMP City</th>
</tr>
</thead>
<tbody>
<tr class="active">
<td>1001</td>
<td>Satyapraksh</td>
<td>S@gmail.com</td>
<td>BBSR</td>
</tr>
<tr class="success">
<td>1002</td>
<td>Prakash Sam</td>
<td>PS@mail.com </td>
<td>Banglore</td>
</tr>
<tr class="info">
<td>1003</td>
<td>S Samantaray</td>
<td>ss@mail.com</td>
<td>Mumbai</td>
</tr>
<tr class="danger">
<td>1004</td>
<td>S1 Samantaray</td>
<td>s1s@mail.com</td>
<td>Mumbai 17</td>
</tr>
<tr class="warning">
<td>1006</td>
<td>S2 Samantaray</td>
<td>s2s@mail.com</td>
<td>Mumbai 171</td>
</tr>
</tbody>
</table>
</div>

```



Q27. How to make images responsive using bootstrap?

Ans. We can make responsive images using .img-responsive class. Let's see the code,

```

<div class="container">
</div>

```

Q28. How to make image shapes using bootstrap?

Ans. We have the following classes for image shapes. Let's see,

- **Rounded Corners:** The .img-rounded class used for adding rounded corners to an image.
- **Circle:** The .img-circle class used for shaping the image to a circle.
- **Thumbnail:** The .img-thumbnail class used for shaping the image to a thumbnail.

```
<div class="container">



</div>
```

Q29. How to make videos responsive in bootstrap?

Ans. We can create responsive using a `.embed-responsive` class. Then we will add the `.embed-responsive-item` class to an `<iframe>` tag. Let's see the code,

```
<div class="container">
<div class="embed-responsive">
<iframe class="embed-responsive-
item"src="https://www.youtube.com/channel/UCrxtDnFenZ5aDVQmHv2iGGg/videos?view_as=subscriber&dis
able_polymer=1"></iframe>
</div>
</div>
```

Q30. How to make videos responsive for 16:9 ratio?

Ans. We can create responsive video for ratio 16:9 by using a `.embed-responsive-16by9` class and by putting it in `<div>` element. Then we will add the `.embed-responsive-item` class to an `<iframe>` tag.

```
<div class="container">
<div class="embed-responsive embed-responsive-16by9">
<iframe class="embed-responsive-
item"src="https://www.youtube.com/channel/UCrxtDnFenZ5aDVQmHv2iGGg/videos?view_as=subscriber&dis
able_polymer=1"></iframe>
</div></div>
```

Q31. How to make videos responsive for 4:3 ratio?

Ans. We can create responsive video aspect ratio 4:3 by using `.embed-responsive-4by3` by putting in `<div>` element. Then we will add the `.embed-responsive-item` class to an `<iframe>` tag.

```
<div class="container">
<div class="embed-responsive embed-responsive-4by3">
<iframe class="embed-responsive-
item"src="https://www.youtube.com/channel/UCrxtDnFenZ5aDVQmHv2iGGg/videos?view_as=subscriber&dis
able_polymer=1"></iframe>
</div>
</div>
```

Q32. How to make tab component using bootstrap?

Ans. We can create nav components such as tabs using Twitter Bootstrap. You can use `.nav-tabs` class with the base class `.nav`.

```
<ul class="nav nav-tabs">
<li class="active"><a href="#">Profile</a></li>
<li><a href="#">Details</a></li>
<li><a href="#">Contact</a></li>
</ul>
```


Q33. What is .nav-pills class in bootstrap?

Ans. We can create nav components such as pills using Twitter Bootstrap. You can use **.nav-pills** class with the base class **.nav**.

```
<ul class="nav nav-pills">
<li class="active"><a href="#">Profile</a></li>
<li><a href="#">Details</a></li>
<li><a href="#">Contact</a></li>
</ul>
```

Q34. What is .nav-stacked class in bootstrap?

Ans. For vertical pills navigation you just add an extra class **.nav-stacked**. Let's see the code,

```
<ul class="nav nav-pills nav-stacked">
<li class="active"><a href="#">Profile</a></li>
<li><a href="#">Details</a></li>
<li><a href="#">Contact</a></li>
</ul>
```

Q35. How to add dropdown menus inside tab in bootstrap?

Ans. We can add dropdown menus inside tabs navigation. Let's see the code,

```
<ul class="nav nav-tabs">
<li class="active"><a href="#">Profile</a></li>
<li><a href="#">Details</a></li>
<li class="dropdown">
<a href="#" data-toggle="dropdown" class="dropdown-toggle">Services<b class="caret"></b></a>
<ul class="dropdown-menu">
<li><a href="#">Healthcare</a></li>
<li><a href="#">Retail</a></li>
<li><a href="#">Real-estate</a></li>
<li class="divider"></li>
<li><a href="#">Banking & Financial</a></li>
</ul>
</li>
</ul>
<script src="js/jquery-2.1.4.min.js"></script>
<script src="js/bootstrap.min.js"></script>
```

Q36. How to add dropdown menus inside pills in bootstrap?

Ans. We can add dropdown menus inside pills navigation. Let's see the code,

```
<ul class="nav nav-pills">
<li class="active"><a href="#">Profile</a></li>
<li><a href="#">Details</a></li>
<li class="dropdown">
<a href="#" data-toggle="dropdown" class="dropdown-toggle">Services<b class="caret"></b></a>
<ul class="dropdown-menu">
<li><a href="#">Healthcare</a></li>
<li><a href="#">Retail</a></li>
<li><a href="#">Real-estate</a></li>
<li class="divider"></li>
<li><a href="#">Banking & Financial</a></li>
</ul>
</li>
</ul>
```

```

</ul>
</li>
</ul>
<script src="js/jquery-2.1.4.min.js"></script>
<script src="js/bootstrap.min.js"></script>

```

Q37. How to make justified tabs in bootstrap?

Ans. A class `.nav-justified` can do this job. Let's see the code,

```

<ul class="nav nav-tabs nav-justified">
<li class="active"><a href="#">Profile</a></li>
<li><a href="#">Details</a></li>
<li><a href="#">Contact</a></li>
</ul>

```

Q38. How to make justified pills in bootstrap?

Ans. A class `.nav-justified` can do this job. Let's see the code,

```

<ul class="nav nav-pills nav-justified">
<li class="active"><a href="#">Profile</a></li>
<li><a href="#">Details</a></li>
<li><a href="#">Contact</a></li>
</ul>

```

Q39. What is `.navigation` and `.navbar-default` in bootstrap?

Ans. Create nav container with class `.navigation` and `.navbar-default`.

```

<nav role="navigation" class="navbar navbar-default"></nav>

```

Q40. What is `.navbar-header` in bootstrap?

Ans. The class `.navbar-header` is mandatory for mobile display.

```

<div class="navbar-header"><div>

```

Q41. What is `.data-target` class in bootstrap?

Ans. Using `data-target` class you create a button to toggle the menu items.

```

<div class="navbar-header">
<button type="button" data-target="#navbarCollapse" data-toggle="collapse" class="navbar-
toggle"><span class="sr-only">Toggle navigation</span><span class="icon-bar"></span><span
class="icon-bar"></span><span class="icon-bar"></span>
</button>
<a href="#" class="navbar-brand">My Tutorial</a>
</div>

```

Q42. How to add navbar link for toggling in twitter bootstrap?

Ans. Create your menu item list container. This container has the same id as `data-target` and the class is `.collapse` and `.navbar-collapse`. Create a menu list with ul li structure with the class `.nav` and `.navbar-nav`.

Let's see the code,

```
<div id="navbarCollapse" class="collapse navbar-collapse">
<ul class="nav navbar-nav">
<li class="active"><a href="#">Profile</a></li>
<li><a href="#">Contact</a></li>
<li><a href="#">Services</a></li>
</ul>
<ul class="nav navbar-nav navbar-right">
<li><a href="#">Sign-In</a></li>
</ul>
</div>
```

Q43. How to create static navbar navigation?

Ans. Before visit the below code, follow these 3 answers of Q40, Q41 and Q42.

```
<nav role="navigation" class="navbar navbar-default">
<div class="navbar-header">
<button type="button" data-target="#navbarCollapse" data-toggle="collapse" class="navbar-
toggle"><span class="sr-only">Toggle navigation</span><span class="icon-bar"></span><span
class="icon-bar"></span><span class="icon-bar"></span></button>
<a href="#" class="navbar-brand">My Tutorial</a>
</div>
<div id="navbarCollapse" class="collapse navbar-collapse">
<ul class="nav navbar-nav">
<li class="active"><a href="#">Profile</a></li>
<li><a href="#">Contact</a></li>
<li><a href="#">Services</a></li>
</ul>
<ul class="nav navbar-nav navbar-right">
<li><a href="#">Sign-In</a></li>
</ul>
</div>
</nav>
```

Q44. How to add heading to panel in Bootstrap?

Ans. . **panel-heading** class can be used for heading to panel. Let's see the code,

```
<div class="panel panel-default">
<div class="panel-heading">My Profile</div>
</div>
```

Q45. How to add body to panel in Bootstrap?

Ans. . **panel-body** class can be used for adding body to panel. Let's see the code,

```
<div class="panel panel-default">
<div class="panel-heading">Profile</div>
<div class="panel-body">My name is Satyapraksh Samantaray</div>
</div>
```

Q46. What is breadcrumb navigation scheme?

Ans. It indicates the user's location in a web application.

```
<ul class="breadcrumb">
<li><a href="#">Profile</a></li>
<li><a href="#">Articles</a></li>
```

```
<li class="active">MAP API</li>
</ul>
```

Q47. How to do pagination in bootstrap?

Ans. Pagination is the process of arranging content by dividing it into different pages.

```
<ul class="pagination">
<li><a href="#"><</a></li>
<li><a href="#">1</a></li>
<li><a href="#">2</a></li>
<li><a href="#">3</a></li>
<li><a href="#">></a></li>
</ul>
```

Q48. What is .pagination-lg and .pagination-sm in bootstrap?

Ans. For larger pagination we will use .pagination-lg class. See the code,

```
<ul class="pagination pagination-lg"></ul>
```

For smaller pagination we will use .pagination-sm class. See the code,

```
<ul class="pagination pagination-sm"></ul>
```

Q49. What is .pager class in bootstrap?

Ans. Bootstrap class **.pager** can be used to create pager with specified links.

```
<ul class="pager">
<li><a href="#">Back</a></li>
<li><a href="#">Forward</a></li>
</ul>
```

Q50. What is progress bar in bootstrap?

Ans. we can use the **.progress** class to create progress bar. See the code,

```
<div class="progress">
<div class="progress-bar" style="width: 90%;"><span class="sr-only">90% Done</span>
</div>
</div>
```

Q51. What is striped progress bar in bootstrap?

Ans. Using a **.progress-striped** class we can create striped progress bar.

```
<div class="progress progress-striped"><div>
```

Q52. What is stacked progress bar in bootstrap?

Ans. **.progress-bar-success**, **.progress-bar-warning** and **.progress-bar-danger** class can be used to create stacked progress bar.

Q53. What are those contextual classes in the panel?

Ans. `.panel-primary`, `.panel-success`, `.panel-info`, `.panel-warning`, or `.panel-danger` are the contextual classes on the panel to create a meaningful notification to the end user.

Q54. How to align the text in bootstrap?

Ans. `.text-left`, `.text-center`, `.text-right`, `.text-justify` and `.text-nowrap` classes are used to create text alignment. Let's see the code,

```
<div class="container">
<div class="row">
<div class="col-lg-12 h1 text-center">My Name Is Satyapraksh</div>
</div>
</div>
```

Q55. How to add glyphsicons in webpage?

Ans. There are many glyphicon symbols or icons are used for specific control names in bootstrap. The few following classes are,

1. Glyphicon-user : For username icon.
2. Glyphicon-phone: For phone number icon.
3. Glyphicon-download: For download icon.
4. Glyphicon-upload : For upload icon.

Let's see the code,

```
<div>
<a href="#">
<span class="glyphicon glyphicon-download"></span>
</a><br/>
<a href="#">
<span class="glyphicon glyphicon-upload"></span>
</a><br/>
<button type="button" class="btn btn-default btn-md">
<span class="glyphicon glyphicon-upload">Upload</span>
</button>
</div>
```



Bootstrap Layout Components

Q1. How to create a page layout in Bootstrap?

Ans. Using the Bootstrap grid, we can create a page layout of any type in bootstrap. The grid system can create a page layout by using rows and columns.

Q2. How to calculate columns layout with ratio?

Ans. The Grid System consists of 12 columns. For 3 columns layout, the page will be divided into 3 columns with ratio 1:4:1. For the 3 numbers ratio, the sum always will be 12. So, here left side column contains 2 units. Middle area contains 8 units and the right-side column contains 2 units. After addition, the total units will be 12 units. If there are 4 equal columns with ratio 1:1:1:1 then every column contains 3 units each.

Q3. How many types of classes to create a responsive page layout?

Ans. There are 4 types of bootstrap grid classes. we can create grid column layouts extra small devices like mobile phones to large devices like large desktop screens.

.col-xs-* : This class is used for extra small device like smart phone (Size<768px)

.col-sm-*: This class is used for small device like tablets (size>=768px)

.col-md-*: This class is used for medium device like laptops and small size desktop CRT screen (size >=992px)

.col-lg-* : This class is used for large device like flat screen or large size desktop (size>=1200px)

Q4. How to create layout with 4 equal columns?

Ans. If there are 4 equal columns then the ratio will be 1:1:1:1. So, let's see the html for large devices,

```
<div class="container">
<div class="row">
<div class="col-lg-3">
<!--Add your division information-->
</div>
<div class="col-lg-3">
<!--Add your division information-->
</div>
<div class="col-lg-3">
<!--Add your division information-->
</div>
<div class="col-lg-3">
<!--Add your division information-->
</div>
```

```
</div>
</div>
</div>
```

Q5. How to create layout with 4 columns with 1:2:2:1 ratio?

Ans. Let's see html as below code for medium devices,

```
<div class="container">
<div class="row">
<div class="col-md-2">
<!--Add your division information-->
</div>
<div class="col-md-4">
<!--Add your division information-->
</div>
<div class="col-md-4">
<!--Add your division information-->
</div>
<div class="col-md-2">
<!--Add your division information-->
</div>
</div>
</div>
```

Q6. How to make layout for large device with 2 columns in each row?

Ans. So, for the large device, we should use 2 classes i.e. col-lg-* class along with the col-md-* class. For the medium device, we put 4 equal columns and for the large device, we put 2 columns with ratio 3:1.

Let's see the code,

```
<div class="container">
<div class="row">
<div class="col-md-3 col-lg-9">
<!--Add your division information-->
</div>
<div class="col-md-3 col-lg-3">
<!--Add your division information-->
</div>
<div class="col-md-3 col-lg-9">
<!--Add your division information-->
</div>
<div class="col-md-3 col-lg-3">
<!--Add your division information-->
</div>
</div>
</div>
```

Q7. How to make layout for small device with 2 columns in each row?

Ans. So, for small device we should use 3 classes i.e. .col-lg-*, .col-md-* and .col-sm-* class. For medium device, we put 4 equal columns, for the large device we put 2 columns with ratio 3:1 and 2 equal columns on a small device.

Let's see the code,

```

<div class="container">
<div class="row">
<div class="col-md-3 col-lg-9 col-sm-6">
<!--Add your division information-->
</div>
<div class="col-md-3 col-lg-3 col-sm-6">
<!--Add your division information-->
</div>
<div class="col-md-3 col-lg-9 col-sm-6">
<!--Add your division information-->
</div>
<div class="col-md-3 col-lg-3 col-sm-6">
<!--Add your division information-->
</div>
</div>
</div>

```

Q8. How to make layout for every device with 2 equal columns?

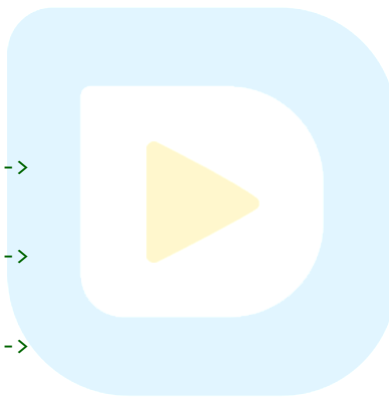
Ans. I will remove all classes except col-sm-6. I can get 2 equal columns on every device (small, medium and large devices).

Let's see the code,

```

<div class="container">
<div class="row">
<div class="col-sm-6">
<!--Add your division information-->
</div>
<div class="col-sm-6">
<!--Add your division information-->
</div>
<div class="col-sm-6">
<!--Add your division information-->
</div>
<div class="col-sm-6">
<!--Add your division information-->
</div>
</div>
</div>

```



Q9. How to make layout for smart phones with 2 equal columns?

Ans. It is possible by using .col-xs-* class. Let's see the code,

```

<div class="container">
<div class="row">
<div class="col-md-3 col-lg-9 col-sm-6 col-xs-6">
<!--Add your division information-->
</div>
<div class="col-md-3 col-lg-3 col-sm-6 col-xs-6">
<!--Add your division information-->
</div>
<div class="col-md-3 col-lg-9 col-sm-6 col-xs-6">
<!--Add your division information-->
</div>
<div class="col-md-3 col-lg-3 col-sm-6 col-xs-6">
<!--Add your division information-->
</div>

```



```
<!--Add your division information-->
</div>
</div>
</div>
```

Q10. How to split columns in bootstrap layout?

Ans. This can be done by using nesting rows and columns. Here col-xs-7 split into two different col-xs-6.

Let's see the code,

```
<div class="container">
<div class="row">
<div class="col-xs-5">
<!--Add your division information-->
</div>
<div class="col-xs-7">
<div class="row">
<div class="col-xs-6">
<!--Add your division information-->
</div>
<div class="col-xs-6">
<!--Add your division information-->
</div>
</div>
</div>
</div>
</div>
</div>
```

Q11. How to hide elements based on device?

Ans. This can be possible using hidden utility classes. See the below classes,

hidden-xs-* : Hide the elements only on extra small devices.

hidden-sm-* : Hide the elements only on small devices.

hidden-md-* : Hide the elements only on medium devices.

hidden-lg-* : Hide the elements only on larger devices.

Q12. How to write code for implementation of hidden utility classes?

Ans. Let's see the code by using utility classed as discussed in Q73,

```
<p class="hidden-xs">This is used to hide elements only on extra small devices.</p>
<p class="hidden-sm">This is used to hide elements only on small devices.</p>
<p class="hidden-md">This is used to hide elements only on medium devices.</p>
<p class="hidden-lg">This is used to hide elements only on large devices.</p>
```

Q13. How to write code for layout which supports every device?

Ans. create the row with the .row class. Rows will be placed within a container for proper alignment. Then the columns can be created within rows using the grid classes like .col-xs-*, .col-sm-*, .col-md-* and .col-lg-* .

```
<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
```

```

<title>Layout for all devices</title>
<link rel="stylesheet" href="css/bootstrap.min.css">
<link rel="stylesheet" href="css/bootstrap-theme.min.css">
</head>

<body>
<div class="container">
<div class="jumbotron">
<h1>Snagit by Techsmith </h1>
<p>
    "Best screen capture product in the market, period!"
    - Samad M. - G2 Crowd Review
</p>
</div>
<div class="row">
<div class="col-sm-4">
<h2>Quickly explain a process</h2>
<p>
    If you're struggling to communicate clearly, Snagit lets you easily get your
    point across.
    Or walk people through workflows and answer questions with a quick screen
    recording.
</p>
</div>
<div class="col-sm-4">
<h2>Add visuals to your documentation</h2>
<p>
    What if all your documentation was quick to create, simple to update, and
    easy for users to follow?
    With Snagit, it only takes a few clicks to keep graphics current.
</p>
</div>
<div class="col-sm-4">
<h2>Be more engaging</h2>
<p>
    Create quality screenshots, custom graphics, or screen recordings. Show off
    your product,
    improve engagement, and capture the attention of your audience.
</p>
</div>
</div>
</div>
<hr>
</div>
<script type="text/javascript" src="js/bootstrap.min.js"></script>
</body>

```

Q14. Where to place rows for proper padding?

Ans. Rows will be placed within a .container and .container-fluid class for proper padding.

Q15. How to visible elements based on device screen?

Ans. This can be possible using hidden utility classes. See the below classes,

visible-xs-*: Visible the elements only on extra small devices.

visible-sm-*: Visible the elements only on small devices.

visible-md-*: Visible the elements only on medium devices.

visible-lg-*: Visible the elements only on larger devices.

Q16. How to write code for implementation of visible utility classes?

Ans. Let's see the code by using utility classed as discussed in Q15,

```
<p class="visible-xs-block">This is used to visible elements only on extra small devices.</p>
<p class="visible-sm-block">This is used to visible elements only on small devices.</p>
<p class="visible-md-block">This is used to visible elements only on medium devices.</p>
<p class="visible-lg-block">This is used to visible elements only on large devices.</p>
```

Q17. How to show certain elements for printing purpose?

Ans. visible-print class is visible for printing purpose. Let's see the code,

```
<div class="container">
<div class="row">
<div class="col-xs-10 visible-print">
<!--It is visible when printing.-->
</div>
</div>
</div>
```

Q18. How to hide certain elements for printing purpose?

Ans. hidden-print class is not visible for printing purpose. Let's see the code,

```
<div class="container">
<div class="row">
<div class="col-xs-10 hidden-print">
<!--This is not visible during printing purpose.-->
</div>
</div>
</div>
```

Q19. How to set width and height of the form control?

Ans. The below classes are used for setting the width and height of the control.

input-lg or input-sm : To set the height of the control.

form-group-lg or form-group-sm: To set the height of the labels which are associated with the controls.

Grid Classes: To set the width of the control.

Q20. How to set the width of control inside the form?

Ans. As discussed in Q19, this can be possible by using grid classes in bootstrap. Let's do it with dropdown example,

```
<div class="container">
<form>
<div class="row">
<div class="form-group col-sm-4">
<label for="inputcountry">Country</label>
```

```

<select class="form-control">
<option>India</option>
<option>USA</option>
<option>Australia</option>
<option>Japan</option>
</select>
</div>
</div>
</form>
</div>

```

Q21. How to set height of the control using input-lg class?

Ans. Here, I have used input-lg class to set a large height of the form control. Let's see the code,

```

<div class="container">
<form>
<div class="row">
<div class="form-group col-sm-4">
<label for="inputcountry">Country</label>
<select class="form-control input-lg">
<option>India</option>
<option>USA</option>
</select>
</div>
</div>
</form>
</div>

```

Q22. How to set height of the control using input-sm class?

Ans. Here I have used input-sm class to set a small height of the form control. Let's see the code,

```

<div class="container">
<form>
<div class="row">
<div class="form-group col-sm-4">
<label for="inputcountry">Country</label>
<select class="form-control input-sm">
<option>India</option>
<option>USA</option>
</select>
</div>
</div>
</form>
</div>

```

Q23. How to set larger height of the label controls?

Ans. This can be possible using form-group-lg class. Let's see the code,

```

<div class="container">
<form>
<div class="row">
<div class="form-group form-group-lg">
<label for="inputcountry" class="control-label col-sm-1">Country</label>
<select class="form-control input-sm">
<option>India</option>

```

```

<option>USA</option>
</select>
</div>
</div>
</form>
</div>

```

Q24. How to set smaller height of the label controls?

Ans. This can be possible using form-group-sm class. Let's see the code,
Follow the code snippet of Q86 and replace the below code from line number 4.

```
<div class="form-group form-group-sm"><div>
```

Q25. How to set validation class for form controls?

Ans. The below-mentioned classes can be used for set style according to the validation state.

has-success: It shows success validation state

has-warning: It shows warning validation state

has-error: It shows the error validation state

Q26. How to give an example using a has-success class?

Ans. As we discussed the has-success class is used for showing success validation state. Let's see the code,

```

<form class="form-horizontal">
<div class="form-group has-success">
<label class="col-sm-2 control-label" for="txtsuccess">Password</label>
<div class="col-sm-10">
<input type="password" id="txtsuccess" class="form-control" placeholder="Enter your password">
<span class="help-block">You have entered strong password</span>
</div>
</div>
</form>

```

Q27. How to set validation icon class for form controls?

Ans. The below-mentioned icons can be used for set icons according to the validation state.

glyphicon glyphicon-ok: It shows an icon for success validation state

glyphicon glyphicon-warning-sign: It shows an icon for warning validation state

glyphicon glyphicon-remove: It shows an icon for error validation state

Q28. What classes are responsible for using icons in validation states?

Ans. has-feedback and form-control-feedback classes are responsible for using validation icons depending on the validation state of the control.

Q29. Give an example of using glyphicon and glyphicon-ok classes?

Ans. As we discussed the glyphicon and glyphicon-ok classes are used for showing an icon for success validation state.

Let's see the code,

```
<form class="form-horizontal">
<div class="form-group has-success has-feedback">
<label class="col-sm-2 control-label" for="txtPassword">Password</label>
<div class="col-sm-10">
<input type="password" id="txtPassword" class="form-control"
placeholder="Enter your password">
<span class="glyphicon glyphicon-ok form-control-feedback"></span>
<span class="help-block">Your password is secured.</span>
</div>
</div>
</form>
```

Q30. How to create button with dropdown menus?

Ans. The dropdown-toggle class of button and dropdown-menu class of ul tag are responsible for creating a button with drop-down menus.

Let's see the code,

```
<div class="btn-group">
<button class="btn btn-primary">Dot Net Tricks</button>
<button class="btn btn-primary dropdown-toggle" data-toggle="dropdown">
<span class="caret"></span>
</button>
<ul class="dropdown-menu">
<li><a href="#">Profile</a></li>
<li><a href="#">Online Tech Community</a></li>
<li><a href="#">Corse Batch</a></li>
</ul>
</div>
```

Here dropdown-toggle class configures for dropdown feature to add in button and caret class creates symbol of triangle which is facing downside and dropdown-menu class adds some list of options in the dropdown.

Q31. How many classes are responsible for changing the size of button dropdowns?

Ans. There are 3 pre-defined classes are responsible for changing the size. They are:

btn-group-lg: This class is used for large size button dropdown.

btn-group-sm: This class is used for small size button dropdown.

btn-group-xs: This class is used for extra small size button dropdown.

Q32. What is the difference between popover and tooltip?

Ans. In bootstrap popover and tooltip both are used to display information about a text or word.

Popover: It displays information with a title and content.

Tooltip: It displays the title of an Html element.

Q33. How to create popover using jQuery in bootstrap?

Ans. First create the button with id, content and data-toggle. Then put this button id in jQuery.

```
<button class="btn btn-primary" id="btnProfile" title="My Profile" data-content="I am  
satyaprakash samantaray" data-toggle="popover">  
    My biography  
</button>
```

Then put this button id in jQuery.

```
<script type="text/javascript">  
    $(document).ready(function () {  
        $('#btnProfile').popover();  
    });  
</script>
```

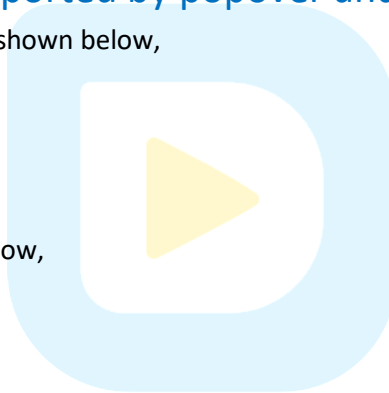
Q34. What methods are supported by popover and tooltip?

Ans. The popover has 3 methods as shown below,

1. popover('show')
2. popover('hide')
3. popover('toggle')

The tooltip has 3 methods as shown below,

1. tooltip('show')
2. tooltip('hide')
3. tooltip('toggle')



Q35. What is jumbotron in bootstrap?

Ans. It is used to display the key content of the page. The jumbotron class is used for creating with div element.

```
<div class="container">  
    <div class="jumbotron">  
        <h1>My PAGE</h1>  
        <p>  
            I am satyaprakash samantaray  
        </p>  
        <p>  
        <a class="btn btn-lg btn-primary" href="">  
            My profile  
        </a>  
        </p>  
    </div>  
</div>
```

Q36. Why does the jumbotron place outside the container?

Ans. To span the entire width of the page, we place the jumbotron outside the container.

```
<div class="jumbotron">
<div class="container">
<h1>My PAGE</h1>
<p>
    I am satyaprakash samantaray
</p>
<p>
<a class="btn btn-lg btn-primary" href="">
    My profile
</a>
</p>
</div>
</div>
```

Q37. How to create well in bootstrap and change the size?

Ans. The well can be created using well class in div element.

```
<div class="well">
    My name is Satyaprakash Samantaray
</div>
```

The below-mentioned classes are responsible for changing size.

1. **well well-lg** : large well with large size.
2. **well** : default well with default size.
3. **well well-sm** : small well with reduced size.

Q38. What is the media object in bootstrap with alignment information?

Ans. It is used to implement objects like images or videos. Here below-mentioned classes are used to align the media objects.

1. **media-left**: align the media object on the left side.
2. **media-right**: align the media object on the right side.
3. **media-middle**: align the media object in the middle.
4. **media-bottom**: align the media object at the bottom.

Q39. How to create nested media objects with an example?

Ans. Note: This question is important for 4-5 years of experience professional.

The media-list class is used to create nested media objects. These are useful for posting a reply on content.

In the below example under first media-body class, I have mentioned the second and third media-body class. So, under second media-body class, the third media-body class is assigned. Finally, the contents of the 2nd and 3rd media-body class will be assigned under 1st media-body class and 3rd will be nested under 2nd one.

Let's see the code,


```

<ul class="media-list">
<li class="media">
<div class="media-left">
<a href="#">

</a>
</div>
<div class="media-body">
<h4 class="media-heading">Satyaprakash</h4>
<p>
I am satyaprakash samantaray1
</p>
<!--under Satyapraksh profile, Satyapraksh2 profile will be shown-->
<div class="media">
<div class="media-left">
<a href="#">

</a>
</div>
<div class="media-body">
<h4 class="media-heading">satyaprakash2</h4>
<p>
I am satyaprakash samantaray2
</p>
<!--under Satyapraksh2 profile, Satyapraksh3 profile will be shown-->
<div class="media">
<div class="media-left">
<a href="#">

</a>
</div>
<div class="media-body">
<h4 class="media-heading">satyaprakash3</h4>
<p>
I am satyaprakash samantaray3
</p>
</div>
</div>
</div>
</div>
</div>
</li>
</ul>

```



Bootstrap JavaScript Plugins

Q1. How to create a bootstrap tooltip using jQuery?

Ans. Using data-toggle attribute that means include data-toggle="tooltip" to the element and initialize it using jQuery. For setting the tooltip message include the title attribute to the element.

Let's see the code,

```
<button class="btn btn-primary" tooltip="The title message is shown"
data-toggle="tooltip">
    Click Here
</button>

<script type="text/javascript">
    $(document).ready(function () {
        $('[data-toggle="tooltip"]').tooltip();
    });
</script>
```

Q2. How to set the title message of tooltip inside jQuery?

Ans. In the above code in Q102, just remove the title attribute from button element and put inside jQuery line of code.

```
<button class="btn btn-primary" data-toggle="tooltip">
    Click Here
</button>

<script type="text/javascript">
    $(document).ready(function () {
        $('[data-toggle="tooltip"]').tooltip({
            title: 'The title message is shown'
        });
    });
</script>
```

Q3. How to set alignment of tooltip message?

Ans. Using the placement option in the attribute or JavaScript. Placement is used for the top, bottom, left or right but the default is top.

Let's see the code sample using javascript,

```
<button class="btn btn-primary" data-toggle="tooltip">
```

```

        Click Here
</button>

<script type="text/javascript">
    $(document).ready(function () {
        $('[data-toggle="tooltip"]').tooltip({
            title: 'The title message is shown',
            placement: 'left'
        });
    });
</script>

```

Q4. How to disable fade animation using jQuery?

Ans. Using animation option in the attribute or JavaScript. set animation=false will disable the fade animation.

```

<script type="text/javascript">
    $(document).ready(function () {
        $('[data-toggle="tooltip"]').tooltip({
            title: 'The title message is shown',
            placement: 'left',
            animation: false
        });
    });
</script>

```

Q5. What is delay option in bootstrap JavaScript?

Ans. We can use a delay option to set the duration of animation tooltip. Inside delay, there are two options,

1. First one is for delay of duration to show the tooltip.
2. Second one is for delay of duration to hide the tooltip.

```

<script type="text/javascript">
    $(document).ready(function () {
        $('[data-toggle="tooltip"]').tooltip({
            title: 'The title message is shown',
            placement: 'left',
            animation: true,
            delay: { show: 300, hide: 600 }
        });
    });
</script>

```

Q6. How to set trigger in the tooltip?

Ans. Here the trigger is an option which can trigger tooltip message based on user setting on the element.

Here the below line of code for textbox element which will set tooltip message and inside jquery we put element id. The tooltip is triggered when the textbox receives focus or on mouse hover.

```

<input type="text" id="myName" data-toggle="tooltip"
title="Enter your name"/>

<script type="text/javascript">

```

```
$(document).ready(function () {
    $('#myName').tooltip();
});
</script>
```

Q7. How to set trigger option with click value?

Ans. The tooltip is triggered when the textbox receives a click on it. It will not be triggered on focus and on mouse hover.

```
<script type="text/javascript">
    $(document).ready(function () {
        $('#myName').tooltip({
            trigger: 'click'
        });
    });
</script>
```

Q8. How to set trigger option manually by using glyphicon?

Ans. For this I have used a help icon using glyphicon and put it on the side of the textbox.

```
<input type="text" id="myName" data-toggle="tooltip"
title="Enter your name"/>
<span class="glyphicon glyphicon-info-sign" id="myIcon"></span>
```

The tooltip is not triggered when the textbox receives focus, or on hover or on click. This is only happened when user click on help icon. This is called manual trigger.

I have set the Set the trigger option to manual and in the click event handler of the icon, call .tooltip('toggle') method.

```
<script type="text/javascript">
    $(document).ready(function () {
        $('#myName').tooltip({
            trigger: 'manual'
        });

        $('#myIcon').click(function () {
            $('#myName').tooltip('toggle');
        });
    });
</script>
```

I can use hover instead of click. so, for that I have changed the click event handler to hover.

```
<script type="text/javascript">
    $(document).ready(function () {
        $('#myName').tooltip({
            trigger: 'manual'
        });

        $('#myIcon').hover(function () {
            $('#myName').tooltip('toggle');
        });
    });
</script>
```

Q9. How to set alert using JavaScript?

Ans. To create an alert, I can use the alert class. Types of alert contextual classes are mentioned below,

1. **alert-danger:** This can be used for error purpose.
2. **alert-success:** This can be used for success purpose.
3. **alert-info:** This can be used for information purpose.
4. **alert-warning:** This can be used for warning purpose.

First create button element for click event and then create div element with ID and message information.

```
<button id="btnAlert" class="btn btn-primary">
    Alert
</button>

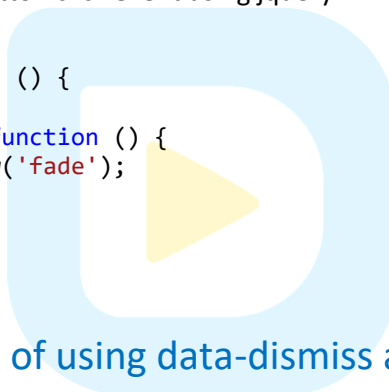
<div id="dvAlert" class="alert alert-danger collapse">
<a href="#" class="close" data-dismiss="alert">&times;</a>
<strong>Error!</strong> Check once using unit test.
</div>
```

Next step is to mention div id inside button click event using jquery.

```
<script type="text/javascript">
    $(document).ready(function () {

        $('#btnAlert').click(function () {
            $('#dvAlert').show('fade');
        });

    });
</script>
```



Q10. What is the drawback of using data-dismiss attribute?

Ans. As you can refer code from Q9, There I have mention anchor element with attribute data-dismiss. So, the problem is if you close the alert by click on 'X' button. The alert will be removed from the div element. Again the alert can't be shown after clicking on the button.

Q11. What are the steps to solve the data-dismiss attribute issue?

Ans. I have deleted data-dismiss="alert" attribute in the anchor element. Provide an id to the anchor element. I have used a click event handler for the anchor element, and call hide() method. This will hide the alert <div> but will not remove it from the DOM. At this point, when you click on the button again, the alert will be displayed.

Let's see the code,

```
<button id="btnAlert" class="btn btn-primary">
    Alert
</button>

<div id="dvAlert" class="alert alert-danger collapse">
<a id="lnkclosebtn" href="#" class="close">&times;</a>
<strong>Error!</strong> See the issue and go to log file.
</div>
```

```

<script type="text/javascript">
    $(document).ready(function () {

        $('#btnalert').click(function () {
            $('#dvAlert').show('fade');
        });

        $('#lnkclosebtn').click(function () {
            $('#dvAlert').hide('fade');
        });

    });
</script>

```

Q12. What is setTimeout() method in JavaScript?

Ans. setTimeout() function to set the time limit for hiding the alert in div element using button click event. Refer Q11 for more details.

```

$(document).ready(function () {

    $('#btnalert').click(function () {
        $('#dvAlert').show('fade');

        setTimeout(function () {
            $('#dvAlert').hide('fade');
        }, 4000);
    });

    $('#lnkclosebtn').click(function () {
        $('#dvAlert').hide('fade');
    });

});

```

The alert will close automatically after 4 seconds, if we do not close it by clicking on the 'x' button.

Q13. How to toggle a drop-down menu using JavaScript?

Ans. Using .dropdown-toggle class of a anchor link or a button using JavaScript.

```

<button class="btn btn-primary dropdown-toggle" type="button" data-toggle="dropdown">
    Dropdown menu
<span class="caret"></span>
</button>

<script>
    $(document).ready(function () {
        $(".dropdown-toggle").dropdown();
    });
</script>

```

Q14. How many methods are used in JavaScript for bootstrap modal?

Ans. There are 2 methods of bootstrap modal to show or hide the modal. There are mentioned below, modal('show'): This method is used to show the modal.

modal('hide'); This method is used to hide the modal.

Let's see implementation of methods using javascript,

```
<script type="text/javascript">
    $(document).ready(function () {
        $("#btnShowModal").click(function () {
            $("#loginModal").modal('show');
        });

        $("#btnHideModal").click(function () {
            $("#loginModal").modal('hide');
        });
    });
</script>
```

Here the btnShowModal is the id of button 1 which is responsible for showing modal form with id loginModal. and btnHideModal is the id of button 2 which is responsible for hiding modal form with id loginModal.

Q15. How to write code for bootstrap modal plugins?

Ans. Refer the Q14 for getting an idea about methods used in JavaScript methods for modal functionality.

Let's see the code for designing modal with functionality using JavaScript,

Note-1: First create a button to show modal.

```
<div class="container">
<div class="row">
<div class="col-xs-12">

<button id="btnShowModal" type="button"
class="btn btn-sm btn-default pull-right">
    Show Modal
</button>
```

Note-2: Second create a modal form which contains modal title, 1st label for textbox1 and 2nd label for textbox2. It contains two buttons for sign In and close button which is responsible for hiding the modal form.

```
<div class="modal fade" tabindex="-1" id="loginModal"
data-keyboard="false" data-backdrop="static">
<div class="modal-dialog modal-sm">
<div class="modal-content">
<div class="modal-header">
<button type="button" class="close" data-dismiss="modal">
    &times;
</button>
<h4 class="modal-title">User Sign</h4>
</div>
<div class="modal-body">
<form>
<div class="form-group">
<label for="inputUserName">Username</label>
<input class="form-control" type="text" placeholder="Login Username" id="inputUserName"/>
</div>
<div class="form-group">
<label for="inputPassword">Password</label>
<input class="form-control" placeholder="Login Password">
```

```

type="password" id="inputPassword"/>
</div>
</form>
</div>
<div class="modal-footer">
<button type="submit" class="btn btn-primary">SignIn</button>
<button type="button" id="btnHideModal" class="btn btn-primary">
    Close Modal
</button>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>

```

Note-3: Bootstrap JavaScript file reference path.

```

<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.3/jquery.min.js">
</script>
<script src="bootstrap/js/bootstrap.min.js"></script>

```

Note-4: Use of javascript for implementation of methods to show or hide modal form.

```

<script type="text/javascript">
    $(document).ready(function () {
        $("#btnShowModal").click(function () {
            $("#loginModal").modal('show');
        });

        $("#btnHideModal").click(function () {
            $("#loginModal").modal('hide');
        });
    });
</script>

```

Q16. How many events of bootstrap modal are used in JavaScript?

Ans. There are 4 bootstrap modal events are used in JavaScript,

1. **show.bs.modal:** This event is fired when modal is about to be displayed.
2. **shown.bs.modal:** This event is fired after a modal is completely shown.
3. **hide.bs.modal:** This event is fired when modal is about to be hidden.
4. **hidden.bs.modal:** This event is fired after a modal is completely hidden.

Q17. How to write javascript code for bootstrap modal events?

Ans. Refer Q15 and Q16 for more details,

```

<script type="text/javascript">
    $(document).ready(function () {
        $("#btnVisibleModal").click(function () {
            $("#SignInModal").modal('show');
        });
    });

```



```

$("#btnHiddenModal").click(function () {
    $("#SignInModal").modal('hide');
});

$('#SignInModal').on('show.bs.modal', function () {
    alert('This events is fired for Modal is about to be displayed');
});
$('#SignInModal').on('shown.bs.modal', function () {
    alert('This events is fired after the modal is completely shown');
});

$('#SignInModal').on('hide.bs.modal', function () {
    alert('events is fired for Modal is about to be hidden');
});
$('#SignInModal').on('hidden.bs.modal', function () {
    alert('This events is fired after the modal is completely hidden');
});
});
</script>

```

Q18. How many methods are used with bootstrap collapse?

Ans. .collapse(options): It activates your content as a collapsible element. Accepts an optional options object.

Toggle – .collapse('toggle'): It toggles a collapsible element to shown or hidden.

Show – .collapse('show'): It shows a collapsible element.

Hide – .collapse('hide'): It hides a collapsible element.

Let's see the javascript code,

```

<script type="text/javascript">
    $(function () {
        $('#PanelFour').collapse({
            toggle: false
        })
    });

    $(function () { $('#PanelTwo').collapse('show') });
    $(function () { $('#PanelThree').collapse('toggle') });
    $(function () { $('#PanelOne').collapse('hide') });
</script>

```

Q19. How to implement methods of bootstrap collapse plugins?

Ans. Refer Q18 for more details. Let's see the code,

```

<div class="panel-group" id="accordion">
<div class="panel panel-default">
<div class="panel-heading">
<h4 class="panel-title">
<a data-toggle="collapse" data-parent="#accordion" href="#PanelOne">
    Click me to expand.
</a>

```

```

</h4>
</div>

<div id="PanelOne" class="panel-collapse collapse in">
<div class="panel-body">
    Put your text here
</div>
</div>

</div>

<div class="panel panel-success">
<div class="panel-heading">
<h4 class="panel-title">
<a data-toggle="collapse" data-parent="#accordion" href="#PanelTwo">
    Click me to expand.
</a>
</h4>
</div>

<div id="PanelTwo" class="panel-collapse collapse">
<div class="panel-body">
    Put Your text here
</div>
</div>

</div>

<div class="panel panel-info">
<div class="panel-heading">
<h4 class="panel-title">
<a data-toggle="collapse" data-parent="#accordion" href="#PanelThree">
    Click me to expand.
</a>
</h4>
</div>

<div id="PanelThree" class="panel-collapse collapse">
<div class="panel-body">
    Put Your text here
</div>
</div>

</div>

<div class="panel panel-warning">
<div class="panel-heading">
<h4 class="panel-title">
<a data-toggle="collapse" data-parent="#accordion" href="#PanelFour">
    Click me to expand.
</a>
</h4>
</div>

<div id="PanelFour" class="panel-collapse collapse">
<div class="panel-body">
    Put Your text here
</div>
</div>

```



```

</div>
</div>

<script type="text/javascript">
    $(function () {
        $('#PanelFour').collapse({
            toggle: false
        })
    });

    $(function () { $('#PanelTwo').collapse('show') });
    $(function () { $('#PanelThree').collapse('toggle') });
    $(function () { $('#PanelOne').collapse('hide') });
</script>

```

Q20. How many events of bootstrap collapse are used in JavaScript?

Ans. There are 4 events can be used with the bootstrap collapse functionality.

1. **show.bs.collapse:** This event is fired after the show method is called.
2. **shown.bs.collapse:** This event is fired when a collapse element has shown to the user
3. **hide.bs.collapse:** This event is fired when the hide is called.
4. **hidden.bs.collapse:** This event is fired when a collapse element has hidden from the user.

Let's see the code,

```

<body>
<div class="panel-group" id="accordion">
<div class="panel panel-info">

<div class="panel-heading">
<h4 class="panel-title">
<a data-toggle="collapse" data-parent="#accordion" href="#PanelCollapse">
    Click me to expand.

</a>
</h4>
</div>

<div id="PanelCollapse" class="panel-collapse collapse">
<div class="panel-body">
    Put your text here

</div>
</div>

</div>
</div>

<script type="text/javascript">
    $(function () {
        $('#PanelCollapse').on('show.bs.collapse', function () {
            alert('This event is fired after the show method is called');
        })
    });
</script>
</body>

```

Q21. How many methods are used with bootstrap carousel?

Ans. Let's see the implementation of the method used in JavaScript,

.carousel('cycle'); This method is used to cycle through the carousel items from left side to right side.

.carousel('pause'); This method is used to stop the carousel from cycling through items.

.carousel(number); This method is used to cycle the carousel to a particular frame.

.carousel('prev'); This method is used to cycle to the previous item.

.carousel('next'); This method is used to cycle to the next item.

.carousel(options); This method is used to initialize the carousel with an selected options object and starts cycling through items.

```
<script>
    $(function () {

        $(".prev-slide").click(function () {
            $("#ImageCarousel").carousel('prev');
        });

        $(".next-slide").click(function () {
            $("#ImageCarousel").carousel('next');
        });

        $(".slide-one").click(function () {
            $("#ImageCarousel").carousel(0);
        });

        $(".slide-two").click(function () {
            $("#ImageCarousel").carousel(1);
        });

        $(".slide-three").click(function () {
            $("#ImageCarousel").carousel(2);
        });
    });
</script>
```

Q22. How to write code for methods used with bootstrap carousel?

Ans. Refer Q21 for more details. Let's see design and methods functionality of carousel using javascript,

```
<body>
<div id="ImageCarousel" class="carousel slide">

<ol class="carousel-indicators">
<li data-target="#ImageCarousel" data-slide-to="0" class="active"></li>
<li data-target="#ImageCarousel" data-slide-to="1"></li>
<li data-target="#ImageCarousel" data-slide-to="2"></li>
</ol>

<div class="carousel-inner">
<div class="item active">
```

```


</div>

<div class="item">

</div>

<div class="item">

</div>
</div>

<a class="carousel-control left" href="#ImageCarousel" data-slide="prev">&lsaquo;</a>
<a class="carousel-control right" href="#ImageCarousel" data-slide="next">&rsaquo;</a>

<div style="text-align:center;">
<input type="button" class="btn prev-slide" value="Previous Image">
<input type="button" class="btn next-slide" value="Next Image">
<input type="button" class="btn slide-one" value="Image 1">
<input type="button" class="btn slide-two" value="Image 2">
<input type="button" class="btn slide-three" value="Image 3">
</div>
</div>

<script>
    $(function () {

        $(".prev-slide").click(function () {
            $("#ImageCarousel").carousel('prev');
        });

        $(".next-slide").click(function () {
            $("#ImageCarousel").carousel('next');
        });

        $(".slide-one").click(function () {
            $("#ImageCarousel").carousel(0);
        });

        $(".slide-two").click(function () {
            $("#ImageCarousel").carousel(1);
        });

        $(".slide-three").click(function () {
            $("#ImageCarousel").carousel(2);
        });
    });
</script>
</body>

```

Q23. How many events are used with bootstrap carousel?

- slide.bs.carousel: This event executes when the slide instance method is called.
- slid.bs.carousel: This event executes when the carousel has done its slide transition.

Ans. Let's see the events implementation used in JavaScript,

```

<script>
    $(function () {
        $(function () {
            $('#ImageCarousel').on('slide.bs.carousel', function () {
                alert("This event executes when the slide instance method is called");
            });
        });
    });
</script>

```

Q24. How to write code for events used with bootstrap carousel?

Ans. Refer Q23 for more details. Let's see design and event functionality of carousel using JavaScript,

```

<div id="myCarousel" class="carousel slide">
<ol class="carousel-indicators">
<li data-target="#ImageCarousel" data-slide-to="0" class="active"></li>
<li data-target="#ImageCarousel" data-slide-to="1"></li>
<li data-target="#ImageCarousel" data-slide-to="2"></li>
</ol>

<div class="carousel-inner">
<div class="item active">

</div>

<div class="item">

</div>

<div class="item">

</div>
</div>

<a class="carousel-control left" href="#ImageCarousel" data-slide="prev">&lsaquo;</a>
<a class="carousel-control right" href="#ImageCarousel" data-slide="next">&rsaquo;</a>

</div>

<script>
    $(function () {
        $(function () {
            $('#ImageCarousel').on('slide.bs.carousel', function () {
                alert("This event executes when the slide instance method is called");
            });
        });
    });
</script>
</body>

```

Q25. How to expand and collapse a panel using bootstrap glyphicon?

Ans. A panel will be collapsed when the arrow is pointing downward and the panel will be expanded when the arrow is pointing upward. We can use Bootstrap glyphicons for these upward and downward icons.

Let's see code,

```

<script type="text/javascript">
    $(document).ready(function () {
//panel will be expanded when the arrow is pointing upward.
        $('.collapse').on('shown.bs.collapse', function () {
            $(this).parent().find('.glyphicon-menu-down')
                .removeClass('glyphicon-menu-down')
                .addClass('glyphicon-menu-up');
//Panel will be collapsed when the arrow is pointing downward.
        }).on('hidden.bs.collapse', function () {
            $(this).parent().find(".glyphicon-menu-up")
                .removeClass("glyphicon-menu-up")
                .addClass("glyphicon-menu-down");
        });
    });
});

```

Q26. How to write code for panel collapse and expand using bootstrap glyphicon?

Ans. Refer Q25 for more details. Here icons will be shown as upward and downward arrows.

```

<div class="container">
<div class="row">
<div class="col-xs-6">

<div id="accordion" class="panel-group">
<div class="panel panel-primary">
<div class="panel-heading">
<h4 class="panel-title">
<a href="#pnlBody1" data-toggle="collapse" data-parent="#accordion">
<span class="glyphicon glyphicon-menu-up"></span>
    Image Title1
</a>
</h4>
</div>
<div id="pnlBody1" class="panel-collapse collapse in">
<div class="panel-body">

</div>
</div>
<div class="panel panel-primary">
<div class="panel-heading">
<h4 class="panel-title">
<a href="#pnlBody2" data-toggle="collapse" data-parent="#accordion">
<span class="glyphicon glyphicon-menu-down"></span>
    Image Title2
</a>
</h4>
</div>
<div id="pnlBody2" class="panel-collapse collapse">
<div class="panel-body">

</div>
</div>
<div class="panel panel-primary">
<div class="panel-heading">

```

```

<h4 class="panel-title">
<a href="#pnlBody3" data-toggle="collapse"
data-parent="#accordion">
<span class="glyphicon glyphicon-menu-down"></span>
    Image Title3
</a>
</h4>
</div>
<div id="pnlBody3" class="panel-collapse collapse">
<div class="panel-body">

</div>
</div>
</div>
</div>

<script type="text/javascript">
    $(document).ready(function () {
//panel will be expanded when the arrow is pointing upward.
        $('.collapse').on('shown.bs.collapse', function () {
            $(this).parent().find('.glyphicon-menu-down')
                .removeClass('glyphicon-menu-down')
                .addClass('glyphicon-menu-up');
//Panel will be collapsed when the arrow is pointing downward.
        }).on('hidden.bs.collapse', function () {
            $(this).parent().find(".glyphicon-menu-up")
                .removeClass("glyphicon-menu-up")
                .addClass("glyphicon-menu-down");
        });
    });
</script>
</body>

```

Q27. How to customize bootstrap glyphicon using JavaScript?

Ans. Here icons will be shown as plus and minus. Plusicon will be shown when the panel will be collapsed and the minus icon will be shown when the panel will be expanded.

Refer Q26 for more details.

Let's see the code,

```

<script type="text/javascript">
    $('.collapse').on('shown.bs.collapse', function () {
        $(this).parent().find('.glyphicon-plus-sign')
            .removeClass('glyphicon-plus-sign')
            .addClass('glyphicon-minus-sign');
    }).on('hidden.bs.collapse', function () {
        $(this).parent().find(".glyphicon-minus-sign")
            .removeClass("glyphicon-minus-sign")
            .addClass("glyphicon-plus-sign");
    });
</script>

```


Q28. How panel will expand and collapse using button?

Ans. Refer Q26 and Q27 for more details. Let's see the code,

For button design add the below code:

```
<div class="well">
<button class="btn btn-primary" id="btnAllExpand">
    All panel will be expanded.
</button>
<button class="btn btn-primary" id="btnAllCollapse">
    All panel will be collapsed.
</button>
</div>
```

For panel collapse and expand add javascript code:

```
<script type="text/javascript">
    $('#btnAllExpand').click(function () {
        $('.panel-collapse.collapse').collapse('show');
    });

    $('#btnAllCollapse').click(function () {
        $('.panel-collapse.collapse.in').collapse('hide');
    });
</script>
```

Q29. How to write code for bootstrap affix using JavaScript?

Ans. This will allow div tag to be affixed to a location on the page.

Attributes are used in the affix plugin. Let's see,

- data-spy="affix": Use this attribute on the element that you want to affix.
- data-offset-top: Use this attribute to toggle the pinning of an element.

affix-top class to indicate the element is in its top-most position. We scroll down beyond the offset limit imposed by data-offset attribute, the plugin replaces the affix-top class which sets the position at 24 pixels from the top.

The affix plugin has three classes for representing a particular state.

- .affix
- .affix-top
- .affix-bottom.

```
<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
<title>Layout for all devices</title>
<link rel="stylesheet" href="css/bootstrap.min.css">
<link rel="stylesheet" href="css/bootstrap-theme.min.css">

<style type="text/css">
.affix {
```

```

top: 24px;
    }
</style>

</head>

<body>
<div class="container">
<div class="row">
<div class="col-xs-12">
<div class="jumbotron">
<h1>Implement affix example</h1>
</div>
</div>
<div class="col-xs-3">
<nav id="parentNavbar">
<ul class="nav nav-pills nav-stacked" data-spy="affix" data-offset-top="200">
<li class="active"><a href="#div1">Image1</a></li>
<li><a href="#div2">Image2</a></li>
<li><a href="#div3">Image3</a></li>
<li class="dropdown">
<a href="#" class="dropdown-toggle" data-toggle="dropdown">
DDImage <span class="caret"></span>
</a>
<ul class="dropdown-menu">
<li><a href="#div4">Image4</a></li>
<li><a href="#div5">Image5</a></li>
</ul>
</li>
</ul>

</nav>
</div>
<div class="col-xs-9">
<div id="Image1">
<h1>Image1</h1>

</div>

<div id="Image2">
<h1>Image2</h1>

</div>

<div id="Image3">
<h1>Image3</h1>

</div>

<div id="Image4">
<h1>Image4</h1>

</div>

<div id="Image5">
<h1>Image5</h1>

</div>

```



```

</div>
</div>
</div>

<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.3/jquery.min.js">
</script>
<script src="bootstrap/js/bootstrap.min.js"></script>

<script type="text/javascript">
    $(document).ready(function () {
        $('body').scrollspy({
            target: '#parentNavbar',
            offset: 14
        });
    });
</script>
</body>
</html>

```

Q30. How to activate bootstrap tab using method in JavaScript?

Ans. `$().tab` method is used to activate a tab element. Tab should have href for targeting a container. Here I have used 3 tabs. In JavaScript I have used the code to activate first tab. To activate 2nd and 3rd tab put numbers in n=1 or 2 accordingly in the below code.

```

$('#acivateTab li:eq(n) a').tab('show');

Or

// Activate tab by name
$('#acivateTab a[href = "#profile"]').tab('show')

// Activate first tab
$('#acivateTab a:first').tab('show')

// Activate last tab
$('#acivateTab a:last').tab('show')

// Activate third tab (0-indexed)
$('#acivateTab li:eq(2) a').tab('show')

```

Let's see the code,

```

<!DOCTYPE html>
<html>
<head>
<title>Bootstrap tab activation</title>
<link href="/bootstrap/css/bootstrap.min.css" rel="stylesheet">
<script src="/scripts/jquery.min.js"></script>
<script src="/bootstrap/js/bootstrap.min.js"></script>
</head>
<body>
<ul id="acivateTab" class="nav nav-tabs">
<li class="active">
<a href="#Profile" data-toggle="tab">
    My profile
</a>

```

```

</li>

<li><a href="#BIO" data-toggle="tab">BIO</a></li>

<li class="dropdown">

<a href="#" id="activateDrop1" class="dropdown-toggle" data-toggle="dropdown">
    Award
<b class="caret"></b>
</a>

<ul class="dropdown-menu" role="menu" aria-labelledby="activateDrop1">
<li>
<a href="#MVP" tabindex="-1" data-toggle="tab">
    MVP
</a>
</li>

<li>
<a href="#MVB" tabindex="-1" data-toggle="tab">
    MVB
</a>
</li>
</ul>

</li>

</ul>
<div id="activateTabContent" class="tab-content">
<div class="tab-pane fade in active" id="profile">
<p>
    Put your text here....
</p>
</div>

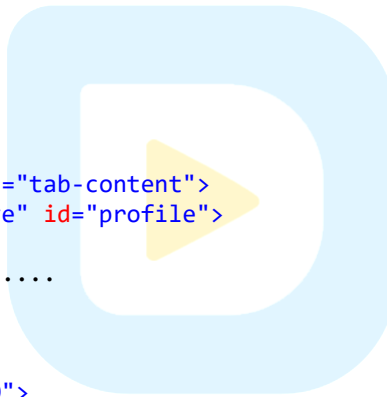
<div class="tab-pane fade" id="BIO">
<p>
    Put your text here....
</p>
</div>

<div class="tab-pane fade" id="MVP">
<p>
    Put your text here....
</p>
</div>

<div class="tab-pane fade" id="MVB">
<p>
    Put your text here....
</p>
</div>
</div>

<script>
$(function () {
    $('#activateTab li:eq(0) a').tab('show');//Here the first tab is activated.
});

```



```

</script>

</body>
</html>

```

Q31. How to activate bootstrap tab using event in JavaScript?

Ans. To activate tab, you have to use the following classes.

- **show.bs.tab:** This event is used to fire on tab show, but before the new tab has been shown.
- **shown.bs.tab:** This event is used to fire on tab show after a tab has been shown.

```

<!DOCTYPE html>
<html>
<head>
<title>Bootstrap tab activation</title>
<link href="/bootstrap/css/bootstrap.min.css" rel="stylesheet">
<script src="/scripts/jquery.min.js"></script>
<script src="/bootstrap/js/bootstrap.min.js"></script>
</head>
<body>

<div class="selected-tab"><strong>Selected Tab</strong>: <span></span></div>
<div class="Other-tab"><strong>Last selected Tab</strong>: <span></span></div>

<ul id="acivateTab" class="nav nav-tabs">
<li class="active">
<a href="#Profile" data-toggle="tab">
    My profile
</a>
</li>

<li><a href="#BIO" data-toggle="tab">BIO</a></li>

<li class="dropdown">

<a href="#" id="acivateDrop1" class="dropdown-toggle" data-toggle="dropdown">
    Award
<b class="caret"></b>
</a>

<ul class="dropdown-menu" role="menu" aria-labelledby="acivateDrop1">
<li>
<a href="#MVP" tabindex="-1" data-toggle="tab">
    MVP
</a>
</li>

<li>
<a href="#MVB" tabindex="-1" data-toggle="tab">
    MVB
</a>
</li>
</ul>

</li>

```

```

</ul>
<div id="activateTabContent" class="tab-content">
<div class="tab-pane fade in active" id="profile">
<p>
        Put your text here....
</p>
</div>

<div class="tab-pane fade" id="BIO">
<p>
        Put your text here....
</p>
</div>

<div class="tab-pane fade" id="MVP">
<p>
        Put your text here....
</p>
</div>

<div class="tab-pane fade" id="MVB">
<p>
        Put your text here....
</p>
</div>
</div>
</div>
</div>
<script>
    $(function () {
        $('a[data-toggle = "tab"]').on('shown.bs.tab', function (e) {
        });
    });
</script>
</body>
</html>

```



Q32. How to show activate tab name using event in JavaScript?

Ans. Refer Q31 for more details. Let's see the code,

Use event.target and event.relatedTarget to show the names of the current active tab and the last active tab.

```

<script>
    $(function () {
        $('a[data-toggle = "tab"]').on('shown.bs.tab', function (e) {
var selectedTab = $(e.target).text();
var OtherTab = $(e.relatedTarget).text();
            $(".selected-tab span").html(selectedTab);
            $(".Other-tab span").html(OtherTab);
        });
    });
</script>

```

5

Extending Bootstrap

Q1. What is a custom bootstrap theme?

Ans. There are so many readymade classes for all kinds of tags. As per the requirement, we don't need the default tag feature as it was but we need to customize it using a bootstrap.css file. That process is called custom bootstrap theme.

Q2. How to customize bootstrap class properties?

Ans. The following steps are as below,

1. Go to Bootstrap.css file
2. Copy the style of the component
3. Paste the same component style from bootstrap.css and paste into our custom CSS file(custom.css).
4. Then include the custom.css file after the bootstrap.css path in the web page.

For getting result after customization the path of these css files should look like as below,

```
<link href="/bootstrap/css/bootstrap.css" rel="stylesheet">
<link href="/bootstrap/css/customize.css" rel="stylesheet">
```

Q3. How to use existing theme in bootstrap?

1. Go to the site called <https://bootswatch.com/>
2. Download the theme from this site and its extension will be bootstrap.css
3. Include that file path in the page `<link href="/bootstrap/css/bootstrap-theme.css" rel="stylesheet">`

Q4. How to customize bootstrap components?

1. Visit the site (<https://getbootstrap.com/docs/3.3/customize/>)
2. Select the appropriate option from common CSS, Components and javascript components.
3. Scroll to the end of the page
4. Compile and download the bootstrap file.

Q5. How to get bootstraps using visual studio code?

Ans. We can get the bootstrap file for customization using visual studio code as mentioned below,

`node_modules/bootstrap/dist/css/bootstrap.min.css`

Q6. How to customize grid using Sass variable?

Ans. We can get this sass variable file from visual studio code. The grid columns can be modified via Sass variables.

..\node_module\bootstrap\scss_variables.scss

- \$grid-columns: It is used to generate the widths (in percent) of each individual column
- \$grid-gutter-width: It sets the width for the column gutters.

```
// Grid columns
//
// Set the number of columns and specify the width of the gutters.
$grid-columns: 12!default;
$grid-gutter-width: 30px!default;
```

Q7. How to customize grid tires using Sass variable?

- Grid breakpoints: Define the minimum dimensions at which your layout will change, adapting to different screen sizes, for use in media queries.
- Grid containers: Define the maximum width of `.container` for different screen sizes.

```
$grid-breakpoints: ( xs:0, sm:576px, md:768px, lg:992px, xl:1200px ) !default;
$container-max-widths: ( sm:540px, md:720px, lg:960px, xl:1140px ) !default;
```

Q8. How to customize Theme color using Sass variable?

Ans. Within scss/_variables.scss using visual studio, you'll find Bootstrap's color variables and Sass map. Add, remove, or modify values within the map to update. Here's an example of the \$colors Sass map:

```
$colors: () !default;
// stylelint-disable-next-line scss/dollar-variable-default
$colors: map-merge( ( "blue":$blue, "indigo":$indigo, "purple":$purple, "pink":$pink,
"red":$red, "orange":$orange, "yellow":$yellow, "green":$green, "teal":$teal, "cyan":$cyan,
"white":$white, "gray":$gray-600, "gray-dark":$gray-800 ),$colors);
```

Q9. How to extend bootstrap grid classes?

Ans. If you override the bootstrap class styles with your own custom CSS you should avoid using **!important** word. You can use and extend only the grid classes as mentioned below,

```
@import "bootstrap-grid";

.l-feature-list-item {
  @extend .col-sm-7;
  @extend .col-md-7;
}
```


Q10. Steps to extend bootstrap with Sass?

1. I will store any customization in our own mycustom.scss file that is separate from the Bootstrap SASS source files. This way any changes you make don't impact the Bootstrap source.
2. In mycustom.scss, import the Bootstrap files (variables.scss) that are needed for the overrides. Make the changes, then @import "bootstrap".
3. I can extend the old Bootstrap classes after the **@import "bootstrap";** to create new custom classes.
4. Compile the SASS. The CSS output will contain the overrides.

when the custom.scss file is processed using SASS, the default values are defined in the bootstrap/_variables.scss. Then our custom values are set, which will override any of the variables that had default values set in bootstrap/_variables.scss. Then @import "bootstrap" which enables the SASS processor to generate all the appropriate CSS using both the Bootstrap defaults and the custom overrides.

Q11. What is the relationship between Sass and bootstrap?

Ans. SASS is a stylesheet language and CSS pre-processors. It should be compiled into CSS and that can be understood by the Web browser. The files are written in SASS that have the .scss extension. The complete Bootstrap 4 CSS source is written in the SASS language.

The Bootstrap 4 CSS files are compiled using a SASS compiler i.e. A.K.A pre-processor. SASS is the best way to way to customize Bootstrap.

Q12. How does bootstrap Sass file work with a list of variables?

Ans. I must say that bootstrap.scss file is the main file that connects other SCSS source files using SASS @import statements. The _variables.scss file contains every Sass variable that is available to customize and override. The _variables.scss contains variables that are dependent on the _functions.scss and _mixins.scss files.

List of variables as mentioned below,

To change these colors, use the \$theme-colors SASS map.

```
$theme-colors: () !default;
// stylelint-disable-next-line scss/dollar-variable-default
$theme-colors: map-merge( ( "primary":$primary, "secondary":$secondary, "success":$success,
"info":$info, "warning":$warning, "danger":$danger, "light":$light, "dark":$dark ),$theme-
colors);
```

Quickly modify global styling by enabling or disabling optional features.

```
$enable-caret: true!default;
$enable-rounded: true!default;
$enable-shadows: false!default;
$enable-gradients: false!default;
$enable-transitions: true!default;
$enable-hover-media-query: false!default; // Deprecated, no longer affects any compiled CSS
$enable-grid-classes: true!default;
$enable-print-styles: true!default;
```

Grid breakpoints: Define the minimum dimensions at which your layout will change, adapting to different screen sizes, for use in media queries.

```
$spacer: 1rem!default;
$spacers: () !default;
// stylelint-disable-next-line scss/dollar-variable-default
$spacers: map-merge( ( 0:0, 1: ($spacer * .25), 2: ($spacer * .5), 3:$spacer, 4: ($spacer * 1.5), 5: ($spacer * 3) ),$spacers);
```

Spacing: It controls the default styling of most Bootstrap elements by modifying these variables. Mostly focused on spacing. You can add more entries to the \$spacers map, should you need more variation.

Q13. How to write code to customizing existing style using bootstrap Sass?

Ans. Create a separate custom.scss file that lives outside the Bootstrap SASS source files. The customizations should be done here(mycustom.scss). Using a separate custom.scss file allows us to make changes that don't impact the Bootstrap source.

```
/*import the necessary Bootstrap files*/
@import"bootstrap/functions";
@import"bootstrap/variables";

/*-----begin customization-----*/

/*simply assign the value*/
$body-bg: #red;
/*create a new red color*/
$theme-colors: ( purple:$red );
/*-----end customization-----*/
/*finally, import Bootstrap to set the changes!*/
@import"bootstrap";
```

Q14. How to write code for customizing grid layout using bootstrap Sass?

Ans. Use the following code to customize the grid layout.

```
/*import only the necessary Bootstrap files*/
@import"bootstrap/scss/functions";
@import"bootstrap/scss/variables";
/*--- begin customization ---*/
/*change the primary theme color to red*/
$theme-colors: ( primary:blue;
)
;
/*increase the width of the grid lg and xl breakpoints*/
$grid-breakpoints: ( lg:1026px, xl:1368px );
/*increase container width for the wider lg and xl breakpoints*/
$container-max-widths: ( lg:1058px, xl:1404px );
/*--- end customization ---*/
/*finally, import Bootstrap to set the changes!*/
@import"bootstrap";
```

6

Integrating Bootstrap

Q1. How to integrate bootstrap with ASP.NET MVC?

Ans. You can get bootstrap files in 2 ways as mentioned below,

You can get Bootstrap files in 2 ways.

1. First, download the above files from below link and then upload in your project and use it.
<http://getbootstrap.com/docs/3.3/getting-started/#download>
2. By using Bootstrap CDN links. No need to download these above files manually.

<https://www.bootstrapcdn.com/>

In case of MVC, Go to Shared folder. Write the following code in the _Layout.cshtml. Add the following lines for bootstrap integration in MVC.

In the head section add the following lines,

```
<link href="~/Content/bootstrap.min.css" rel="stylesheet"/>
<link href="~/Content/bootstrap-theme.min.css" rel="stylesheet"/>
```

In the body section add the following lines,

```
<script src="~/Scripts/bootstrap.min.js"></script>
```

You can add the following css link in index.cshtml page for apply bootstrap only in particular page.

```
<link href="~/css/bootstrap.css" rel="stylesheet"/>
```

You can check the registered style and script bundle in bundleconfig.cs.

```
public class BundleConfig {
    public static void RegisterBundles(BundleCollection bundles)
    {
        StyleBundle(bundles);
        ScriptBundle(bundles);
    }

    public static void StyleBundle(BundleCollectionbundles) {
        bundles.Add(new StyleBundle("~/css") .Include("~/Content/bootstrap.css"));
    }
}
```

```

PublicstaticvoidScriptBundle(BundleCollectionbundles) {
bundles.Add(new ScriptBundle("~/js") .Include("~/Scripts/jquery-1.10.2.js")
.Include("~/Scripts/bootstrap.js"));
}
}

```

Q2. How to integrate and upgrade bootstrap with ASP.NET Core MVC?

Ans. Here I will show you the bootstrap integration steps in asp.net core using Visual studio code.

first, create the new ASP.NET Core project. Use below commands in Visual studio code terminal,

\$dotnet new Core

\$ code. (This command is used to open project with VS Code.)

Inside wwwroot/lib directory, Bootstrap 3 comes with default ASP.NET Core MVC templates, delete bootstrap and jquery folders from the project.

Create the new files bower.json and .bowerrc at the root then copy the following block of code.

For bower.json,

```

{
  "name": "asp.net",
  "private": true,
  "dependencies":

  {
    "bootstrap": "4.0.0",
    "jquery" : "3.2.1"
  }
}

```



For .bowerrc ,

```

{
  "directory": "wwwroot/lib"
}

```

Run the below command to restore the bower dependencies.

\$ bower install

Open _Layout.cshtml file found in views/Shared folder and paste the following lines of code,

In the head section add the below lines of codes,

```

<environmentinclude="Development">
<link rel="stylesheet" href="~/lib/bootstrap/dist/css/bootstrap.css"/>
<link rel="stylesheet" href="~/css/site.css"/>
</environment>
<environmentexclude="Development">
<link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.css"
asp-fallback-href="~/lib/bootstrap/dist/css/bootstrap.min.css"

```

```

integrity="sha384-Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGgFAW/dAiS6JXm"
crossorigin="anonymous"/>
<link rel="stylesheet" href="~/css/site.css" asp-append-version="true"/>
</environment>

```

In the body section add the below lines of codes,

```

<environmentinclude="Development">
<script src="~/lib/jquery/dist/jquery.js"></script>
<script src="~/lib/bootstrap/dist/js/bootstrap.js"></script>
<script src="~/js/site.js" asp-append-version="true"></script>
</environment>
<environmentexclude="Development">
<script src="https://code.jquery.com/jquery-3.2.1.slim.min.js"
asp-fallback-src="~/lib/jquery/dist/jquery.min.js"
integrity="sha384-KJ3o2DKtIkvYIK3UENzmM7KCKRr/rE9/Qpg6aAZGJwFDMVNA/GpGFF93hXpG5KkN"
crossorigin="anonymous">
</script>
<script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/popper.min.js"
integrity="sha384-ApNbgh9B+Y1QKtv3Rn7W3mgPxhU9K/ScQsAP7hUibX39j7fakFPskvXusvfa0b4Q"
crossorigin="anonymous">
</script>
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootstrap.min.js"
asp-fallback-src="~/lib/bootstrap/dist/js/bootstrap.min.js"
integrity="sha384-JZR6Spejh4U02d8j0t6vLEHfe/JQGiRRSQQxSfFWpi1MquVdAyjUar5+76PVCmY1"
crossorigin="anonymous">
</script>
<script src="~/js/site.min.js"asp-append-version="true"></script>
</environment>

```

Run the below command to see the Bootstrap 4 template.

```
$ dotnet run
```

Q3. How to integrate bootstrap with ASP.NET Core using Visual studio?

Ans. Create a new project. From the new project dialog box, select ASP.NET Core Web Application (.NET Core). Select the empty template. Go to the project menu, and click on Manage Bower Packages. From there you can browse Bootstrap.

Adding a dependency in the bower.json file is the recommended way of adding Bootstrap into an ASP.NET Core project. Go to the project name, right click and then add a new item. Under Web, double click and add Bower Configuration file.

This will add a new file to your project called bower.json. Double-click on the bower.json file and add Bootstrap and version number to the dependency array.

```

{
  "name": "asp.net", "private": true, "dependencies": { "bootstrap": "v4.0.0"}
}

```

After adding the dependency, save the bower.json file and the Bootstrap 4 starts downloading and will be added to your project. The Bootstrap source code file will be downloaded in the lib folder. Bootstrap 4 beta has jQuery and Popper.js as peer dependencies. So those will be downloaded along with Bootstrap.

All the CSS and JavaScript files are included in a Layout page that enables all the pages to include Bootstrap. So we need to create a Layout page. First, In the Views folder add a new subfolder called Shared. Within this new subfolder add a new item. In the Add New Item dialog box, select MVC View Layout Page and then click Add.

A new file will be added named _Layout.cshtml. Now, open the _Layout.cshtml file and add the HTML markup to include the CS, JavaScript, and jQuery.

In the head section add the below lines of codes,

```
<link rel="stylesheet"href="~/lib/bootstrap/dist/css/bootstrap.css"/>
```

In the body section add the below lines of codes,

```
<script src="~/lib/bootstrap/dist/js/bootstrap.js"></script>
```

Q4. How to integrate bootstrap with React?

Ans. I add Bootstrap from NPM. Run the below command to Install reactstrap and Bootstrap from NPM.

Save bootstrap

```
$ npm install bootstrap --save
```

save reactstrap react react-dom

```
npm install
```

I will Import Bootstrap CSS in the src/index.js file.

```
import 'bootstrap/dist/css/bootstrap.min.css';
```

I will import the essential Reactstrap components within 'src/App.js' file.

```
import React from 'react';
import { Jumbotron } from 'reactstrap';
export default (props) => {
  return (
    <Jumbotron color="red">red</Jumbotron>
  );
}
```

For creating the 'React' app. Run the below commands,

```
npx create-react-app reactapp
```

```
npm init react-app reactapp
```

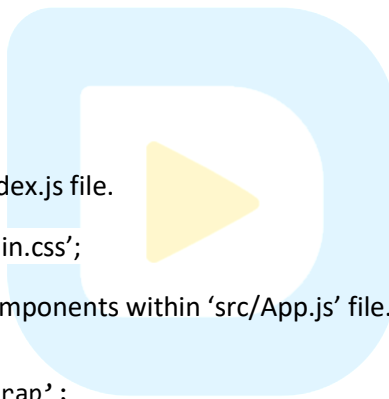
or,

```
yarn create react-app reactapp
```

open your project folder once the installation is complete. Run the below command,

```
cd reactapp
```

Then run built-in commands,



npm start

Or

Yarn start

Q5. How to integrate bootstrap with PHP?

Ans. Inside the HTML code, the PHP code is written between the opening and closing PHP tags. So all the PHP code is written inside `<?php` and `?>` tags.

First, you should install Bootstrap on your local computer. In another way, you can use bootstrap CDN too. Create a folder on the local server and add the Bootstrap files in the folder. Then create an index.php file to start creating a Bootstrap web page with PHP.

Write the HTML code, link all the necessary CSS and JS files including the bootstrap CSS and JS. Now create a simple form using Bootstrap.

Add the below lines of code in head section of html with php.

```
<link rel="stylesheet"href="css/bootstrap.min.css">
```

Add the below lines of code in body section of html with php.

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

Let's see the below code for implementation of bootstrap css in button.

```
<div class="container">
<?php
    $errEmail = $errPass= $errName="";
    if(isset($_POST["submit"]))
    if($valid){
        echo "The form has been submitted";
    }
}
?>
<!-- end php code -->
<form role="form"method="post"action="<?php echo htmlspecialchars($_SERVER["PHP_SELF"]);?>
<div class="form-group row">
<div class="offset-sm-2 col-sm-10">
<input type="submit"value="Sign in"name="submit"class="btn btn-primary"/>
</div>
</div>
</form>
</div>
```

Q6. How to integrate bootstrap with HTML?

Ans. Refer Q5 for applying bootstrap in HTML. The same procedure as it was described in PHP.

Let's see basic html web page with bootstrap.

```
<!DOCTYPE html>
<html>
<head>
<link rel="stylesheet"href="css/bootstrap.min.css">
```

```

</head>
<body>
<div class="modal-footer">
<button type="button" class="btn btn-info">Close</button>
</div>
<script src="js/bootstrap.min.js"></script>
</body>
</html>

```

Q7. How to write code for implementing bootstrap with reactjs?

Ans. In an HTML file, I have added the Bootstrap stylesheets and JavaScript files for Bootstrap and React. Within the <script> tags, for regular HTML tags, the attribute className is used instead of class and the attribute htmlFor is used instead of for attribute.

To support in all browsers, we download Babel. Babel is a JavaScript compiler that converts these codes into a format which is supported by the browsers. Install Babel using npm command as following:

npm i babel-standalone

or I can use the CDN to include Babel.

Let's see the code,



```

<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
<title>Bootstrap 4 with React</title>
<link rel="stylesheet" href="node_modules/bootstrap/dist/css/bootstrap.min.css"/>
</head>
<body>
<script type="text/javascript" src="node_modules/jquery/dist/jquery.slim.min.js"></script>
<script type="text/javascript" src="node_modules/tether/dist/js/tether.min.js"></script>
<script type="text/javascript" src="node_modules/bootstrap/dist/js/bootstrap.min.js"></script>
<script type="text/javascript" src="node_modules/react/react.min.js"></script>
<script type="text/javascript" src="node_modules/react-dom/dist/react-dom.min.js"></script>
<script src="https://cdnjs.cloudflare.com/ajax/libs/babel-standalone/6.25.0/babel.js"></script>

<script type="text/babel">
<div className="container">
<p className="lead">
<a className="btn btn-primary btn-lg" href="#" role="button">Bootstrap With React</a>
</p>
</div>
</script>
</body>
</html>

```

Q8. How to integrate bootstrap with Angular?

Ans. First create an angular project using Visual studio code,

cd Angular7

Then open the project using the below command.

/Angular7/code .

Let us see how to install Bootstrap 4.1.3 in Angular 7 applications. Type the following command to install Bootstrap 4 on your machine.

```
npm i bootstrap
```

Then, we should declare a Bootstrap library in Angular.json file. It will locate the Bootstrap CSS file.

```
"styles": [  
  "src/styles.scss",  
  "node_modules/bootstrap/dist/css/bootstrap.min.css"  
],
```

Q9. How to write code for implementing bootstrap with Angular?

Ans. Let's see how to use bootstrap in Angular Components. Type the below command to create a navbar component. Here, g stands for generating and c stands for the component.

```
ng g c template/navbar
```

Then, you should paste this code for bootstrap navbar inside the navbar.component.html file. When we create any component, the selector is named as "app-componentname". Here, since we have created a navbar component, the selector will be named as app-navbar.

```
<nav class="navbar navbar-light bg-dark">  
<span class="navbar-brand mb-0 h1 text-light">Angular 7 Navbar By Satyaprakash</span>  
</nav>
```

Let us now declare the navbar component using selector inside the app.component.html file. The app-navbar selector is available in the navbar.component.ts file;

```
<app-navbar></app-navbar>
```

We have composed a colour for the navbar. Follow the steps, Visit the bootstrap official site and search for the background colour. We got .bg-primary class. So, I have replaced the bg-dark class with bg-primary.

```
<nav class="navbar navbar-light bg-primary">  
<span class="navbar-brand mb-0 h1 text-light">Angular 7 Navbar By Satyaprakash </span>  
</nav>
```

OUTPUT:



7

Bootstrap Migration

Q1. What is the difference between Bootstrap v3 and v4?

Ans. Bootstrap 4 is the latest version of Bootstrap. It is the most popular framework including HTML, CSS, and JavaScript. New components are added in Bootstrap 4. The final release in 2018-2019 is 4.2:

COMPONENTS	BOOTSTRAP v3	BOOTSTRAP v4
font size	The global font size is 14px	The global font size is 16px
primary CSS unit	The primary CSS unit is px	The primary CSS unit is rem
source CSS files	The source CSS files are named as LESS	The source CSS files are named as SCSS
grid system	It has 4 tier grid system(These are xs, sm, md, lg)	It has 5 tier grid system(These are xs, sm, md, lg, xl)
offset columns	It implements col-*-offset-* classes to offset columns	It uses offset-*-* classes to offset columns
inverse tables	The inverse table is not supported	Uses inverse tables by .table-dark
condensed tables	The .table-condensed is used for condensed tables	The .table-sm is used for condensed tables
contextual table classes	It doesn't contain .table- prefix for its contextual classes	It contains .table- prefix for its contextual classes
radio buttons	It uses .radio, .radio-inline to display radio buttons	It uses .form-check-input, .form-check-inline to display checkboxes
checkboxes	It uses .checkbox, .checkbox-inline to display checkboxes	It uses .form-check, .form-check-label to display radio buttons
input controls size	It uses .input-lg and .input-sm to customize the size of an input controls	It uses form-control-lg and .form-control-sm to customize the size of an input controls
label size	It doesn't contain any classes for changing form label size	It uses .col-form-label-sm and .col-form-label-lg to customize the size of a label
help text	It uses .help-block class to show help text	It uses the .form-text class to show help text
form legends	It has no classes for making the form legends	It uses .col-form-label on legend elements
validation styles	It contains validation styles for validating states on form controls(like .has-warning)	It doesn't contain validation styles

custom forms	It doesn't support custom forms	It supports custom forms
buttons	It contains .btn-default and .btn-info classes but .btn-secondary is not found	It contains the .btn-secondary, .btn-light, and .btn-dark classes
outline button	It doesn't contain the outline button	It supports .btn-outline-* classes for adding styles buttons using an outline colour
button sizes	It uses .btn-xs for button sizes	The .btn-sm and .btn-lg are used but .btn-xs class is no longer available
responsive images	It uses .img-responsive class for responsive images	It uses .img-fluid class for responsive images
image alignment	It uses .pull-right, .pull-left for right and left image alignment	It uses .pull-*-right and .pull-*-left for right and left image alignment
block level images	It uses .center-block to align block level images	It uses .m-x-auto to align block level images
Dropdown header	It uses li tags to build dropdowns with .dropdown-header	It uses to h1 - h2 tags to build dropdowns with .dropdown-header
Divider in dropdown	It uses .divider class to the li element to make lists of build dropdowns	It uses .divider class to the div element to make lists of build dropdowns
disable menu items	It uses the .disabled class to the li element to disable menu items	It uses .disabled class to the <a> element to disable menu items
Nav inline	There is no .nav-inline class	It uses the .nav-inline class for specifying navs to be displayed inline
navbar alignment	It uses .navbar-right, .navbar-left for navbar alignment	It uses .mr-auto for navbar alignment
Fixed navbar	It uses .navbar-fixed-top and .navbar-fixed-bottom for setting navbar in top or bottom	It uses .fixed-top and .fixed-bottom for setting navbar in top or bottom
glyphicons	It supports glyphicons	It doesn't support glyphicons
carousel item	It uses .item class for carousel item	It uses .carousel-item class
affix	It supports affix	It doesn't support it
Thumbnails	It supports thumbnails	It doesn't support it
Wells and Panels	It supports both	It doesn't support it
cards	It doesn't support it	It supports cards instead of affix, thumbnails, wells and panels

Q2. How to migrate references of Bootstrap v3 to v4 using bower?

Ans. The migration process is very easy. So, before do that just read the difference between Bootstrap v3 and Bootstrap v4. You should replace the class and tag of bootstrap v3 to bootstrap v4.

You should change the Bootstrap 3 stylesheet and JavaScript file with the Bootstrap 4 stylesheet and JavaScript file. Install Bootstrap 4 using below command,

bower install bootstrap#v4.0.0-alpha.4

You will get a folder called `bower_components` in the application.

So, Bootstrap 4 stylesheet reference will be as shown below

```
<link rel="stylesheet" href="bower_components/bootstrap/dist/css/bootstrap.min.css" />
```

Bootstrap 4 JavaScript reference will be as shown below

```
<script src="bower_components/bootstrap/dist/js/bootstrap.min.js"><!-- script-->
```

Q3. How to migrate references of Bootstrap v3 to v4 using npm?

Ans. Using npm you can install bootstrap 4. So, run the below command using VS code terminal,

```
npm install bootstrap@4.0.0-alpha.5
```

or

```
npm i bootstrap@4.0.0-alpha.5
```

Then declare a Bootstrap library in `Angular.json` file. It will locate the Bootstrap CSS file.

```
"styles": [  
  "src/styles.scss",  
  "node_modules/bootstrap/dist/css/bootstrap.min.css"  
],
```

Q4. How to migrate references of Bootstrap v3 to v4 using RubyGems?

Ans. We can install Bootstrap 4 in the Ruby apps. Run the below command,

```
gem install bootstrap -v 4.0.0
```

Q5. How to migrate references of Bootstrap v3 to v4 using Composer?

Ans. We can install Bootstrap 4 using composer. Run the below command,

```
composer require twbs/bootstrap:4.0.0
```

Q6. How to migrate references of Bootstrap v3 to v4 using NuGet?

Ans. For .NET developers, we can install Bootstrap 4 using NuGet. Run the below command using NuGet package manager console in Visual Studio.

- **Install-Package bootstrap**
- **Install-Package bootstrap.sass**

Q7. How to migrate references of Bootstrap v3 to v4 using CDN?

Ans. We should use the Bootstrap 4 CDN for Bootstrap stylesheet and Bootstrap javascript.

CDN of Bootstrap 4 stylesheet is mentioned below,

```
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-alpha.5/css/bootstrap.min.css" integrity="sha384-AysaV+vQoT3kOAXZk102PThvDr8HYKPZhNT5h/CXfBThSRXQ6jW5D02ekP5ViFdi" crossorigin="anonymous">
```

CDN of Bootstrap 4 stylesheet is mentioned below,

```
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-alpha.5/js/bootstrap.min.js"
integrity="sha384-BliI7JTzm+JWlgKa0M0kGRpJbF2J8q+qreVrKBC47e3K6BW78kGLrCkeRX6I9RoK"
crossorigin="anonymous"><!-- script-->
```

Q8. How to migrate references of Bootstrap v3 to v4 using Source files?

Ans. First, download the bootstrap 4 source files using below URL. It contains Sass, JavaScript, and documentation files. It needs extra tools like Sass compiler and Autoprefixer.

<https://getbootstrap.com/docs/4.0/getting-started/download/>

After download, the Bootstrap 4 source files, The CSS and js files of dist folder are shown below,

This PC > Downloads > bootstrap-4.0.0 > dist

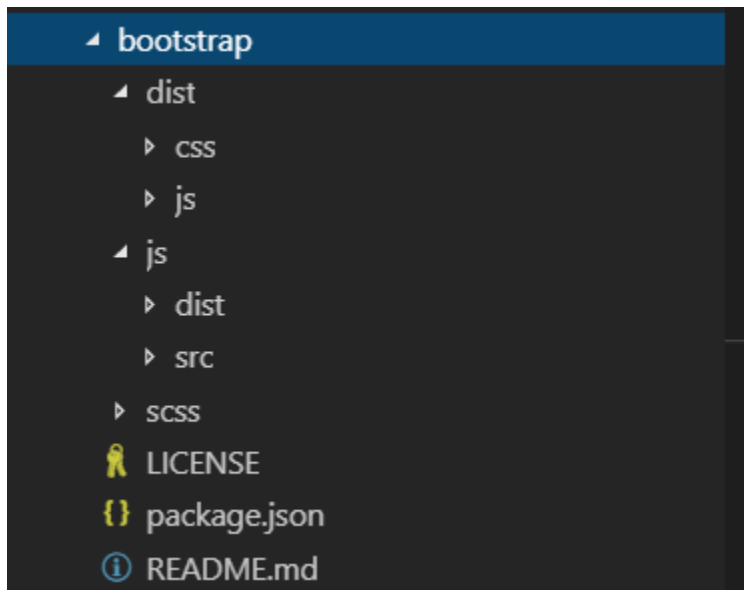
Name	Date modified	Type	Size
css	18-01-2018 10:29	File folder	
js	18-01-2018 10:29	File folder	

Use path of CSS and JavaScript inside the <head> section of Html file to access Bootstrap 4 features.

Q9. How does the file structure look in Bootstrap 4 after migration?

Ans. In Bootstrap 3, The file structure contains the pre-compiled CSS, JavaScript and font with source Less, JavaScript and documentation. In Bootstrap 4, The file structure contains Sass files instead of the source Less due to migration. The fonts folder also is removed from Bootstrap 4.

Using Visual studio code the file structure will be shown as below,



Q10. What major modifications have done in Bootstrap 4?

Ans: The major modifications have done in Bootstrap 4 as shown below,

- Use of cards instead of panels, wells and thumbnails
- The classes of grid tier are updated with the new name
- Glyphicons are no longer used
- The navigation bar is updated with new and easy tips
- The new classes are used in dropdowns and pagination
- Use of labels instead of badges
- It uses Sass for the source CSS files.
- It uses rem as the primary CSS unit.
- It uses ems for media queries
- It has increased global font-size to 16px



Bootstrap v4 New Features

Q1. How to place CSS and JavaScript files in bootstrap 4?

Ans: We access Bootstrap 4 CSS and JavaScript files by using the Bootstrap CDN. We can use the style sheet code in the head section as shown below.

```
<!-- Latest compiled and minified Bootstrap CSS -->
<link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.css" integrity="sha384-
Gn5384xqQ1aowXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGgFAW/dAiS6JXm" crossorigin="anonymous">
```

We can place the JavaScript files inside body section as shown below. I put it just before the closing tag of body section as a result the webpage can load in easy and fast way.

```
<!-- jQuery library -->
<script src="https://code.jquery.com/jquery-3.2.1.slim.min.js" integrity="sha384-
KJ3o2DKtIkVYIK3UENzmM7KCKRr/rE9/Qpg6aAZGJwFDMVNA/GpGFF93hXpG5KkN"
crossorigin="anonymous"></script>

<!-- Popper -->
<script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/popper.min.js"
integrity="sha384-ApNbgh9B+Y1QKtv3Rn7W3mgPxhU9K/ScQsAP7hUibX39j7fakFPskvXusvfa0b4Q"
crossorigin="anonymous"></script>

<!-- Latest compiled and minified Bootstrap JavaScript -->
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootstrap.min.js"
integrity="sha384-JZR6Spejh4U02d8j0t6vLEHfe/JQGiRRSQQxSfFWpi1MquVdAyjUar5+76PVCmYl"
crossorigin="anonymous"></script>
```

Q2. How to write sample web template using bootstrap 4?

Ans: As we already have discussed earlier about placement of CSS and JavaScript of Bootstrap 4. Let's see the template,

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap 4</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
  <!-- Bootstrap CSS -->
  <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.css" integrity="sha384-
Gn5384xqQ1aowXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGgFAW/dAiS6JXm" crossorigin="anonymous">
```

```

</head>
<body>

<div>
  <h2>Satyaprakash Samantaray</h2>
</div>
  <!-- jQuery library -->
  <script src="https://code.jquery.com/jquery-3.2.1.slim.min.js" integrity="sha384-
KJ3o2DKtIkVYIK3UENzmM7KCRr/rE9/Qpg6aAZGJwFDMVNA/GpGFF93hXpG5KkN"
crossorigin="anonymous"></script>

  <!-- Popper -->
  <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/popper.min.js"
integrity="sha384-ApNbgh9B+Y1QKtv3Rn7W3mgPxhU9K/ScQsAP7hUibX39j7fakFPskvXusvfa0b4Q"
crossorigin="anonymous"></script>

  <!-- Latest compiled and minified Bootstrap JavaScript -->
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootstrap.min.js"
integrity="sha384-JZR6Spejh4U02d8j0t6vLEHfe/JQGiRRSQQxSfFWpi1MquVdAyjUar5+76PVCmY1"
crossorigin="anonymous"></script>
</body>
</html>

```

Q3. How to place CSS and JavaScript files in Asp.net and Asp.net MVC?

Ans In case of normal Asp.net web page you can place the CSS and JavaScript in master page to apply bootstrap for all pages under the same application. In the case of Asp.net MVC, you can place the CSS and Javascript in _layout.cshtml file to apply bootstrap for all views under the same MVC application.

Q4. What is grid sizes in Bootstrap 4?

Ans. Bootstrap 4 supports 5 tier grid system. The below lists for different screen sizes of device,

Extra small <576px :

- Width container will be auto.
- Here class prefix is .col-.
- A number of columns will be 12.
- It can be nestable.
- It supports column ordering.

Small ≥576px :

- Width container will be 540px.
- Here class prefix is .col-sm-.
- A number of columns will be 12.
- It can be nestable.
- It supports column ordering.

Medium $\geq 768\text{px}$:

- Width container will be 720px.
- Here class prefix is .col-md-.
- A number of columns will be 12.
- It can be nestable.
- It supports column ordering.

Large $\geq 992\text{px}$:

- Width container will be 960px.
- Here class prefix is .col-lg-.
- A number of columns will be 12.
- It can be nestable.
- It supports column ordering.

Extra large $\geq 1200\text{px}$:

- Width container will be 1140px.
- Here class prefix is .col-xl-.
- A number of columns will be 12.
- It can be nestable.
- It supports column ordering.

Q5. How to create description lists in Bootstrap 4?

Ans the description lists are used as shown below,

```
<div class="container-fluid">

  <dl>
    <dt>Satyaprakash</dt>
    <dd>He is an MVP </dd>
    <dt>DotNetTricks</dt>
    <dd>It is a Developer community site</dd>
  </dl>

</div>
```

Q6. How to use dark table in Bootstrap 4?

Ans. You can use the .table-dark class to use dark table in bootstrap 4.

```
<div class="container-fluid">

  <table class="table table-dark">
    <thead>
      <tr>
        <th>Name 1</th>
        <th>Name 2</th>
        <th>Name 3</th>
```

```

        </tr>
    </thead>
    <tfoot>
        <tr>
            <th>Address 1</th>
            <th>Address 2</th>
            <th>Address 3</th>
        </tr>
    </tfoot>
    <tbody>
        <tr>
            <td>Your data</td>
            <td>Your data</td>
            <td>Your data</td>
        </tr>
        <tr>
            <td>Your data</td>
            <td>Your data</td>
            <td>Your data</td>
        </tr>
        <tr>
            <td>Your data</td>
            <td>Your data</td>
            <td>Your data</td>
        </tr>
    </tbody>
</table>

```

</div>

Q7. How many table contextual classes are used in Bootstrap 4?

Ans. There are 5 contextual classes are used. These are

- .table-active
- .table-success
- .table-info
- .table-warning
- .table-danger

Let's see the code,

```

<div class="container-fluid">

    <table class="table">
        <thead>
            <tr>
                <th>NAME 1</th>
                <th>NAME 2</th>
                <th>NAME 3</th>
            </tr>
        </thead>
        <tbody>
            <tr>
                <td class="table-active">Active</td>
                <td class="table-success">Success</td>
            </tr>
        </tbody>
    </table>

```

```

        <td>&nbsp;</td>
    </tr>
    <tr>
        <td>&nbsp;</td>
        <td class="table-info">Info</td>
        <td>&nbsp;</td>
    </tr>
    <tr>
        <td class="table-danger">Danger</td>
        <td>&nbsp;</td>
        <td class="table-warning">Warning</td>
    </tr>
</tbody>
</table>

</div>

```

Q8. How to write code for Checkboxes & Radio Buttons in Bootstrap 4?

Ans. Bootstrap 4 uses the `.form-check`, `.form-check-label`, `.form-check-input`, and `.form-check-inline` classes for checkboxes and radio buttons.

For checkboxes:

```

<div class="form-check form-check-inline">

    <input class="form-check-input" type="checkbox" id="inlineCheckbox1" value="1">
    <label class="form-check-label">Checkbox 1</label>
</div>

<div class="form-check form-check-inline">
    <input class="form-check-input" type="checkbox" id="inlineCheckbox2" value="2">
    <label class="form-check-label">Checkbox 2</label>
</div>

<div class="form-check form-check-inline">
    <input class="form-check-input" type="checkbox" id="inlineCheckbox3" value="3">
    <label class="form-check-label">Checkbox 3</label>
</div>

```

For radio buttons:

```

<div class="form-check form-check-inline">
    <input class="form-check-input" type="radio" name="inlineRadioOptions" id="inlineRadio1"
value="1">
    <label class="form-check-label">Radio button 1</label>
</div>

<div class="form-check form-check-inline">
    <input class="form-check-input" type="radio" name="inlineRadioOptions" id="inlineRadio2"
value="2">
    <label class="form-check-label">Radio button 2</label>
</div>

<div class="form-check form-check-inline">
    <input class="form-check-input" type="radio" name="inlineRadioOptions" id="inlineRadio3"
value="3">
    <label class="form-check-label">Radio button 3</label>

```

```
</div>
```

Q9. How to create horizontal forms in Bootstrap 4?

Ans Bootstrap 4 uses the .row class. It uses .col-form-label * for form layout. Let's see the code,

```
<div class="container">
  <form>
    <div class="form-group row">
      <label for="first_name" class="col-xs-3 col-form-label mr-2">Your first
Name</label>
      <div class="col-xs-9">
        <input type="text" class="form-control" id="first_name" name="first_name">
      </div>
    </div>
    <div class="form-group row">
      <label for="last_name" class="col-xs-3 col-form-label mr-2">Your last
Name</label>
      <div class="col-xs-9">
        <input type="text" class="form-control" id="last_name" name="last_name">
      </div>
    </div>
    <div class="form-group row">
      <div class="offset-xs-3 col-xs-9">
        <button type="submit" class="btn btn-primary">Send</button>
      </div>
    </div>
  </form>
</div>
```

Q10. How to use forms control size in Bootstrap 4?

Ans. Bootstrap 4 uses .form-control-lg and .form-control-sm to control the size of an input control. Let's see the code,

```
<div class="container">
  <div class="form-group">
    <input type="text" class="form-control form-control-sm" placeholder="Small textbox
box">
  </div>
  <div class="form-group">
    <input type="text" class="form-control" placeholder="Default textbox size">
  </div>
  <div class="form-group">
    <input type="text" class="form-control form-control-lg" placeholder="Large textbox
size">
  </div>
</div>
```

Q11. How to use form label size in Bootstrap 4?

Ans Bootstrap 4 uses .col-form-label-sm and .col-form-label-lg for form label sizes. Let's see the code,

```
<div class="container">
  <form>
    <div class="form-group row">
```

```

        <label for="colFormLabelSm" class="col-sm-2 col-form-label col-form-label-
sm">Your Name</label>
        <div class="col-sm-10">
            <input type="email" class="form-control form-control-sm" id="colFormLabelSm"
placeholder="Your Name">
        </div>
    </div>
    <div class="form-group row">
        <label for="colFormLabel" class="col-sm-2 col-form-label">Your Email</label>
        <div class="col-sm-10">
            <input type="email" class="form-control" id="colFormLabel" placeholder="Your
Email">
        </div>
    </div>
    <div class="form-group row">
        <label for="colFormLabelLg" class="col-sm-2 col-form-label col-form-label-
lg">Your City</label>
        <div class="col-sm-10">
            <input type="email" class="form-control form-control-lg" id="colFormLabelLg"
placeholder="Your City">
        </div>
    </div>
</form>
</div>

```

Q12. How to use help text in Bootstrap 4?

Ans. Bootstrap 4 implements .form-text for help text. Let's see the code,

```

<div class="container">
    <label for="nameId">Name</label>
    <input type="text" id="nameId" class="form-control">
    <span class="form-text text-muted">The use name should be more than 12 character
size.</span>
</div>

```

Q13. How to create custom select control in Bootstrap 4?

Ans. Bootstrap 4 uses custom select control by using .custom-select class to the <select> tag. Let's see the code,

```

<div class="container">
    <select class="custom-select">
        <option selected>Select one</option>
        <option value="1">Name</option>
        <option value="2">City</option>
        <option value="3">Street</option>
    </select>
</div>

```

Q14. How to create custom checkboxes in Bootstrap 4?

Ans. Bootstrap 4 uses .custom-control and .custom-checkbox classes on div element and .custom-control-input on the <input> element Then .custom-control-label on the <label> element.

For check boxes,

```
<div class="container">
  <div class="custom-control custom-checkbox">
    <input type="checkbox" class="custom-control-input" id="customCheck">
    <label class="custom-control-label" for="customCheck">City</label>
  </div>
</div>
```

Q15. How to create custom radio buttons in Bootstrap 4?

Ans Bootstrap uses .custom-radio class for custom radio buttons. Let's see the code,

```
<div class="container">
  <div class="custom-control custom-radio">
    <input type="radio" id="customRadio11" name="customRadio" class="custom-control-
input">
    <label class="custom-control-label" for="customRadio11">Name</label>
  </div>
</div>
```

Q16. How to create custom file upload control in Bootstrap 4?

Ans. Bootstrap 4 uses .custom-file class inside div tag and .custom-control-input on the <input> element. Then .custom-file-label class on <label> element. Let's see the code,

```
<div class="container">
  <div class="custom-file">
    <input type="file" class="custom-file-input" id="customFile1">
    <label class="custom-file-label" for="customFile1">Browse....</label>
  </div>
</div>
```

Q17. How to create Button outlines in Bootstrap 4?

Ans. Bootstrap 4 uses new .btn-secondary, .btn-light, and .btn-dark classes. Bootstrap 4 uses .btn-outline-* classe for outline buttons. Let's see the code,

```
<div class="container">
  <button type="button" class="btn btn-outline-secondary">Secondary</button>
  <button type="button" class="btn btn-outline-light">Light</button>
  <button type="button" class="btn btn-outline-dark">Dark</button>
</div>
```

Q18. How to create block level buttons in Bootstrap 4?

Ans. Bootstrap 4 uses .btn-block class to create block level buttons. Let's see the code,

```
<div class="container">
  <button type="button" class="btn btn-danger btn-lg btn-block">Bootstrap 4 Block level
button</button>
</div>
```

Q19. How to create responsive images in Bootstrap 4?

Ans. Bootstrap 4 works with .img-fluid to build responsive images. Let's see the code,

```
<div class="container">
  
```

</div>

Q20. How to center block and non-block level Images in Bootstrap 4?

Ans. Bootstrap 4 works with .mx-auto and .mx-*-auto to center a block level image with .d-block. Let's see the code,

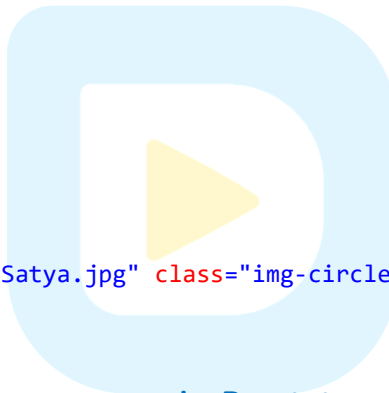
```
<div class="container">
    
</div>
```

Bootstrap 4 uses classes for centering non block level images.

- .text-center
- .text-sm-center
- .text-md-center
- .text-lg-center
- .text-xl-center
- .text-left
- .text-right
- .text-*-left
- .text-*-right

Let's see the code,

```
<div class="container">
    <div class="text-center">
        
    </div>
</div>
```



Q21. How to create dropdown menu in Bootstrap 4?

Ans. Bootstrap 4 uses dropdown to a <div> element. It uses .dropdown-item to a <a> element and the .dropdown-menu class to <div> element.

Let's see the code,

```
<div class="container-fluid">
    <div class="dropdown">
        <button class="btn btn-primary dropdown-toggle" type="button" id="Branch" data-
toggle="dropdown" aria-haspopup="true" aria-expanded="false">
            Branch
        </button>
        <div class="dropdown-menu" aria-labelledby="Branch">
            <a class="dropdown-item" href="#">E&TC</a>
            <a class="dropdown-item" href="#">CSE</a>
            <a class="dropdown-item" href="#">Mechanical</a>
        </div>
    </div>
</div>
```

Q22. How to add divider to dropdown menu in Bootstrap 4?

Ans. Bootstrap 4 added .dropdown-divider class to a <div> element. Let's see the code,

```
<div class="container-fluid">
  <div class="dropdown">
    <button class="btn btn-primary dropdown-toggle" type="button" id="Branch" data-
toggle="dropdown" aria-haspopup="true" aria-expanded="false">
      Branch
    </button>
    <div class="dropdown-menu" aria-labelledby="Branch">
      <a class="dropdown-item" href="#">E&TC</a>
      <a class="dropdown-item" href="#">Mechanical</a>
      <div class="dropdown-divider"></div>
      <a class="dropdown-item" href="#">CSE</a>
    </div>
  </div>
</div>
```

Q23. How to create disabled menu items in Bootstrap 4?

Ans. Bootstrap 4 uses .disabled class to the <a> tag. Using that class you can disable a menu item in dropdown menu. Let's see the code,

```
<div class="container-fluid">
  <div class="dropdown">
    <button class="btn btn-primary dropdown-toggle" type="button" id="Branch" data-
toggle="dropdown" aria-haspopup="true" aria-expanded="false">
      Branch
    </button>
    <div class="dropdown-menu" aria-labelledby="Branch">
      <a class="dropdown-item" href="#">E&TC</a>
      <a class="dropdown-item" href="#">CSE</a>
      <a class="dropdown-item disabled" href="#">Mechanical</a>
    </div>
  </div>
</div>
```

Q24. How to create button groups in Bootstrap 4?

Ans. Bootstrap 4 uses .btn-group class to group buttons horizontally and btn-group-vertical class to group buttons vertically. Let's see the code,

group buttons horizontally:

```
<div class="container-fluid">
  <div class="btn-group" role="group">
    <button type="button" class="btn btn-primary">Microsoft</button>
    <button type="button" class="btn btn-primary">Google</button>
    <button type="button" class="btn btn-primary">Apple</button>
    <button type="button" class="btn btn-primary">Facebook</button>
  </div>
</div>
```

group buttons vertically:

```
<div class="container-fluid">
```



```

<div class="btn-group-vertical" role="group">
  <button type="button" class="btn btn-primary">Microsoft</button>
  <button type="button" class="btn btn-primary">Google</button>
  <button type="button" class="btn btn-primary">Apple</button>
  <button type="button" class="btn btn-primary">Facebook</button>
</div>
</div>

```

Q25. Which classes are used for button group size in Bootstrap 4?

Ans. Bootstrap 4 uses .btn-group-sm and .btn-group-lg class to the .button-group class to create small group button and large group button but .btn-group-xs class is no longer used in Bootstrap 4.

Q26. How to create split dropdown menu in Bootstrap 4?

Ans. Bootstrap 4 uses button groups to make a split dropdown menu. Let's see the code,

```

<div class="container-fluid">
  <div class="btn-group">
    <button type="button" class="btn btn-success">Branch</button>
    <button type="button" class="btn btn-success dropdown-toggle" data-toggle="dropdown"
    aria-haspopup="true" aria-expanded="false">
      <span class="sr-only"></span>
    </button>
    <div class="dropdown-menu">
      <a class="dropdown-item" href="#">ECE</a>
      <a class="dropdown-item" href="#">CSE</a>
      <a class="dropdown-item" href="#">Mechanical</a>
      <a class="dropdown-item" href="#">Civil</a>
    </div>
  </div>
</div>

```

Q27. How to add collapse class using link button in Bootstrap 4?

Ans. Bootstrap 4 uses <a> element with an href value of the ID of the content to collapse. Let's see the code,

```

<div class="container-fluid">
  <p>
    <a data-toggle="collapse" href="#name" aria-expanded="false" aria-
    controls="name">Name</a>
  </p>
  <div class="collapse" id="name">
    <p>My name is Satyaprakash Samantaray</p>
  </div>
</div>

```

Q28. How to add collapse class using Button in Bootstrap 4?

Ans. Bootstrap 4 uses data-target attribute by taking a value of the id of the content to collapse. You should add data-toggle="collapse" to the button. This button should be with the ID of the content to collapse.

Let's see the code,

```

<div class="container-fluid">
  <button class="btn btn-info" type="button" data-toggle="collapse" data-target="#Name" aria-
  expanded="false" aria-controls="Name">

```

```

        Name
    </button>
    <div class="collapse" id="Name">
        <p>My name is Satyaprakash Samantaray.</p>
    </div>
</div>

```

Q29. How to create tabs in Bootstrap 4?

Ans. Bootstrap 4 uses .nav-item to any elements. It uses .nav-link to the <a> element. It uses .active class to the <a> element. Bootstrap 4 uses class="nav nav-tabs" to the element which contains navigation items. It also uses class="active" for a selected tab.

Let's see the code,

```

<div class="container-fluid">
    <ul class="nav nav-tabs">

        <li class="nav-item">
            <a class="nav-link active" href="#">Microsoft</a>
        </li>
        <li class="nav-item">
            <a class="nav-link" href="#">Twitter</a>
        </li>
        <li class="nav-item">
            <a class="nav-link" href="#">Google</a>
        </li>
        <li class="nav-item">
            <a class="nav-link" href="#">Facebook</a>
        </li>
    </ul>
</div>

```

Q30. How to create navbar in Bootstrap 4?

Ans. Bootstrap 4 navbar makes an easy wrapper for making the position of navigation and extra elements into a navigation header. The nav element with the .navbar class and a .navbar-expand with {-sm|-md|-lg|-xl} class used with a color scheme. Bootstrap uses button element with .navbar-toggler. To display the 3 line bars use the .navbar-toggler-icon class to a span element. Bootstrap4 use a ul with the .navbar-nav class for links. It uses li with .nav-item for an individual list of items. It uses .nav-link for individual links. Bootstrap 4 uses the .navbar-light class with the .bg-* classes to be used for custom colors on navbars.

Let's see the code,

```

<div class="container-fluid">
    <nav class="navbar navbar-expand-sm navbar-light bg-faded">
        <button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#nav-content" aria-controls="nav-content" aria-expanded="false" aria-label="Toggle navigation">
            <span class="navbar-toggler-icon"></span>
        </button>
        <a class="navbar-brand" href="#">Menu</a>
        <div class="collapse navbar-collapse" id="nav-content">
            <ul class="navbar-nav">
                <li class="nav-item">
                    <a class="nav-link" href="#">Movies</a>
                </li>
            </ul>
        </div>
    </nav>
</div>

```

```

        <li class="nav-item">
            <a class="nav-link" href="#">Songs</a>
        </li>
        <li class="nav-item">
            <a class="nav-link" href="#">Images</a>
        </li>
    </ul>
</div>
</nav>
</div>

```

Q31. How to create pagination in Bootstrap 4?

Ans. Bootstrap 4 uses .pagination class with the .page-item class which can be added to each element and .page-link to each <a> element. Let's see the code,

```

<div class="container-fluid">
    <nav>
        <ul class="pagination">
            <li class="page-item">
                <a href="#" class="page-link" aria-label="Previous">
                    <span aria-hidden="true">&laquo;</span>
                </a>
            </li>
            <li class="page-item"><a href="#" class="page-link">1</a></li>
            <li class="page-item"><a href="#" class="page-link">2</a></li>
            <li class="page-item"><a href="#" class="page-link">3</a></li>
            <li class="page-item"><a href="#" class="page-link">4</a></li>
            <li class="page-item">
                <a href="#" class="page-link" aria-label="Next">
                    <span aria-hidden="true">&raquo;</span>
                </a>
            </li>
        </ul>
    </nav>
</div>

```

Q32. How to create dismissible alert with link in Bootstrap 4?

Ans. Bootstrap 4 uses the .alert class with the .alert-* classes to mention the types of alert. Bootstrap 4 uses .alert-link class on the <a> element.

Let's see the code,

```

<div class="container-fluid">
    <div class="alert alert-success alert-dismissible fade show" role="alert">
        <button type="button" class="close" data-dismiss="alert" aria-label="Close"><span aria-
            hidden="true">&times;</span></button>
        <strong>Hurry Up!</strong> The discount time will start now <a href="#" class="alert-
            link">Amazon Link</a>.
    </div>
</div>

```

Q33. How to create modal in Bootstrap 4?

Ans. Bootstrap 4 uses the .modal class with .modal-* classes for setting each section of the modal.

```

<div class="container-fluid">
  <button type="button" class="btn btn-primary btn-lg" data-toggle="modal" data-
target="#bioid">
    Show Modal
  </button>
  <div class="modal fade" id="bioid" tabindex="-1" role="dialog" aria-labelledby="modalLabel"
aria-hidden="true">
    <div class="modal-dialog" role="document">
      <div class="modal-content">
        <div class="modal-header">
          <h4 class="modal-title" id="modalLabel">Satyaprakash BIO</h4>
          <button type="button" class="close" data-dismiss="modal" aria-label="Close">
            <span aria-hidden="true">&times;</span>
          </button>
        </div>
        <div class="modal-body">
          I am a .Net author and blogger. My full name is Satyaprakash Samantaray.
        </div>
        <div class="modal-footer">
          <button type="button" class="btn btn-secondary" data-
dismiss="modal">Exit</button>
        </div>
      </div>
    </div>
  </div>
</div>

```

Q34. How to create cards in Bootstrap 4?

Ans. Bootstrap 4 uses cards by replacing panels, wells, and thumbnails. Bootstrap 4 uses .card and .card-body classes to an element to make container. It adds .card-title to heading elements and It uses .card-text to text elements.

Let's see code,

```

<div class="container-fluid">
  <div class="card card-body">
    <h4 class="card-title">Name</h4>
    <p class="card-text">My name is Satyaprakash</p>
    <a href="#" class="btn btn-primary">More Detilas<></a>
  </div>
</div>

```

Q35. How to create footer and header in cards in Bootstrap 4?

Ans. Bootstrap 4 uses .card-header or .card-footer in <div> element to add header and footer in card. Let's see the code,

```

<div class="container-fluid">
  <div class="card" style="max-width: 20rem;">
    <div class="card-header">
      Introduction
    </div>
    <div class="card-body">
      <h4 class="card-title">About</h4>
      <p class="card-text">I am a blogger</p>
    </div>
  </div>

```

```

        <div class="card-footer">
            Contact me on my mail-id.
        </div>
    </div>
</div>

```

Q36. How to create tabs in cards in Bootstrap 4?

Ans. Bootstrap 4 uses the `.card-header-tabs` class to the `` element for making tabs on cards. Let's see the code

```

<div class="container-fluid">
    <div class="card" style="max-width: 40rem;">
        <div class="card-header">
            <ul class="nav nav-tabs card-header-tabs">
                <li class="nav-item">
                    <a class="nav-link active" href="#">Profile</a>
                </li>
                <li class="nav-item">
                    <a class="nav-link" href="#">Awards</a>
                </li>
                <li class="nav-item">
                    <a class="nav-link disabled" href="#">Contact</a>
                </li>
            </ul>
        </div>
        <div class="card-body">
            <h4 class="card-title">My Profile</h4>
            <p class="card-text">My name is Satyaprakash Samantaray and my contact is
s@gmail.com</p>
        </div>
        <div class="card-footer">
            Thank You!
        </div>
    </div>
</div>

```

Q37. How to create links in cards in Bootstrap 4?

Ans. Bootstrap 4 uses the `.card-link` class to the `<a>` element for showing links in cards. Let's see the code,

```

<div class="container-fluid">
    <div class="card" style="max-width: 40rem;">
        <div class="card-body">
            <h4 class="card-title">Profile</h4>
            <p class="card-text">Check My Below Links>></p>
            <a href="#" class="card-link">MVP</a>
            <a href="#" class="card-link">MVB</a>
        </div>
    </div>
</div>

```

Q38. How to place cards inside grid using Bootstrap 4?

Ans. Here I define grid layout in a div element and inside the grid layout, we can place our cards. Let's see the code,

```

<div class="container-fluid">
  <div class="container-fluid">
    <div class="row">
      <div class="col-sm-6">
        <div class="card">
          <div class="card-body">
            <h4 class="card-title">Profile</h4>
            <p class="card-text">My details in below links</p>
            <a href="#" class="card-link">About</a>
            <a href="#" class="card-link">Contact</a>
          </div>
        </div>
      </div>
      <div class="col-sm-6">
        <div class="card">
          <div class="card-body">
            <h4 class="card-title">Generate BIO</h4>
            <p class="card-text">Click on below button to download data</p>
            <a href="#" class="btn btn-primary">PDF Format</a>
          </div>
        </div>
      </div>
    </div>
  </div>
</div>

```

Q39. How to create card groups in Bootstrap 4?

Ans. Bootstrap 4 uses the .card-group element used in card groups set multiple cards as a single element, with equal widths and heights.

Let's see the code,

```

<div class="container-fluid">
  <div class="card-group">
    <!--Card 1-->
    <div class="card">
      <div class="card-header">Profile</div>
      <div class="card-body">
        <p class="card-text">My profile is mentioned in below links</p>
        <a href="#" class="card-link">About</a>
        <a href="#" class="card-link">Contact</a>
      </div>
    </div>
    <!--Card 2-->
    <div class="card">
      <div class="card-header">Summary</div>
      <div class="card-body">
        <p class="card-text">I have described my bio details<a href="#" class="card-link">Here</a></p>
      </div>
    </div>
  </div>
</div>

```

Q40. How to create card decks in Bootstrap 4?

Ans. Bootstrap 4 uses `.card-deck` element inside a `.card-deck-wrapper` to nest all cards. In card groups, all cards inside card groups are attached with each other and in card decks, all cards are not.

Let's see the code,

```
<div class="container-fluid">
  <div class="card-deck-wrapper">
    <div class="card-deck">
      <!--Card 1-->
      <div class="card">
        <div class="card-header">Profile</div>
        <div class="card-body">
          <p class="card-text">My profile is mentioned in below links</p>
          <a href="#" class="card-link">About</a>
          <a href="#" class="card-link">Contact</a>
        </div>
      </div>
      <!--Card 2-->
      <div class="card">
        <div class="card-header">Summary</div>
        <div class="card-body">
          <p class="card-text">I have described my bio details<a href="#" class="card-link">Here>></a>.</p>
        </div>
      </div>
    </div>
  </div>
</div>
```

Q41. How to create image alignment on cards in Bootstrap 4?

Ans. Bootstrap 4 uses `.card-img-top` and `.card-img-bottom` class to the `` tag. Let's see the code,

```
<div class="container-fluid">
  <div class="card" style="max-width: 202px;">
    
    <div class="card-body">
      <p class="card-text">My image</p>
    </div>
  </div>
</div>
```

Q42. How to create card columns in Bootstrap 4?

Ans. It enables you to show multiple cards inside each column and every card stacked on top of the other cards. Bootstrap 4 uses `.card-columns` element.

Let's see the code,

```
<div class="container-fluid">
  <div class="card-columns">
    <!-- Card 1 -->
    <div class="card">
      <div class="card-header">Profile</div>
      <div class="card-body">
```

```

        <p class="card-text">My Profile Text</p>
    </div>
</div>
<!-- Card 2 -->
<div class="card">
    <div class="card-body">
        <h4 class="card-title">About</h4>
        <p class="card-text">My About Text</p>
    </div>
</div>
<!-- Card 3 -->
<div class="card">
    <div class="card-header">Contact</div>
    <div class="card-body">
        <p class="card-text">My contact text<a href="#" class="card-link">Click
here>></a>.</p>
    </div>
    <div class="card-footer">Copyright</div>
</div>
</div>
</div>

```

Q43. How to create breadcrumbs in Bootstrap 4?

Ans. Breadcrumbs in Bootstrap 4 is not mandatory to be in a list. Bootstrap 4 uses .breadcrumb-item for each item in the breadcrumb. Let's see the code,

```

<div class="container-fluid">
    <div class="breadcrumb">
        <a class="breadcrumb-item" href="#">Profile</a>
        <a class="breadcrumb-item" href="#">Contact</a>
        <span class="breadcrumb-item active">Services</span>
    </div>
</div>

```

Q44. How to add indicators on carousel in Bootstrap 4?

Ans. Bootstrap 4 integrates a list with .carousel-indicators. Also add .data-target and .data-slide-to attributes. Bootstrap 4 uses .carousel-control-prev-icon or .carousel-control-next-icon on control. Bootstrap 4 uses .carousel and .slide to the outer container. For scrollable purpose, this will contains all items in a .carousel-inner and provides every item a .carousel-item class.

Let's see the code,

```

<div class="container-fluid">
    <div id="myCarousel" class="carousel slide bg-inverse w-50 ml-auto mr-auto" data-
ride="carousel">
        <ol class="carousel-indicators">
            <li data-target="#myCarousel" data-slide-to="0" class="active"></li>
            <li data-target="#myCarousel" data-slide-to="1"></li>
            <li data-target="#myCarousel" data-slide-to="2"></li>
            <li data-target="#myCarousel" data-slide-to="3"></li>
        </ol>
        <div class="carousel-inner" role="listbox">
            <div class="carousel-item active">
                
            </div>
        </div>
    </div>
</div>

```



```

        </div>
        <div class="carousel-item">
            
        </div>
        <div class="carousel-item">
            
        </div>
        <div class="carousel-item">
            
        </div>
    </div>
    <a class="carousel-control-prev" href="#myCarousel" role="button" data-slide="prev">
        <span class="carousel-control-prev-icon" aria-hidden="true"></span>
        <span class="sr-only">Back</span>
    </a>
    <a class="carousel-control-next" href="#myCarousel" role="button" data-slide="next">
        <span class="carousel-control-next-icon" aria-hidden="true"></span>
        <span class="sr-only">Forward</span>
    </a>
</div>
</div>

```

Q45. How to add captions on carousel in Bootstrap 4?

Ans. Bootstrap 4 adds .carousel-item for carousel items. It will add captions to slideshow by adding a <div> with .carousel-caption class. Let's see the code,

```

<div class="container-fluid">
    <div id="myCarousel" class="carousel slide bg-inverse w-50 ml-auto mr-auto" data-ride="carousel">
        <ol class="carousel-indicators">
            <li data-target="#myCarousel" data-slide-to="0" class="active"></li>
            <li data-target="#myCarousel" data-slide-to="1"></li>
        </ol>
        <div class="carousel-inner" role="listbox">
            <div class="carousel-item active">
                
                <div class="carousel-caption">
                    <h3>Profile Image 1</h3>
                    <p>This is the initial slide.</p>
                </div>
            </div>
            <div class="carousel-item">
                
                <div class="carousel-caption">
                    <h3>Profile Image 2</h3>
                    <p>This is the final slide.</p>
                </div>
            </div>
        </div>
        <a class="carousel-control-prev" href="#myCarousel" role="button" data-slide="prev">
            <span class="carousel-control-prev-icon" aria-hidden="true"></span>
            <span class="sr-only">Back</span>
        </a>
        <a class="carousel-control-next" href="#myCarousel" role="button" data-slide="next">
            <span class="carousel-control-next-icon" aria-hidden="true"></span>
            <span class="sr-only">Forward</span>
        </a>
    </div>
</div>

```

```

        </a>
    </div>
</div>

```

Q46. How do you use bootstrap CSS and JavaScript in ASP.NET project?

Ans. I recommend using Bootstrap 4 source files instead of CDN because sometime CDN path shows network related issue that is you can say CDN failed.

Q47. Where did you use Bootstrap 4 concept in your real-time project?

Ans. I have implemented Bootstrap 4 in case of FAQs and service overviews. For this, I am using accordion with cards in Bootstrap 4.

Let's see the code,

```

<div class="container-fluid">
    <div id="overview" role="tablist" aria-multiselectable="true">

        <div class="card">
            <div class="card-header" role="tab" id="Faq1">
                <h5 class="card-title">
                    <a data-toggle="collapse" data-parent="#overview" href="#ans1" aria-
expanded="true" aria-controls="ans1">
                        What is your company address?
                    </a>
                </h5>
            </div>
            <div id="ans1" class="collapse show" role="tabcard" aria-labelledby="Faq1">
                <div class="card-body">
                    Please check on Contact section.
                </div>
            </div>
        </div>

        <div class="card">
            <div class="card-header" role="tab" id="Faq2">
                <h5 class="card-title">
                    <a class="collapsed" data-toggle="collapse" data-parent="#overview"
href="#ans2" aria-expanded="false" aria-controls="ans2">
                        How do we get service related details?
                    </a>
                </h5>
            </div>
            <div id="ans2" class="collapse" role="tabcard" aria-labelledby="Faq2">
                <div class="card-body">
                    You should contact on specified mail or contact numebr.
                </div>
            </div>
        </div>
    </div>
</div>

```

Q48. What do you say about Bootstrap v4 browser compatibility?

Ans. Bootstrap 4 supports the new release of all browsers. On Windows, It supports Internet Explorer 10-11 and Microsoft Edge. Bootstrap 4 doesn't support mobile version Opera Mini, UC Browser Mini and Amazon Silk.

Bootstrap 4 supports mobile version browsers:

Android

- Supported in chrome
- Supported in Firefox
- Supported in Microsoft Edge
- Not Supported in Safari

iOS

- Supported in chrome
- Supported in Firefox
- Supported in Microsoft Edge
- Supported in Safari

Windows 10 Mobile

- Not Supported in chrome
- Not Supported in Firefox
- Supported in Microsoft Edge
- Not Supported in Safari



Bootstrap 4 supports desktop version browsers:

Windows

- Supported in chrome
- Supported in Firefox
- Supported in IE10 and above
- Supported in Microsoft Edge
- Supported in Opera
- Not supported in Safari

Mac

- Supported in chrome
- Supported in Firefox
- Supported in Opera
- Not supported in Safari

References

This book has been written by referring to the following sites:

1. <https://getbootstrap.com/docs/4.0/getting-started/introduction/> - Bootstrap Official Site
2. <https://stackoverflow.com/questions/tagged/bootstrap> - Stack Overflow - Bootstrap

