Running the IBM Installation Manager

Overview

IBM® Installation Manager installs the IBM MobileFirst Server files and tools on your computer.

You run Installation Manager to install the binary files of MobileFirst Server and the tools to deploy the MobileFirst Server applications to an application server on your computer. The files and tools that are installed by the installer are described in Distribution structure of MobileFirst Server.

You need IBM Installation Manager V1.8.4 or later to run the MobileFirst Server installer. You can run it either in graphical mode or in command line mode.
Two main options are proposed during the installation process:

- Activation of token licensing
- Installation and deployment of IBM MobileFirst Platform Application Center

Token licensing

Token licensing is one of the two licensing methods supported by MobileFirst Server. You must determine whether you need to activate token licensing or not. If you do not have a contract that defines the use of token licensing with the Rational® License Key Server, do not activate token licensing. If you activate token licensing, you must configure MobileFirst Server for token licensing. For more information, see Installing and configuring for token licensing (../token-licensing).

IBM MobileFirst Foundation Application Center

Application Center is a component of IBM MobileFirst Foundation. With Application Center, you can share mobile applications that are under development within your organization in a single repository of mobile applications.

If you choose to install Application Center with Installation Manager, you must provide the database and the application server parameters so that Installation Manager configures the databases and deploys Application Center to the application server. If you choose not to install Application Center with Installation Manager, Installation Manager saves the WAR file and the resources of Application Center to your disk. It does not set up the databases nor deploys Application Center WAR file to your application server. You can do this later by using Ant tasks or manually. This option to install Application Center is a convenient way to discover Application Center because you are guided during the installation process by the graphical Install wizard.

However, for production installation, use Ant tasks to install Application Center. The installation with Ant tasks enables you to decouple the updates to MobileFirst Server from the updates to Application Center.

- Advantage of installing Application Center with Installation Manager.
    - A guided graphical wizard assists you through the installation and deployment process.

- Disadvantages of installing Application Center with Installation Manager.
    - If Installation Manager is run with the root user on UNIX or Linux, it might create files that are owned by root in the directory of the application server where Application Center is deployed. As a result, you must run the application server as root.
    - You have no access to the database scripts and cannot provide them to your database administrator to create the tables before you run the installation procedure. Installation Manager creates the database tables for you with default settings.
    - Each time when you upgrade the product, for example to install an interim fix, Application Center is upgraded first. The upgrade of Application Center includes operations on the database and the application server. If the upgrade of Application Center fails, it prevents Installation Manager from completing the upgrade, and prevents you from upgrading other MobileFirst Server components. For production installation, do not deploy Application Center with Installation Manager. Install Application Center separately with Ant tasks after Installation Manager installsMobileFirst Server. For more information about Application Center, see Installing and configuring the Application Center (../../../appcenter).

> **Important:** The MobileFirst Server installer installs only the MobileFirst Server binary files and tools on your disk. It does not deploy the MobileFirst Server applications to your application server. After you run the installation with Installation Manager, you must set up the databases and deploy the MobileFirst Server applications to your application server.
>
> Similarly, when you run Installation Manager to update an existing installation, it updates only the files on your disk. You need to perform more actions to update the applications that are deployed to your application servers.

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- Installing by using IBM Installation Manager Install wizard
- Installing by running IBM Installation Manager in command line
- Installing by using XML response files - silent installation
- Distribution structure of MobileFirst Server

Administrator versus user mode

You can install MobileFirst Server in two different IBM® Installation Manager modes. The mode depends on how IBM Installation Manager itself is installed. The mode determines the directories and commands that you use for both Installation Manager and packages.

IBM MobileFirst Foundation supports the following two Installation Manager modes:

- Administrator mode
- User (nonadministrator) mode

Group mode that is available on Linux or UNIX is not supported by the product.

Administrator mode

In administrator mode, Installation Manager must be run as root under Linux or UNIX, and with administrator privileges under Windows. The repository files of Installation Manager (that is the list of installed software and its version) are installed in a system directory. /var/ibm on Linux or UNIX, or ProgramData on Windows. Do not deploy Application Center with Installation Manager if you run Installation Manager in administrator mode.

User (nonadministrator) mode

In user mode, Installation Manager can be run by any user without specific privileges. However, the repository files of Installation manager are stored in the user's home directory. Only that user is able to upgrade an installation of the product. If you do not run Installation Manager as root, make sure that you have a user account that is available later when you upgrade the product installation or apply an interim fix.

For more information about the Installation Manager modes, see Installing as an administrator, nonadministrator, or group (http://www.ibm.com/support/knowledgecenter/SSDV2W_1.8.4/com.ibm.silentinstall12.doc/topics/r_admin_nonadmin.html?lang=en&view=kc) in the IBM Installation Manager documentation.

Installing by using IBM Installation Manager Install wizard

Follow the steps in the procedure to install the resources of MobileFirst Server, and the tools (such as the Server Configuration Tool, Ant, and mfpadm program).
The decisions in the following two panes in the installation wizard are mandatory:

- The **General settings** panel.
- The **Choose configuration** panel to install Application Center.

1. Launch Installation Manager.
2. Add the repository of MobileFirst Server in Installation Manager.
   - Go to **File → Preferences** and click **Add Repositories...**.
   - Browse for the repository file in the directory where the installer is extracted.

     If you decompress the IBM MobileFirst Foundation V8.0 .zip file for MobileFirst Server in

     mfp_installer_directory folder, the repository file can be found at

     mfp_installer_directory/MobileFirst_Platform_Server/disk1/diskTag.inf.

You might also want to apply the latest fix pack that can be downloaded from the IBM Support Portal (http://www.ibm.com/support/entry/portal/product/other_software/ibm_mobilefirst_platform_foundation). Make sure to enter the repository for the fix pack. If you decompress the fix pack in **fixpack_directory** folder, the repository file is found in **fixpack_directory/MobileFirst_Platform_Server/disk1/diskTag.inf**.

Note: You cannot install the fix pack without the repository of the base version in the repositories of Installation Manager. The fix packs are incremental installers and need the repository of the base version to be installed.

- Select the file and click **OK**.
- Click **OK** to close the **Preferences** panel.

3. After you accept the license terms of the product, click **Next**.
4. Choose the package group to install the product.

   IBM MobileFirst Foundation V8.0 is a replacement for the previous releases that have a different installation name:

   - Worklight for V5.0.6
   - IBM Worklight for V6.0 to V6.3

   If one of these older versions of the product is installed on your computer, Installation Manager offers you an option Use an Existing Package Group at the start of the installation process. This option uninstalls your older version of the product, and reuse your older installation options to upgrade IBM MobileFirst Platform Application Center if it was installed.

   For a separate installation, select the Create a New Package group option so that you can install the new version alongside with the older one.

   If no other version of the product is installed on your computer, choose the Create a new package group option to install the product in a new package group.

5. Click **Next**.
6. Decide whether to activate token licensing in the **Activate token licensing** section of the **General settings** panel.

   If you have a contract to use token licensing with Rational® License Key Server, select the **Activate token licensing with the Rational License Key Server** option. After you activate token licensing, you must do extra steps to configure MobileFirst Server. Otherwise, select the **Do not activate token licensing with the Rational License Key Server** option to proceed.

7. Keep the default option (No) as-is in the **Install IBM MobileFirst Foundation for iOS** section of the **General settings** panel.
8. Decide whether to install Application Center in **Choose configuration** panel.

   For production installation, use Ant tasks to install Application Center. The installation with Ant tasks enables you to decouple the updates to MobileFirst Server from the updates to Application Center. In this case, select No option in the Choose configuration panel so that Application Center is not installed.

   If you select Yes, you need to go through the next panes to enter the details about the database you plan to use and the application server where you plan to deploy Application Center. You also need to have the JDBC driver of your database available.

9. Click **Next** until you reach the **Thank You** panel. Then, proceed with the installation.

An installation directory that contains the resources to install MobileFirst components is installed.

You can find the resources in the following folders:

- **MobileFirstServer** folder for MobileFirst Server
- **PushService** folder for MobileFirst Server push service
- **ApplicationCenter** folder for Application Center
- **Analytics** folder for MobileFirst Analytics

You can also find some shortcuts for the Server Configuration Tool, Ant, and mfpadm program in the **shortcuts** folder.

Installing by running IBM Installation Manager in command line

1. Review the license agreement for MobileFirst Server. The license files can be viewed when you download the installation repository from Passport Advantage®.

2. Extract the compressed file of MobileFirst Server repository, that you downloaded, to a folder.

   You can download the repository from the IBM MobileFirst Foundation eAssembly on IBM Passport Advantage (http://www.ibm.com/software/passportadvantage/pao_customers.htm). The name of the pack is **IBM MobileFirst Foundation V8.0 .zip file of Installation Manager Repository for IBM MobileFirst Platform Server**.

   In the steps that follow, the directory where you extract the installer is referred as **mfp_repository_dir**. It contains a **MobileFirst_Platform_Server/disk1** folder.

3. Start a command line and go to **installation_manager_install_dir/tools/eclipse/**.

   If you accept the license agreement after the review in step 1, install MobileFirst Server.

   - For an installation without token licensing enforcement (if you do not have a contract that defines the use of token licensing), enter the command:

     ```
     imcl install com.ibm.mobilefirst.foundation.server -repositories mfp_repository_dir/MobileFirst_Platform_Server/disk1 -properties user.appserver.selection2=none,user.database.selection2=none,user.database.preinstalled=false,user.licensed.by.tokens=false,user.use.ios.edition=false -acceptLicense
     ```

   - For an installation with token licensing enforcement, enter the command:

     ```
     imcl install com.ibm.mobilefirst.foundation.server -repositories mfp_repository_dir/MobileFirst_Platform_Server/disk1 -properties user.appserver.selection2=none,user.database.selection2=none,user.database.preinstalled=false,user.licensed.by.tokens=true,user.use.ios.edition=false -acceptLicense
     ```

     The value of **user.licensed.by.tokens** property is set to **true**. You must configure MobileFirst Server for token licensing (../token-licensing).

     The following properties are set to install MobileFirst Server without Application Center:

     - **user.appserver.selection2**=none
     - **user.database.selection2**=none
     - **user.database.preinstalled**=false

     This property indicates whether token licensing is activated or not: **user.licensed.by.tokens=true/false**.

     Set the value of the user.use.ios.edition property to false to install IBM MobileFirst Foundation.

4. If you want to install with the latest interim fix, add the interim fix repository in the **-repositories** parameter. The **-repositories** parameter takes a comma-separated list of repositories.

   Add the version of the interim fix by replacing **com.ibm.mobilefirst.foundation.server** with **com.ibm.mobilefirst.foundation.server_version**. **version** has the form **8.0.0.0-buildNumber**. For example, if you install the interim fix **8.0.0.0-IF201601031015**, enter the command: `imcl install com.ibm.mobilefirst.foundation.server_8.0.0.00-201601031015 -repositories...`.

   For more information about the imcl command, see Installation Manager: Installing packages by using `imcl` commands (https://www.ibm.com/support/knowledgecenter/SSDV2W_1.8.4/com.ibm.cic.commandline.doc/topics/t_imcl_install.html?lang=en).

An installation directory that contains the resources to install MobileFirst components is installed.

You can find the resources in the following folders:

- **MobileFirstServer** folder for MobileFirst Server
- **PushService** folder for MobileFirst Server push service
- **ApplicationCenter** folder for Application Center
- **Analytics** folder for MobileFirst Analytics

You can also find some shortcuts for the Server Configuration Tool, Ant, and mfpadm program in the **shortcuts** folder.

Installing by using XML response files - silent installation

If you want to install IBM MobileFirst Application Center with IBM® Installation Manager in command line, you need to provide a large list of arguments. In this case, use the XML response files to provide these arguments.

Silent installations are defined by an XML file that is called a response file. This file contains the necessary data to complete installation operations silently. Silent installations are started from the command line or a batch file.

You can use Installation Manager to record preferences and installation actions for your response file in user interface mode. Alternatively, you can create a response file manually by using the documented list of response file commands and preferences.

Silent installation is described in the Installation Manager user documentation, see Working in silent mode (http://ibm.biz/knowctr#SSDV2W_1.8.4/com.ibm.silentinstall12.doc/topics/t_silentinstall_overview.html).

There are two ways to create a suitable response file:

- Working with sample response files provided in the MobileFirst user documentation.
- Working with a response file recorded on a different computer.

Both of these methods are documented in the following sections.

Working with sample response files for IBM Installation Manager

Sample response files for IBM Installation Manager are provided in the **Silent_Install_Sample_Files.zip** compressed file. The following procedures describe how to use them.

1. Pick the appropriate sample response file from the compressed file. The Silent *Install* Sample_Files.zip file contains one subdirectory per release.

   > **Important:**
   > - For an installation that does not install Application Center on an application server, use the file named **install-no-appcenter.xml**.
   > - For an installation that installs Application Center, pick the sample response file from the following table, depending on your application server and database.

   Sample installation response files in the **Silent_Install_Sample_Files.zip** file to install the Application Center

Application server where you install the Application Center	Derby	IBM DB2®	MySQL	Oracle
WebSphere® Application Server Liberty profile	install-liberty-derby.xml	install-liberty-db2.xml	install-liberty-mysql.xml (See Note)	install-liberty-oracle.xml
WebSphere Application Server full profile, stand-alone server	install-was-derby.xml	install-was-db2.xml	install-was-mysql.xml (See Note)	install-was-oracle.xml
WebSphere Application Server Network Deployment	n/a	install-wasnd-cluster-db2.xml, install-wasnd-server-db2.xml, install-wasnd-node-db2.xml, install-wasnd-cell-db2.xml	install-wasnd-cluster-mysql.xml (See Note), install-wasnd-server-mysql.xml (See Note), install-wasnd-node-mysql.xml, install-wasnd-cell-mysql.xml (See Note)	install-wasnd-cluster-oracle.xml, install-wasnd-server-oracle.xml, install-wasnd-node-oracle.xml, install-wasnd-cell-oracle.xml
Apache Tomcat	install-tomcat-derby.xml	install-tomcat-db2.xml	install-tomcat-mysql.xml	install-tomcat-oracle.xml

> **Note:** MySQL in combination with WebSphere Application Server Liberty profile or WebSphere Application Server full profile is not classified as a supported configuration. For more information, see WebSphere Application Server Support Statement (http://www.ibm.com/support/docview.wss?uid=swg27004311). You can use IBM DB2 or another DBMS that is supported by WebSphere Application Server to benefit from a configuration that is fully supported by IBM Support.

For uninstallation, use a sample file that depends on the version of MobileFirst Server or Worklight® Server that you initially installed in the particular package group: * MobileFirst Server uses the package group IBM MobileFirst Platform Server. * Worklight Server V6.x, or later, uses the package group IBM Worklight. * Worklight Server V5.x uses the package group Worklight.

Initial version of MobileFirst Server Sample file

Worklight Server V5.x   uninstall-initially-worklightv5.xml

Worklight Server V6.x   uninstall-initially-worklightv6.xml

IBM MobileFirst Server V6.x or later   uninstall-initially-mfpserver.xml

2. Change the file access rights of the sample file to be as restrictive as possible. Step 4 requires that you supply some passwords. If you must prevent other users on the same computer from learning these passwords, you must remove the read permissions of the file for users other than yourself. You can use a command, such as the following examples:
    - On UNIX: `chmod 600 <target-file.xml>`
    - On Windows: `cacls <target-file.xml> /P Administrators:F %USERDOMAIN%\%USERNAME%:F`

3. Similarly, if the server is a WebSphere Application Server Liberty profile or Apache Tomcat server, and the server is meant to be started only from your user account, you must also remove the read permissions for users other than yourself from the following file:
    - For WebSphere Application Server Liberty profile: `wlp/usr/servers/<server>/server.xml`
    - For Apache Tomcat: `conf/server.xml`

4. Adjust the list of repositories, in the element. For more information about this step, see IBM Installation Manager documentation at Repositories (http://ibm.biz/knowctr#SSDV2W_1.8.4/com.ibm.silentinstall12.doc/topics/r_repository_types.html).
    In the `<profile>` element, adjust the values of each key/value pair.
    In the `<offering>` element in the `<install>` element, set the version attribute to match the release you want to install, or remove the version attribute if you want to install the newest version available in the repositories.

5. Type the following command: `<InstallationManagerPath>/eclipse/tools/imcl input <responseFile> -log /tmp/installwl.log -acceptLicense`
    Where:
    - `<InstallationManagerPath>` is the installation directory of IBM Installation Manager.
    - `<responseFile>` is the name of the file that is selected and updated in step 1.

For more information, see the IBM Installation Manager documentation at Installing a package silently by using a response file (http://ibm.biz/knowctr#SSDV2W_1.8.4/com.ibm.silentinstall12.doc/topics/t_silent_response_file_install.html).

Working with a response file recorded on a different machine

1. Record a response file, by running IBM Installation Manager in wizard mode and with option `-record responseFile` on a machine where a GUI is available. For more details, see Record a response file with Installation Manager (http://ibm.biz/knowctr#SSDV2W_1.7.0/com.ibm.silentinstall12.doc/topics/t_silent_create_response_files_IM.html).

2. Change the file access rights of the response file to be as restrictive as possible. Step 4 requires that you supply some passwords. If you must prevent other users on the same computer from learning these passwords, you must remove the **read** permissions of the file for users other than yourself. You can use a command, such as the following examples:
    - On UNIX: `chmod 600 response-file.xml`
    - On Windows: `cacls response-file.xml /P Administrators:F %USERDOMAIN%\%USERNAME%:F`

3. Similarly, if the server is a WebSphere® Application Server Liberty or Apache Tomcat server, and the server is meant to be started only from your user account, you must also remove the read permissions for users other than yourself from the following file:
     - For WebSphere Application Server Liberty: `wlp/usr/servers/<server>/server.xml`
     - For Apache Tomcat: `conf/server.xml`
4. Modify the response file to take into account differences between the machine on which the response file was created and the target machine.
5. Install MobileFirst Server by using the response file on the target machine, as described in Install a package silently by using a response file (http://ibm.biz/knowctr#SSDV2W_1.7.0/com.ibm.silentinstall12.doc/topics/t_silent_response_file_install.html).

Command-line (silent installation) parameters

Key	When necessary	Description	Allowed values
user.use. ios.editio n	Always	Set the value to `false` if you plan to insta ll IBM MobileFirst Foundation. If you plan t o install the product for iOS edition, you m ust set the value to `true`.	`true` or `false`
user.licen sed.by.to kens	Always	Activation of token licensing. If you plan to use the product with the Rational® Licens e Key Server, you must activate token lice nsing. In this case, set the value to `true`. If you do not plan to use the product with Ration al License Key Server, set the value to `false`. If you activate license tokens, specific con figuration steps are required after you dep loy the product to an application server.	`true` or `false`
user.app server.se lection2	Always	Type of application server. was means pr einstalled WebSphere® Application Serve r 8.5.5. tomcat means Tomcat 7.0.	
user.app server.w as.install dir	${user.appserver.selection2} = was	WebSphere Application Server installation directory.	An absolute directory name.
user.app server.w as.profile	${user.appserver.selection2} = was	Profile into which to install the application s. For WebSphere Application Server Net work Deployment, specify the Deployment Manager profile. Liberty means the Libert y profile (subdirectory wlp).	The name of one of the WebSphere Appli cation Server profiles.
user.app server.w as.cell	${user.appserver.selection2} = was && ${user.appserver.wa s.profile} != Liberty	WebSphere Application Server cell into w hich to install the applications.	The name of the WebSphere Application Server cell.
user.app server.w as.node	${user.appserver.selection2} = was && ${user.appserver.wa s.profile} != Liberty	WebSphere Application Server node into which to install the applications. This corr esponds to the current machine.	The name of the WebSphere Application Server node of the current machine.

Property	Condition	Description	Validation
user.appserver.was.scope	${user.appserver.selection2} = = was && ${user.appserver.was.profile} != Liberty	Type of set of servers into which to install the applications. `server` means a standalone server. `nd-cell` means a WebSphere Application Server Network Deployment cell. `nd-cluster` means a WebSphere Application Server Network Deployment cluster. `nd-node` means a WebSphere Application Server Network Deployment node (excluding clusters). `nd-server` means a managed WebSphere Application Server Network Deployment server.	`server`, `nd-cell`, `nd-cluster`, `nd-node`, `nd-server`
user.appserver.was.serverInstance	${user.appserver.selection2} = = was && ${user.appserver.was.profile} != Liberty && ${user.appserver.was.scope} == server	Name of WebSphere Application Server server into which to install the applications.	The name of a WebSphere Application Server server on the current machine.
user.appserver.was.nd.cluster	${user.appserver.selection2} = = was && ${user.appserver.was.profile} != Liberty && ${user.appserver.was.scope} == nd-cluster	Name of WebSphere Application Server Network Deployment cluster into which to install the applications.	The name of a WebSphere Application Server Network Deployment cluster in the WebSphere Application Server cell.
user.appserver.was.nd.node	${user.appserver.selection2} = = was && ${user.appserver.was.profile} != Liberty && (${user.appserver.was.scope} == nd-node || ${user.appserver.was.scope} == nd-server)	Name of WebSphere Application Server Network Deployment node into which to install the applications.	The name of a WebSphere Application Server Network Deployment node in the WebSphere Application Server cell.
user.appserver.was.nd.server	${user.appserver.selection2} = = was && ${user.appserver.was.profile} != Liberty && ${user.appserver.was.scope} == nd-server	Name of WebSphere Application Server Network Deployment server into which to install the applications.	The name of a WebSphere Application Server Network Deployment server in the given WebSphere Application Server Network Deployment node.
user.appserver.was.admin.name	${user.appserver.selection2} = = was && ${user.appserver.was.profile} != Liberty	Name of WebSphere Application Server administrator.	
user.appserver.was.admin.password2	${user.appserver.selection2} = = was && ${user.appserver.was.profile} != Liberty	Password of WebSphere Application Server administrator, optionally encrypted in a specific way.	
user.appserver.was.appcenteradmin.password	${user.appserver.selection2} = = was && ${user.appserver.was.profile} != Liberty	Password of `appcenteradmin` user to add to the WebSphere Application Server users list, optionally encrypted in a specific way.	
user.appserver.was.serial	${user.appserver.selection2} = = was && ${user.appserver.was.profile} != Liberty	Suffix that distinguishes the applications to be installed from other installations of MobileFirst Server.	String of 10 decimal digits.
user.appserver.was85liberty.serverInstance_	${user.appserver.selection2} = = was && ${user.appserver.was.profile} == Liberty	Name of WebSphere Application Server Liberty server into which to install the applications.	

user.app server.to mcat.inst alldir	${user.appserver.selection2} = tomcat	Apache Tomcat installation directory. For a Tomcat installation that is split between a **CATALINA_HOME** directory and a **CATALINA_BASE** directory, here you need to specify the value of the **CATALINA_BASE** environment variable.	An absolute directory name.
user.data base.sele ction2	Always	Type of database management system used to store the databases.	`derby`, `db2`, `mysql`, `oracle`, `none`. The value none means that the installer will not install the Application Center. If this value is used, both **user.appserver.selection2** and **user.database.selection2** must take the value none.
user.data base.prei nstalled	Always	`true` means a preinstalled database management system, `false` means Apache Derby to install.	`true`, `false`
user.data base.der by.datadi r	${user.database.selection2} = derby	The directory in which to create or assume the Derby databases.	An absolute directory name.
user.data base.db2 .host	${user.database.selection2} = db2	The host name or IP address of the DB2® database server.	
user.data base.db2 .port	${user.database.selection2} = db2	The port where the DB2 database server listens for JDBC connections. Usually 50000.	A number between 1 and 65535.
user.data base.db2 .driver	${user.database.selection2} = db2	The absolute file name of db2jcc4.jar.	An absolute file name.
user.data base.db2 .appcent er.userna me	${user.database.selection2} = db2	The user name used to access the DB2 database for Application Center.	Non-empty.
user.data base.db2 .appcent er.passw ord	${user.database.selection2} = db2	The password used to access the DB2 database for Application Center, optionally encrypted in a specific way.	Non-empty password.
user.data base.db2 .appcent er.dbnam e	${user.database.selection2} = db2	The name of the DB2 database for Application Center.	Non-empty; a valid DB2 database name.
user.data base.ora cle.appce nter.isser vicename .jdbc.url	Optional	Indicates if **user.database.mysql.appcenter.dbname** is a Service name or a SID name. If the parameter is absent then **user.database.mysql.appcenter.dbname** is considered to be a SID name.	`true` (indicates a Service name) or `false` (indicates a SID name)
user.data base.db2 .appcent er.schem a	${user.database.selection2} = db2	The name of the schema for Application Center in the DB2 database.	
user.data base.mys ql.host	${user.database.selection2} = mysql	The host name or IP address of the MySQL database server.	
user.data base.mys ql.port	${user.database.selection2} = mysql	The port where the MySQL database server listens for JDBC connections. Usually 3306.	A number between 1 and 65535.

Property	Condition	Description	Valid values
user.database.mysql.driver	${user.database.selection2} = mysql	The absolute file name of **mysql-connector-java-5.*-bin.jar**.	An absolute file name.
user.database.mysql.appcenter.username	${user.database.selection2} = oracle	The user name used to access the Oracle database for Application Center.	A string consisting of 1 to 30 characters: ASCII digits, ASCII uppercase and lowercase letters, '_', '#', '$' are allowed.
user.database.mysql.appcenter.password	${user.database.selection2} = oracle	The password used to access the Oracle database for Application Center, optionally encrypted in a specific way.	The password must be a string consisting of 1 to 30 characters: ASCII digits, ASCII uppercase and lowercase letters, '_', '#', '$' are allowed.
user.database.mysql.appcenter.dbname	${user.database.selection2} = oracle, unless ${user.database.oracle.appcenter.jdbc.url} is specified	The name of the Oracle database for Application Center.	Non-empty, a valid Oracle database name.
user.database.oracle.host	${user.database.selection2} = oracle, unless ${user.database.oracle.appcenter.jdbc.url} is specified	The host name or IP address of the Oracle database server.	
user.database.oracle.port	${user.database.selection2} = oracle, unless ${user.database.oracle.appcenter.jdbc.url} is specified	The port where the Oracle database server listens for JDBC connections. Usually 1521.	A number between 1 and 65535.
user.database.oracle.driver	${user.database.selection2} = oracle	The absolute file name of the Oracle thin driver jar file. (**ojdbc6.jar or ojdbc7.jar**)	An absolute file name.
user.database.oracle.appcenter.username	${user.database.selection2} = oracle	The user name used to access the Oracle database for Application Center.	A string consisting of 1 to 30 characters: ASCII digits, ASCII uppercase and lowercase letters, '_', '#', '$' are allowed.
user.database.oracle.appcenter.username.jdbc	${user.database.selection2} = oracle	The user name used to access the Oracle database for Application Center, in a syntax suitable for JDBC.	Same as ${user.database.oracle.appcenter.username} if it starts with an alphabetic character and does not contain lowercase characters, otherwise it must be ${user.database.oracle.appcenter.username} surrounded by double quotes.
user.database.oracle.appcenter.password	${user.database.selection2} = oracle	The password used to access the Oracle database for Application Center, optionally encrypted in a specific way.	The password must be a string consisting of 1 to 30 characters: ASCII digits, ASCII uppercase and lowercase letters, '_', '#', '$' are allowed.
user.database.oracle.appcenter.dbname	${user.database.selection2} = oracle, unless ${user.database.oracle.appcenter.jdbc.url} is specified	The name of the Oracle database for Application Center.	Non-empty, a valid Oracle database name.
user.database.oracle.appcenter.isservicename.jdbc.url	Optional	Indicates if `user.database.oracle.appcenter.dbname` is a Service name or a SID name. If the parameter is absent then `user.database.oracle.appcenter.dbname` is considered to be a SID name.	`true` (indicates a Service name) or `false` (indicates a SID name)
user.database.oracle.appcenter.jdbc.url	${user.database.selection2} = oracle, unless ${user.database.oracle.host}, ${user.database.oracle.port}, ${user.database.oracle.appcenter.dbname} are all specified	The JDBC URL of the Oracle database for Application Center.	A valid Oracle JDBC URL. Starts with "jdbc:oracle:".

user.writable.data Always .user	The operating system user that is allowed to run the installed server.	An operating system user name, or empty .
user.writable.data Always .group2	The operating system users group that is allowed to run the installed server.	An operating system users group name, o r empty.

Distribution structure of MobileFirst Server

The MobileFirst Server files and tools are installed in the MobileFirst Server installation directory.

Files and subdirectories in the Analytics subdirectory

Item	Description
analytics.ear and **analytics-*.war**	The EAR and WAR files to install IBM MobileFirst Analytics.
configuration-samples	Contains the sample Ant files to install MobileFirst Analytics with Ant tasks.

Files and subdirectories in the ApplicationCenter subdirectory

Item	Description
configuration-samples	Contains the sample Ant files to install Application Center. The Ant tasks create the database table and deploy WAR files to an application server.
console	Contains the EAR and WAR files to install Application Center. The EAR file is uniquely for IBM® PureApplication® System.
databases	Contains the SQL scripts to be used for the manual creation of tables for Application Center.
installer	Contains the resources to create the Application Center client.
tools	The tools of Application Center.

Files and subdirectories in the MobileFirstServer subdirectory

Item	Description
mfp-ant-deployer.jar	A set of MobileFirst Server Ant tasks.
mfp-*.war	The WAR files of the MobileFirst Server components.
configuration-samples	Contains the sample Ant files to install MobileFirst Server components with Ant tasks.
ConfigurationTool	Contains the binary files of the Server Configuration Tool. The tool is launched from **mfp***server***install_dir/shortcuts**.
databases	Contains the SQL scripts to be used for the manual creation of tables for MobileFirst Server components (MobileFirst Server administration service, MobileFirst Server configuration service, and MobileFirst runtime).
external-server-libraries	Contains the JAR files that are used by different tools (such as the authenticity tool and the OAuth security tool).

Files and subdirectories in the PushService subdirectory

Item	Description
mfp-push-service.war	The WAR file to install MobileFirst Server push service.
databases	Contains the SQL scripts to be used for the manual creation of tables for MobileFirst Server push service.

Files and subdirectories in the License subdirectory

Item	Description
Text	Contains the license for IBM MobileFirst Foundation.

Files and subdirectories in the MobileFirst Server installation directory

Item	Description
shortcuts	Launcher scripts for Apache Ant, the Server Configuration Tool, and the mfpadmin command, which are supplied with MobileFirst Server.

Files and subdirectories in the tools subdirectory

Item	Description
tools/apache-ant-	A binary installation of Apache Ant that is used by the Server Configuration Tool. It can also be used to run the Ant tasks.