

# All Tutorials

fork and edit tutorial (<https://github.com/MobileFirst-Platform-Developer-Center/DevCenter/#fork-destination-box>) | [report issue](https://github.com/MobileFirst-Platform-Developer-Center/DevCenter/issues/new)  
(<https://github.com/MobileFirst-Platform-Developer-Center/DevCenter/issues/new>)

Below are all available tutorials for IBM MobileFirst Platform Foundation 7.1

## 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-](#)

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

- 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 \(../starter-application-sample/running-dojo-based-sample\)](#)