INFOSOFT IT SOLUTIONS

Training | Projects | Placements

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IONIC FAMEWORK TRAINING

1: Introduction to Ionic Framework

1. **Overview of Ionic Framework**
   - History and Evolution
   - Features and Benefits
   - Comparing Ionic with other mobile frameworks
2. **Setting Up the Development Environment**
   - Installing Node.js and npm
   - Installing Ionic CLI
   - Setting up Android/iOS development environments
   - Creating your first Ionic app

2: Ionic Components and Theming

1. **Ionic UI Components**
   - Basic components: Buttons, Lists, Cards
   - Forms and form validation
   - Navigation components: Menus, Tabs, and Side Menus
2. **Theming and Styling**
   - Using Ionic's built-in themes
   - Customizing themes with CSS variables
   - Creating custom themes
   - Responsive design principles in Ionic

3: Building Functional Apps

1. **App Structure and Navigation**
    - Understanding Ionic app structure
    - Using Angular routing for navigation
    - Creating and managing pages and components

2. **Working with Data**
    - Using Ionic Storage
    - Making HTTP requests with HttpClient
    - Integrating with RESTful APIs
    - Data binding and state management

4: Advanced Ionic Features;-

1. **Ionic Native and Cordova Plugins**
    - Introduction to Ionic Native
    - Using Cordova plugins for native functionality (Camera, Geolocation, etc.)
    - Handling permissions and platform-specific code

2. **Advanced UI Components**
    - Ionic Animations and Gestures
    - Working with Ionic's Grid system
    - Using modals, popovers, and toasts

5: Testing and Debugging

1. **Testing Ionic Applications**
    - Unit testing with Jasmine and Karma
    - End-to-end testing with Protractor
    - Using Ionic CLI for testing

2. **Debugging Techniques**
    - Debugging with Chrome DevTools
    - Debugging on real devices and emulators
    - Handling common errors and performance issues

6: Deployment and Publishing

1. **Building and Packaging Apps**
    - Understanding the build process
    - Building for Android and iOS
    - Using Ionic Appflow for continuous integration and deployment

2. **Publishing to App Stores**
    - Preparing your app for production
    - App store guidelines and requirements
    - Publishing to Google Play Store and Apple App Store

7: Progressive Web Apps (PWA)

1. **Introduction to PWA**
   - What are PWAs and why use them?
   - Ionic's support for PWAs
2. **Building and Deploying PWAs**
   - Converting an Ionic app to a PWA
   - Service Workers and caching strategies
   - Deploying PWAs to the web
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8: Real-World Projects and Case Studies

1. **Developing a Complete Ionic Application**
   - Planning and designing a real-world app
   - Step-by-step development of the app
   - Best practices and common pitfalls

ADVANCE TOPICS ;-

1: Deep Dive into Ionic Architecture

1. **Advanced Project Setup**
   - Advanced project configurations
   - Environment-specific configurations
   - Optimizing the build process
2. **Advanced Navigation and Routing**
   - Deep linking and navigation guards
   - Lazy loading modules
   - Nested routing and dynamic component loading

2: Performance Optimization

1. **Optimizing Ionic Apps**
   - Strategies for improving app startup time
   - Efficient use of resources (CPU, memory)
   - Techniques for optimizing Angular applications
2. **Code Splitting and Lazy Loading**
   - Implementing code splitting
   - Lazy loading components and modules
   - Analyzing bundle size and reducing it
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3: Advanced Theming and Styling

1. **Customizing Ionic Themes**
   - Advanced CSS custom properties
   - Dynamic theming (changing themes at runtime)
   - Using SASS for complex styling needs
2. **Responsive Design**
   - Advanced responsive design techniques
   - Media queries and breakpoints
   - Adaptive layouts for different screen sizes and orientations

4: Progressive Web Apps (PWA) and Offline Support

1. **Advanced PWA Features**
   - Advanced Service Worker customization
   - Background sync and periodic updates
   - Push notifications and Web Push API
2. **Offline Capabilities**
   - Implementing advanced caching strategies
   - Offline data synchronization
   - Handling offline scenarios gracefully

5: Native Integrations and Capacitor

1. **Advanced Capacitor Usage**
    - Deep dive into Capacitor plugins
    - Creating custom Capacitor plugins
    - Integrating with native SDKs and libraries
2. **Cordova to Capacitor Migration**
    - Migration strategies and best practices
    - Handling common migration issues
    - Maintaining compatibility with existing plugins

6: Advanced Data Handling and State Management

1. **State Management with Ng Rx**
    - Introduction to Ng Rx store
    - Advanced state management techniques
    - Using selectors, effects, and reducers
2. **Advanced Data Handling**
    - Real-time data updates with Web Sockets
    - Optimistic updates and handling conflicts
    - Advanced use of Http Client and interceptors

7: Testing and Debugging in Depth

1. **Advanced Testing Strategies**
    - Writing complex unit tests
    - Testing asynchronous operations
    - Mocking dependencies and services
2. **Debugging Complex Issues**
    - Advanced debugging techniques with Chrome Dev Tools
    - Profiling and performance monitoring
    - Handling memory leaks and performance bottlenecks

8: Security Best Practices

1. **Security in Ionic Applications**
    - Securing API calls and data transmission
    - Handling authentication and authorization

   - Protecting against common vulnerabilities (XSS, CSRF)

2. **Advanced Authentication**
   - Implementing OAuth2 and JWT
   - Integrating with third-party authentication providers
   - Implementing biometric authentication

9: CI/CD and DevOps for Ionic

1. **Continuous Integration and Delivery**
   - Setting up CI/CD pipelines for Ionic apps
   - Automated testing and deployment
   - Using Ionic Appflow for advanced CI/CD workflows
2. **DevOps Best Practices**
   - Managing different environments (development, staging, production)
   - Automated build and deployment strategies
   - Monitoring and maintaining deployed applications