

# All Tutorials

## Setting up your development environment (../setting-up-your-development-environment/)

Set up your development environment to work with IBM MobileFirst Platform Foundation.

- [Setting up your MobileFirst development environment \(../setting-up-your-development-environment/setting-mobilefirst-development-environment/\)](#)
- [Setting up your iOS development environment \(../setting-up-your-development-environment/setting-ios-development-environment/\)](#)
- [Setting up your Android development environment \(../setting-up-your-development-environment/setting-android-development-environment/\)](#)
- [Setting up your BlackBerry 6 and 7 development environment \(../setting-up-your-development-environment/setting-blackberry-6-7-development-environment/\)](#)
- [Setting up your BlackBerry 10 development environment \(../setting-up-your-development-environment/setting-blackberry-10-development-environment/\)](#)
- [Setting up your Windows Phone 8 development environment \(../setting-up-your-development-environment/setting-windows-phone-8-development-environment/\)](#)

## Hello World (../hello-world/)

Create your first MobileFirst app and preview it in different mobile operating systems.

- [Creating your first hybrid application \(../hello-world/creating-your-first-hybrid-application/\)](#)
- [Creating your first native iOS MobileFirst application \(../hello-world/creating-first-native-ios-mobilefirst-application/\)](#)
- [Creating your first native Android MobileFirst application \(../hello-world/creating-first-native-android-mobilefirst-application/\)](#)
- [Creating your first native Windows Phone 8 MobileFirst application \(../hello-world/creating-first-native-windows-phone-8-mobilefirst-application/\)](#)
- [Previewing your application's web resources \(../hello-world/previewing-applications-web-resources/\)](#)
- [Previewing your application on iOS \(../hello-world/previewing-application-ios/\)](#)
- [Previewing your application on Android \(../hello-world/previewing-application-android/\)](#)
- [Previewing your application on BlackBerry 6 and 7 \(../hello-world/previewing-application-blackberry-6-7/\)](#)
- [Previewing your application on BlackBerry 10 \(../hello-world/previewing-application-blackberry-10\)](#)
- [Previewing your application on Windows Phone 8 \(../hello-world/previewing-application-windows-phone-8/\)](#)
- [Previewing your application in Windows 8 \(../hello-world/previewing-application-windows-8/\)](#)
- [Previewing your application on Mobile Web and Desktop Browser \(../hello-world/previewing-application-mobile-web-desktop-browser/\)](#)

## Client-side development (../client-side-development-basics/)

Use basic MobileFirst APIs to develop your apps, build a multi-page application, work with the user interface framework, and debug and optimize your apps.

- [Learning MobileFirst hybrid client-side API \(../client-side-development-basics/learning-mobilefirst-hybrid-client-side-api/\)](#)
- [Building a multi-page application \(../client-side-development-basics/building-multi-page-application/\)](#)
- [Working with UI frameworks \(../client-side-development-basics/working-ui-frameworks/\)](#)
- [Debugging applications \(../client-side-development-basics/debugging-applications/\)](#)
- [Optimizing your application for various environments \(../client-side-development-basics/optimizing-application-various-environments/\)](#)
- [General information when developing for iOS \(../client-side-development-basics/general-information-developing-ios/\)](#)
- [General information when developing for Android \(../client-side-development-basics/general-information-developing-android/\)](#)
- [General information when developing for BlackBerry 6 and 7 \(../client-side-development-basics/general-information-developing-blackberry-6-7/\)](#)
- [General information when developing for BlackBerry 10 \(../client-side-development-basics/general-information-developing-blackberry-10/\)](#)
- [General information when developing for Windows Phone 8 \(../client-side-development-basics/general-information-developing-windows-phone-8/\)](#)
- [General information when developing Mobile Web applications \(../client-side-development-basics/general-information-developing-mobile-web-applications/\)](#)
- [General information when developing desktop applications \(../client-side-development-basics/general-information-developing-desktop-applications/\)](#)

## Server-side development (../server-side-development/)

Develop the server code (adapters) that your mobile app requires to integrate with enterprise back-end applications and cloud services.

- [Adapters overview \(../server-side-development/adapters-framework-overview/\)](#)
- [HTTP adapter – Communicating with HTTP back-end systems \(../server-side-development/http-adapters-communicating-http-back-end-systems/\)](#)
- [SQL adapter – Communicating with SQL database \(../server-side-development/sql-adapters-communicating-sql-database/\)](#)
- [Cast Iron adapter – Communicating with Cast Iron \(../server-side-development/cast-iron-adapters-communicating-cast-iron/\)](#)
- [JMS adapter – Communicating with JMS \(../server-side-development/jms-adapters-communicating-jms/\)](#)
- [Invoking adapter procedures from hybrid client applications \(../server-side-development/invoking-adapters-procedures-hybrid-client-applications/\)](#)
- [Invoking adapter procedures from native iOS Swift applications \(../server-side-development/invoking-adapters-procedures-native-ios-swift-applications/\)](#)
- [Invoking adapter procedures from native iOS applications \(../server-side-development/invoking-](#)

[adapter-procedures-native-ios-applications/](#)

- [Invoking adapter procedures from native Android applications \(../server-side-development/invoking-adapter-procedures-native-android-applications/\)](#)
- [Invoking adapter procedures from native Windows Phone 8 applications \(../server-side-development/invoking-adapter-procedures-native-windows-phone-8-applications/\)](#)
- [Invoking adapter procedures from native Java Platform, Micro Editions \(Java ME\) applications \(../server-side-development/invoking-adapter-procedures-native-java-platform-micro-editions-java-applications/\)](#)
- [Advanced adapter usage and mashup \(../server-side-development/advanced-adapter-usage-mashup/\)](#)
- [Using Java in adapters \(../server-side-development/using-java-adapters/\)](#)

## **Advanced client-side development (../advanced-client-side-development/)**

Implement different features in your mobile app, such as controls, skins, offline access, translation, and encryption of sensitive data. Develop your client application by using native APIs.

- [Overview of client technologies \(../advanced-client-side-development/overview-client-technologies/\)](#)
- [Common UI controls \(../advanced-client-side-development/common-ui-controls/\)](#)
- [Supporting multiple form-factors using skins \(../advanced-client-side-development/supporting-multiple-form-factors-using-skins/\)](#)
- [Enabling translation \(../advanced-client-side-development/enabling-translation/\)](#)
- [Using Direct Update to quickly update your application \(../advanced-client-side-development/using-direct-update-quickly-update-application/\)](#)
- [Using CLI to create, build, and manage MobileFirst project artifacts \(../advanced-client-side-development/using-cli-create-build-manage-project-artifacts/\)](#)
- [Remote controlled client-side log collection \(../advanced-client-side-development/remote-controlled-client-side-log-collection/\)](#)

## **Working offline (../working-offline/)**

Create apps that can run offline.

- [Working offline \(../working-offline/working-offline/\)](#)
- [Storing sensitive data in encrypted cache \(../working-offline/storing-sensitive-data-encrypted-cache/\)](#)
- [JSONStore \(../working-offline/jsonstore/\)](#)

## **Adding native functionality to hybrid applications with Apache Cordova (../adding-native-functionality/)**

Use Apache Cordova with IBM MobileFirst Platform Foundation, and use native pages in hybrid applications.

- [Apache Cordova overview \(../adding-native-functionality/apache-cordova-overview/\)](#)
- [iOS – Using native pages in hybrid applications \(../adding-native-functionality/ios-using-native-pages-hybrid-applications/\)](#)

- iOS – Adding native functionality to hybrid application with Apache Cordova plugin ([../adding-native-functionality/ios-adding-native-functionality-hybrid-application-apache-cordova-plugin/](#))
- Android – Using native pages in hybrid applications ([../adding-native-functionality/android-using-native-pages-hybrid-applications/](#))
- Android – Adding native functionality to hybrid application with Apache Cordova plugin ([../adding-native-functionality/android-adding-native-functionality-hybrid-application-apache-cordova-plugin/](#))
- Windows Phone 8 – Using native pages in hybrid applications ([../adding-native-functionality/windows-phone-8-using-native-pages-hybrid-applications/](#))
- Windows Phone 8 – Adding native functionality to hybrid application with Apache Cordova plugin ([../adding-native-functionality/windows-phone-8-adding-native-functionality-hybrid-application-apache-cordova-plugin/](#))
- iOS – Adding native UI elements to hybrid applications ([../adding-native-functionality/ios-adding-native-ui-elements-hybrid-applications/](#))
- Android – Adding native UI elements to hybrid applications ([../adding-native-functionality/android-adding-native-ui-elements-hybrid-applications/](#))
- Windows Phone 8 – Adding native UI elements to hybrid applications ([../adding-native-functionality/windows-phone-8-adding-native-ui-elements-hybrid-applications/](#))

## Notifications ([../notifications/](#))

Send notifications to your mobile apps with IBM MobileFirst Platform Foundation

- Push notifications in hybrid applications ([../notifications/push-notifications-hybrid-applications/](#))
- Push notifications in native iOS applications ([../notifications/push-notifications-native-ios-applications/](#))
- Push notifications in native Android applications ([../notifications/push-notification-native-android-applications/](#))
- Push notifications in native Windows Phone 8 applications ([../notifications/push-notification-native-windows-phone-8-applications/](#))
- SMS Notifications ([../notifications/sms-notifications/](#))
- Two-way SMS communication ([../notifications/two-way-sms-communication/](#))

## Authentication and security ([../authentication-security/](#))

Protect your applications and adapter procedures against unauthorized access by using authentication, login modules, and device provisioning.

- Authentication concepts ([../authentication-security/authentication-concepts/](#))
- Form-based authentication ([../authentication-security/form-based-authentication/](#))
- Adapter-based authentication ([../authentication-security/adapter-based-authentication/](#))
- Custom Authenticator and Login Module ([../authentication-security/custom-authenticator-login-module/](#))
- Using LDAP Login Module to authenticate users with LDAP server in hybrid applications ([../authentication-security/using-ldap-login-module-authenticate-users-ldap-server-hybrid-applications/](#))
- WebSphere LTPA-based authentication ([../authentication-security/websphere-ltpa-based-authentication/](#))

- Device provisioning concepts (../authentication-security/device-provisioning-concepts/)
- Custom device provisioning (../authentication-security/custom-device-provisioning/)
- Application Authenticity Protection (../authentication-security/application-authenticity-protection/)
- Offline Authentication (../authentication-security/offline-authentication/)
- Client X.509 Certificate Authentication and User Enrollment (../authentication-security/client-x-509-certificate-authentication-user-enrollment/)
- Using the MobileFirst Server to authenticate external resources (../authentication-security/using-mobilefirst-server-authenticate-external-resources/)

## Advanced topics (../advanced-topics/)

Develop by using shells, use geo-location services, remotely load dynamic content, test your apps with the Mobile Test Workbench, and more.

- Shell development concepts (../advanced-topics/shell-development-concepts/)
- Location services in hybrid applications (../advanced-topics/location-services-hybrid-applications/)
- Location services in native Android applications (../advanced-topics/location-services-native-android-applications/)
- Location services in native iOS applications (../advanced-topics/location-services-native-ios-applications/)
- Integrating server-generated pages in hybrid applications (../advanced-topics/integrating-server-generated-pages-hybrid-applications/)
- Using MobileFirst application as a container for server-generated pages (../advanced-topics/using-mobilefirst-application-container-server-generated-pages/)
- Container for advanced pages (../advanced-topics/container-advanced-pages/)
- Accelerating application development by reusing resources (../advanced-topics/accelerating-application-development-reusing-resources/)
- Testing MobileFirst Platform applications with IBM MobileFirst Platform Test Workbench (../advanced-topics/testing-mobilefirst-mobile-applications-mobile-test-workbench/)
- Device Enrollment (../advanced-topics/device-enrollment/)
- Working with iBeacons (../advanced-topics/working-with-ibeacons/)

## Moving to production (../moving-production/)

Move the apps that you create from your development environment to the production environment.

- Moving from development environment to stand-alone QA and production servers (../moving-production/moving-development-environment-stand-alone-qa-production-servers/)
- Operational Analytics (../moving-production/operational-analytics/)
- Reports and analytics (../moving-production/reports-analytics/)
- Distributing mobile applications with Application Center (../moving-production/distributing-mobile-applications-application-center/)

## Starter Application samples (../starter-application-sample/)

- Starter Application sample application (../starter-application-sample/)

- Dojo Showcase sample application ([../starter-application-sample/running-docker-based-sample](#))