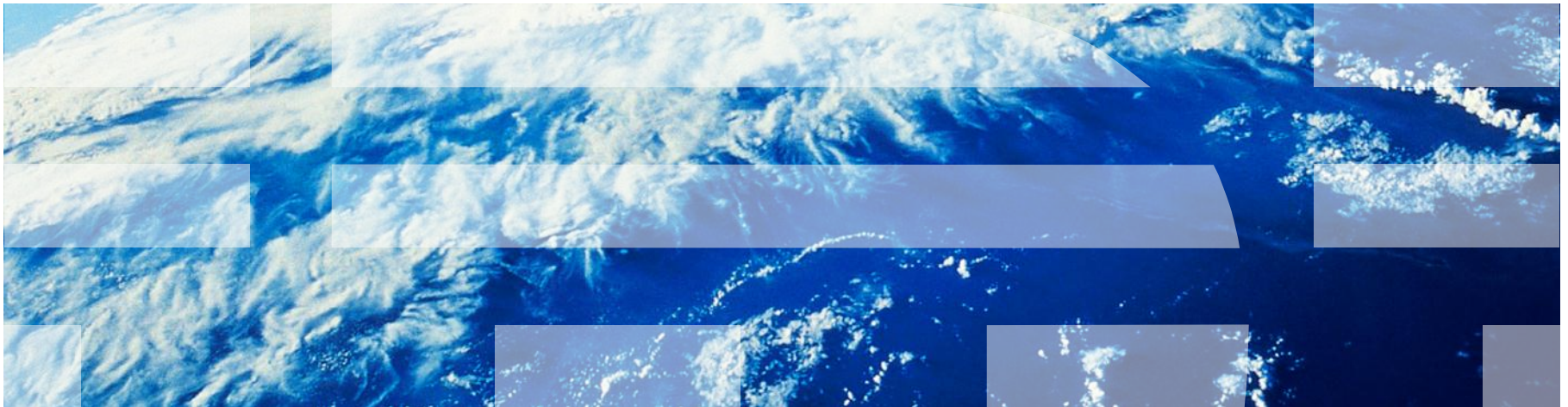


# ***IBM Worklight Foundation V6.2.0 Getting Started***

**Introducing Worklight Server and Application Center on IBM  
PureApplication System, IBM Smart Cloud Orchestrator, and IBM  
PureApplication Service on SoftLayer**



## ***Trademarks***

- IBM, the IBM logo, ibm.com, DB2, PureApplication, SmartCloud, Tivoli, and Worklight are trademarks or registered trademarks of International Business Machines Corporation, registered in many jurisdictions worldwide. A current list of IBM trademarks is available on the Web at “[Copyright and trademark information](http://www.ibm.com/legal/copytrade.shtml)” at [www.ibm.com/legal/copytrade.shtml](http://www.ibm.com/legal/copytrade.shtml).
- Other company products or service names may be trademarks or service marks of others.
- This document may not be reproduced in whole or in part without the prior written permission of IBM.

## ***About IBM®***

- See <http://www.ibm.com/ibm/us/en/>

# Agenda

- Introduction
- Installation of Worklight Pattern Type
- Installation of Worklight Database Workload Standards
- Create and deploy Worklight Virtual Application Pattern
- Work with PureApplication System in Worklight Studio
- Build and deploy by using the command line interface
- Deploy Application Center

## Overview

- IBM Worklight® Foundation provides the capability to deploy and manage Worklight Server and applications on IBM PureApplication™ System, IBM SmartCloud® Orchestrator, and IBM PureApplication Service on SoftLayer.
- This cloud solution eases the efforts for developers and administrators throughout the whole lifecycle of mobile applications.
- In this module, you learn the basic scenarios of using IBM Worklight Foundation on PureApplication System.
- In this module, you also learn how to deploy Application Center onto PureApplication System
  - For information about integrating Tivoli® Directory Server, see module *Integrating Tivoli Directory Server on IBM PureApplication System* and the IBM Worklight Foundation user documentation.

# Agenda

- Introduction
- **Installation of Worklight Pattern Type**
- Installation of Worklight Database Workload Standards
- Create and Manage Worklight Virtual Application Pattern
- Work with PureApplication System in Worklight Studio
- Build and deploy by using the command line interface
- Deploy Application Center

## ***Prerequisites***

- Before you start the installation, get the IBM Mobile Application Platform Pattern Type `.tgz` file from the installation of IBM Mobile Application Platform Pattern.

# Upload the Pattern Type file

- Log in to PureApplication System, and ensure that your account has the right to upload a new pattern type.
- Go to **Workload Console > Cloud > Pattern Types**.
- Upload the IBM Mobile Application Platform Pattern Type .tgz file.

1. Click the + button.

2. Specify the IBM Mobile Application Platform Pattern Type .tgz file.

# Accept the license (1 of 2)

- After the upload process completes, go to the uploaded pattern type, and enable it.

2. View the license and accept it.

The screenshot shows the IBM Mobile Application Platform interface. On the left, a list of pattern types is displayed under the heading "Pattern Types". The "IBM Mobile Application Platform Pattern Type 5.0" is selected and highlighted in blue. An orange arrow points from the "License Agreement" field in the details pane to the "License..." link. Another orange arrow points from the "IBM Mobile Application Platform Pattern Type 5.0" entry in the list to the "1. Notice that the Pattern Type is not enabled after the Installation." text box.

IBM Mobile Application Platform Pattern Type	
<b>Description:</b>	IBM Mobile Application Platform Pattern Type
<b>License Agreement:</b>	Not Accepted [ License... ]
<b>Status:</b>	Not Accepted [ Enable All... ]
<b>Required:</b>	Web Application Pattern Type (2.0.0.5 or above)
<b>System Plug-ins:</b>	Show me all plug-ins in this pattern type
<b>Dependency</b>	

1. Notice that the Pattern Type is not enabled after the Installation.

prerequisites that need to be enabled first. In order to install this pattern type, you must first enable the prerequisites in sequence. Press "Enable All" to enable the pattern type.



## Accept the license (2 of 2)

- Accept the license.



License

This is the license agreement for IBM Mobile Application Platform Pattern Type 5.0.

International Program License Agreement

Part 1 - General Terms

BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, CLICKING ON AN "ACCEPT" BUTTON, OR OTHERWISE USING THE PROGRAM, LICENSEE AGREES TO THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF LICENSEE, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND LICENSEE TO THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS,

\* DO NOT DOWNLOAD, INSTALL, COPY, ACCESS, CLICK ON AN "ACCEPT" BUTTON, OR USE THE PROGRAM; AND

\* PROMPTLY RETURN THE UNUSED MEDIA, DOCUMENTATION, AND PROOF OF ENTITLEMENT TO THE PARTY FROM WHOM IT WAS OBTAINED FOR A REFUND OF THE AMOUNT PAID. IF THE PROGRAM WAS DOWNLOADED, DESTROY ALL

**3. Click **Accept** to accept the license.**

Accept Cancel

# Installation complete

- After the installation completes, the pattern is enabled.

**IBM Mobile Application Platform Pattern Type**

**Description:** IBM Mobile Application Platform Pattern Type

**License Agreement:** Accepted [ [View...](#) ]

**Status:** Unavailable [ [Enable...](#) ]

**Required:** Web Application Pattern Type (2.0.0.3 or above)

**System Plug-ins:** [Show me all plug-ins in this pattern type](#)

**Dependency**

This pattern type has one or more prerequisites that need to be enabled first. In order to ch pattern type(s) need to be enabled in sequence. Press "Enable All" to enable the pattern ty

4. The Pattern Type is accepted.

5. Enable it.

# Agenda

- Introduction
- Installation of Worklight Pattern Type
- **Installation of Worklight Database Workload Standards**
- Create and deploy Worklight Virtual Application Pattern
- Work with PureApplication System in Worklight Studio
- Build and deploy by using the command line interface
- Deploy Application Center

## *Prerequisites*

- Before you start the installation, get the `WLRTDB.zip` file, the `WLADMDB.zip` file, and the `WLRPTDB.zip` file from the installation of IBM Mobile Application Platform Pattern.

## ***Create Worklight database workload standards (1 of 2)***

- Log in to PureApplication System, and ensure that your account has the right to create custom database workload standards.
- Go to **Workload Console > Catalog > Database Workload Standards**.
- You must create Worklight database workload standards for:
  - Worklight runtime database
  - Worklight reports database
  - Worklight administration database

## Create Worklight database workload standards (2 of 2)

- Follow the steps indicated here to upload the `WLRTDB.zip` file.
- By using similar steps, upload the `WLRPTDB.zip` file for the Worklight reports database and the `WLADMDB.zip` file for the Worklight administration database.

The screenshot displays the IBM PureApplication System Workload Console interface. The main navigation bar includes 'Welcome', 'Instances', 'Patterns', and 'Catalog'. The 'Catalog' menu is expanded, showing a '+' icon. A modal window titled 'Database Workload Standards' is open, prompting the user to 'Specify options for your customized database workload standard.' The form contains the following fields and values:

- Name:** W\_RUNTIMEDB
- Description:** (empty)
- Workload type:** Departmental Transactional
- Initial disk size (GB):** 1
- Storage multiplier (User data to physical disk ratio):** 3
- Upload file (.zip):** WLRTDB.zip

At the bottom of the form are 'Save' and 'Cancel' buttons. Red callout boxes with arrows provide the following instructions:

1. Click +.
2. Specify the name
3. Select Departmental Transactional.
4. Specify the `WLRTDB.zip` file.

# Agenda

- Introduction
- Installation of Worklight Pattern Type
- Installation of Worklight Database Workload Standards
- **Create and deploy Worklight Virtual Application Pattern**
- Work with PureApplication System in Worklight Studio
- Build and deploy by using the command line interface
- Deploy Application Center

# Create Worklight Server

- Create a Virtual Application Pattern.
- Drag an Enterprise Application (WebSphere Application Server) component.
- Upload the `Worklight.ear` file onto it.
  - You can generate this EAR file from Worklight Studio or by using the command line interface (CLI).

The screenshot shows the IBM PureApplication System - Virtual Application Builder interface. The left sidebar contains an 'Assets' panel with 'Application Components' expanded, showing 'Enterprise Application (WebSphere Application Server)'. A red arrow points from this component to the main workspace. A red box with the text '1. Drag a WebSphere Application Server Component.' is positioned over the workspace. In the workspace, a 'Worklight Server' component is being added. A second red box with the text '2. Upload the EAR file that is built by Worklight Studio or CLI.' is positioned over the 'Add policy for application' button. On the right, a configuration panel for the 'Worklight Server' is visible, showing fields for 'Name' (Worklight Server), 'EAR file' (artifacts/module\_21\_...), and various timeout settings.



# Create Worklight database

- Drag a DB2® component and then apply a database workload standard for Worklight runtime database
  - Ensure that you select the database workload standard that you created in previous steps.

The screenshot shows the IBM Worklight console interface. On the left, the 'Assets' panel is expanded to 'Database Components', where a 'Database DB2' component is highlighted with a red arrow pointing to a red box containing the text '1. Drag a DB2 component.' In the center workspace, a 'Worklight Runtime DB' component is being added to a 'Worklight Server Enterprise Application'. On the right, the configuration panel for the 'Database DB2' component is shown. The 'Name' is 'Worklight Runtime DB' and the 'Database name' is 'WLRTIME'. Under the 'Source' section, a dropdown menu is set to 'Apply a database workload standard', and a table of standards is displayed. A red arrow points from a red box containing the text '2. Apply a database workload standard.' to the 'WL\_RUNTIMEDB' option in the table.

Name	Description
<input type="radio"/> WL_REPORTSDB	
<input checked="" type="radio"/> WL_RUNTIMEDB	
<input type="radio"/> BPM_BPMDB	Using for BPM v85 Patterns
<input type="radio"/> BPM_PDWDB	Using for BPM v85 Patterns
<input type="radio"/> BPM_CMNDB	Using for BPM v85 Patterns

# Configure database connection

- Link Worklight server and DB2.
- Specify the resource that is referenced as `jdbc/WorklightDS`.

The screenshot shows the IBM PureApplication System - Virtual Application Builder interface. The main workspace displays a diagram with two components: 'Worklight Server' (Enterprise Application) and 'Worklight Runtime Database' (Database). A red box labeled '3. Create a link.' points to a connection line between the two components. Another red box labeled '4. Select jdbc/WorklightDS.' points to a dropdown menu that is open, showing two options: 'jdbc/WorklightDS in module helloworld.war' (which is selected) and 'jdbc/WorklightReportsDS in module helloworld.war'. The right-hand panel shows the configuration details for the data source, including the JNDI Name of Data Source, Resource References of Data Source (set to 'helloworld.war#jdbc/WorklightDS'), Connection timeout (180), Transaction Type for JDBC Provider (Connection Pool data source), and JDBC Driver.

# Configure report database

- Create and connect the report database by following the same steps as in the previous slide with the following changes:
  - Select the database workload standard for reports database.
  - Select the resource reference as `jdbc/WorklightReportsDS`.

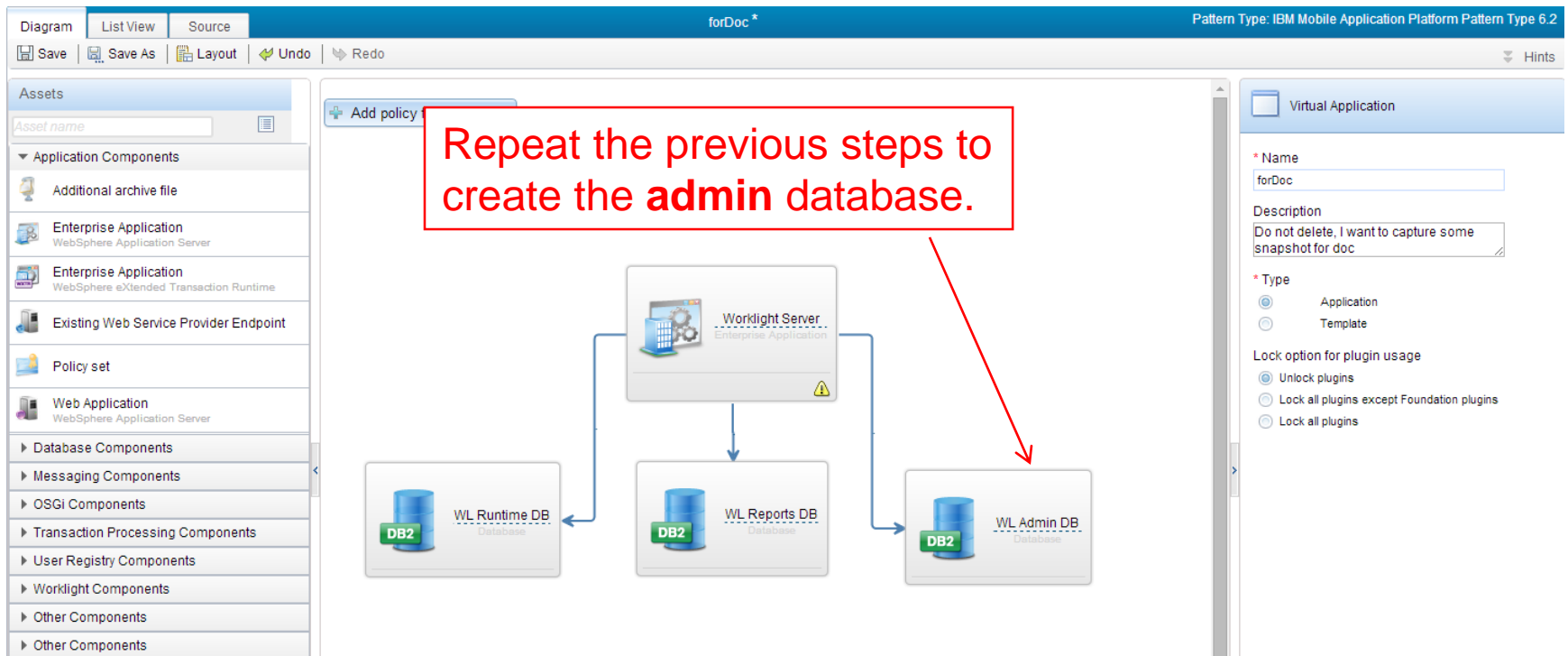
Repeat the previous steps to create the **report** database.

The screenshot shows the IBM Worklight console interface. On the left is the 'Assets' panel with a tree view of components. The main area displays a diagram with a 'Worklight Server' (Enterprise Application) connected to two database components: 'WL Runtime DB' (Database) and 'WL Reports DB' (Database). The 'WL Reports DB' component is highlighted with a dashed blue border. A red box and arrow point from this component to the configuration panel on the right. The configuration panel for 'Database DB2' shows the following settings:

- Name:** WL Reports DB
- Database name:** mydb
- Database description:** (empty)
- Purpose:** Production
- Source:** Departmental Transactional

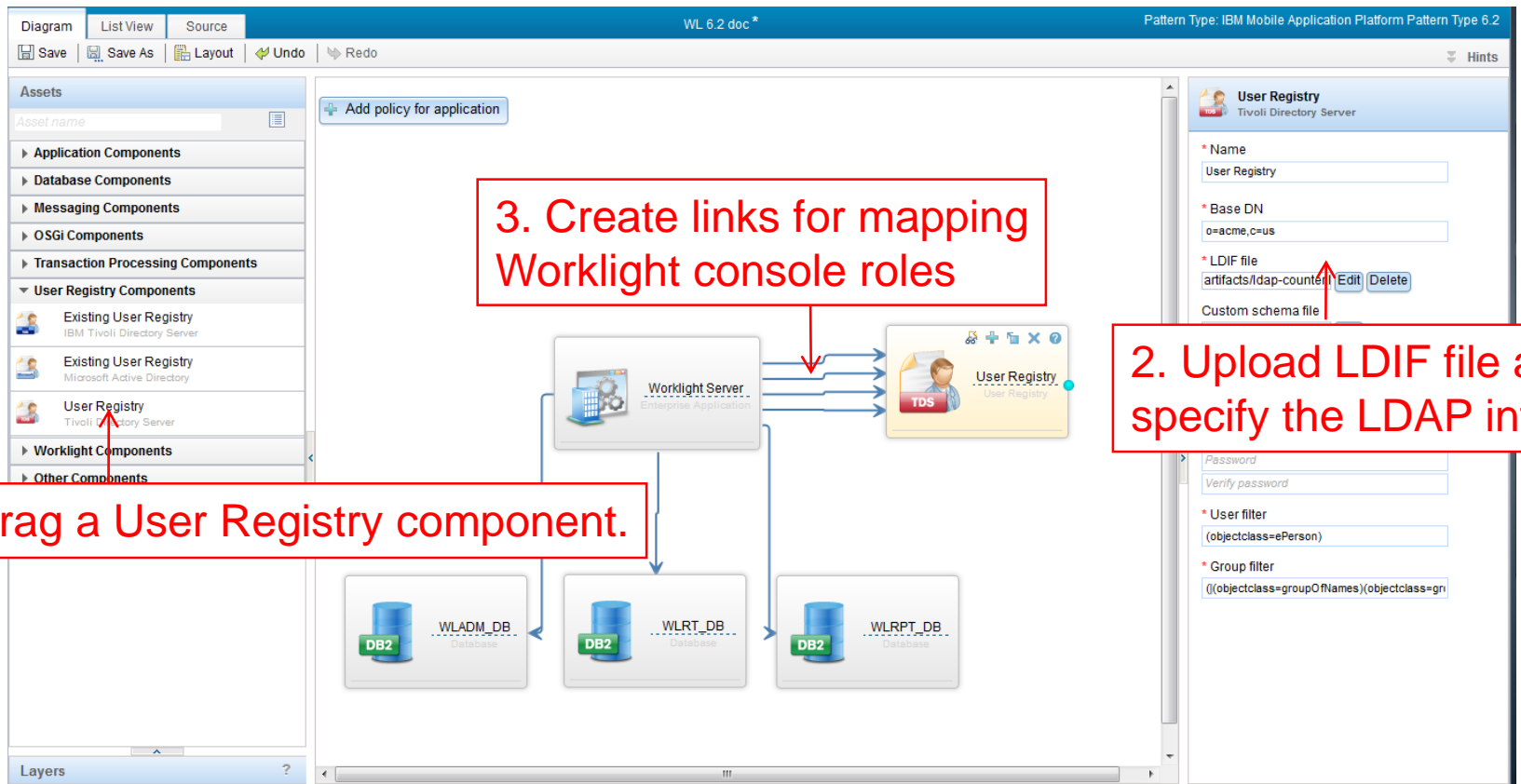
# Configure administration database

- Create and connect the admin database by following the same steps as in the previous slide with the following changes:
  - Select the database workload standard for administration database.
  - Select the resource reference as `jdbc/WorklightAdminDS`.



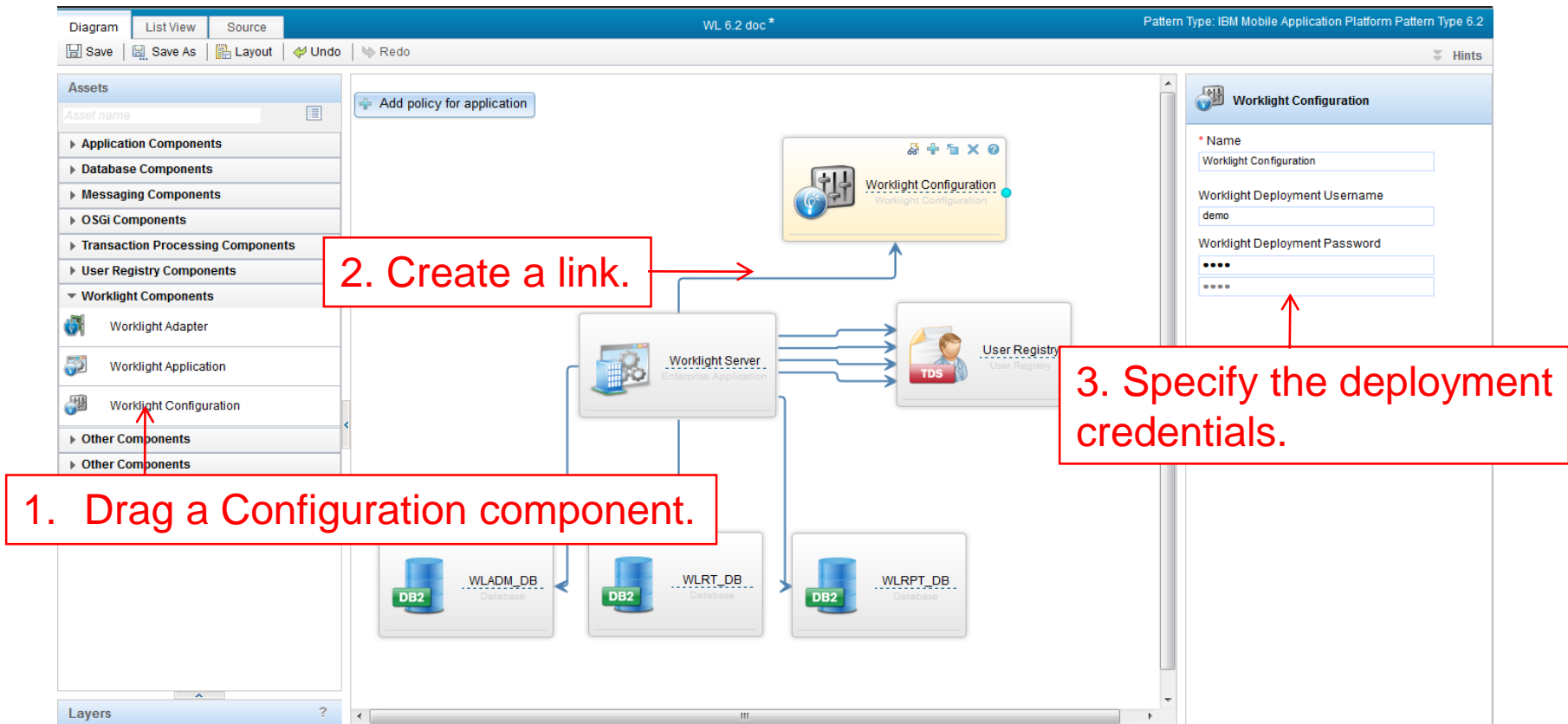
# Configure User Registry Server

- Drag a User Registry component (new TDS or existing TDS), upload LDIF file and create links to Worklight Server for mapping Worklight Console roles (*worklightadmin*, *worklightdeployer*, *worklightmonitor* and *worklightoperator*).



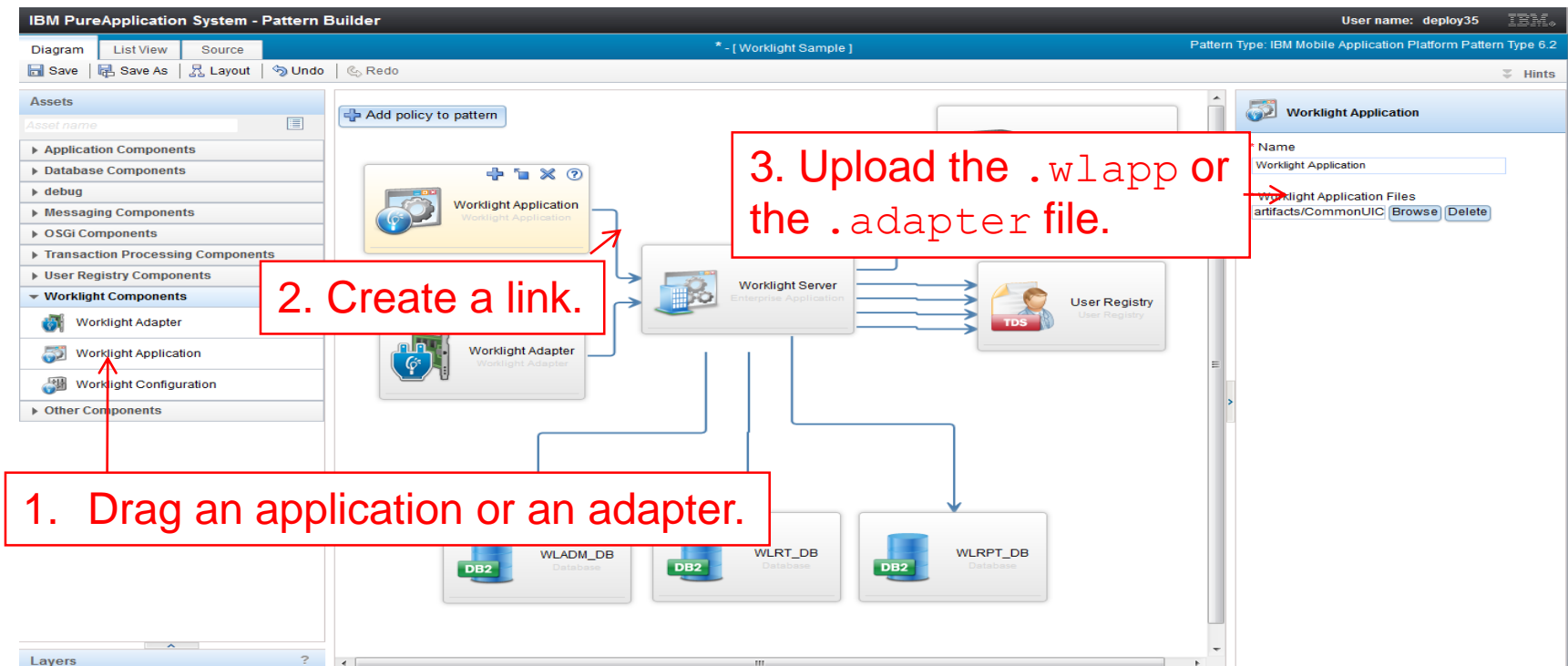
# Configure Worklight Server

- Finally, drag a Worklight Configuration component, link it to Worklight Server, and specify the deployment user of the Worklight Console.



# Create application and adapter

- Now you can create Worklight applications and adapters by dragging the corresponding components, and link them to Worklight Server.
  - For applications, upload the `.wlappr` file.
  - For adapters, upload the `.adapter` file.



# Manage Worklight VAP instance (1 of 2)

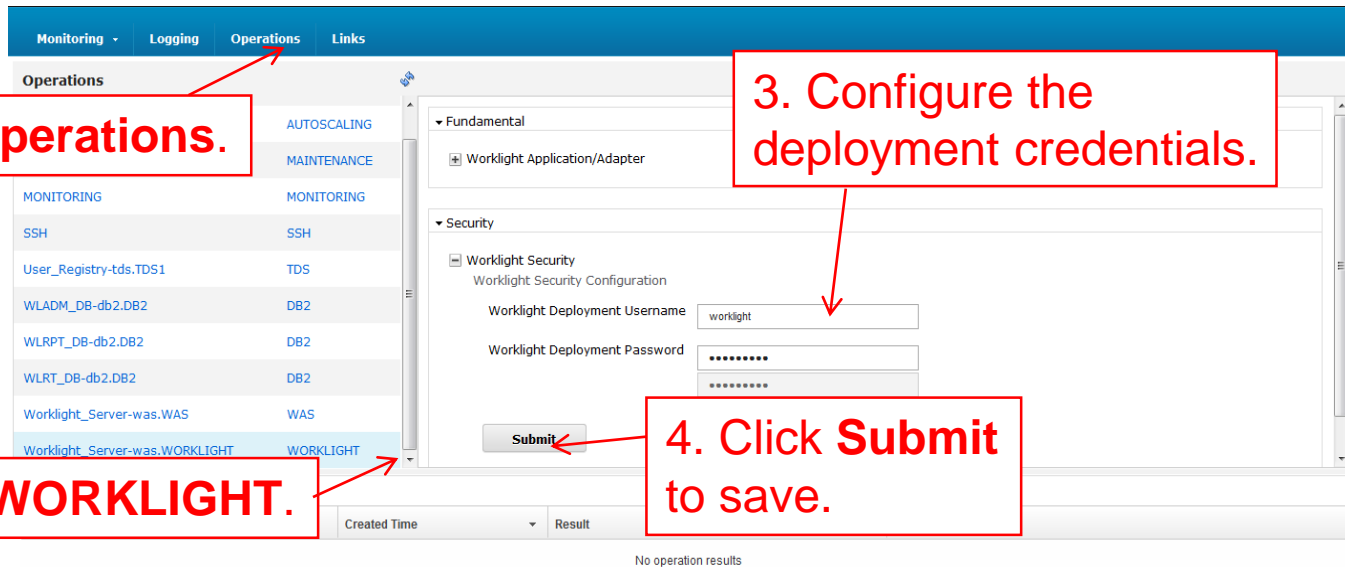
- After you create an IBM Worklight VAP, you can deploy it like any other VAP.
- You can manage the running instances by going to **Workload Console > Instances**.
- Select **IBM Mobile Application Platform Pattern Type 6.2** to filter.
- Select your instance, and click **Manage**.

The screenshot shows the IBM PureApplication System Workload Console interface. The top navigation bar includes 'Welcome', 'Instances', 'Patterns', 'Catalog', 'Cloud', and 'System'. The main content area is titled 'Virtual Application Instances' and features a search bar and a filter dropdown set to 'IBM Mobile Application Platform Pattern Type 5.0'. A list of instances is shown, with 'module\_21\_0\_FormBasedAuthentication' selected. A red box with an arrow points to this instance, labeled '1. Select the instance.' To the right, the details for this instance are displayed, including Name, Created by, Started on, Access granted to, ID, Status (Launching), and Priority. A red box with an arrow points to the 'Manage' button in the instance's action bar, labeled '2. Click Manage.'



# Manage Worklight VAP instance (2 of 2)

- Click **Operations**, and select **Worklight**.
- On the right panel, you can do the following operations:
  - Install or update applications and adapters.
  - Set Worklight application/adapter deployment credentials.



# Agenda

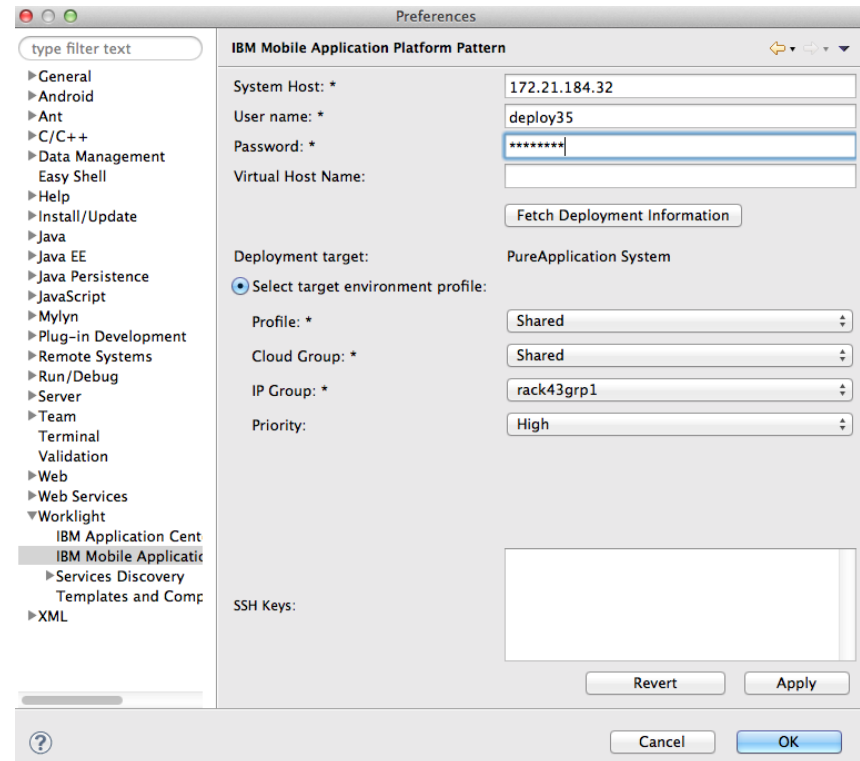
- Introduction
- Installation of Worklight Pattern Type
- Installation of Worklight Database Workload Standards
- Create and deploy Worklight Virtual Application Pattern
- **Work with PureApplication System in Worklight Studio**
- Build and deploy by using the command line interface
- Deploy Application Center

## ***Set IBM Mobile Application Platform Pattern preference in Worklight Studio***

- The IBM Mobile Application Platform Pattern extension is integrated in Worklight Studio.
- Before using the IBM Mobile Application Platform Pattern capability, you must set up some preferences.
  - See next slide.

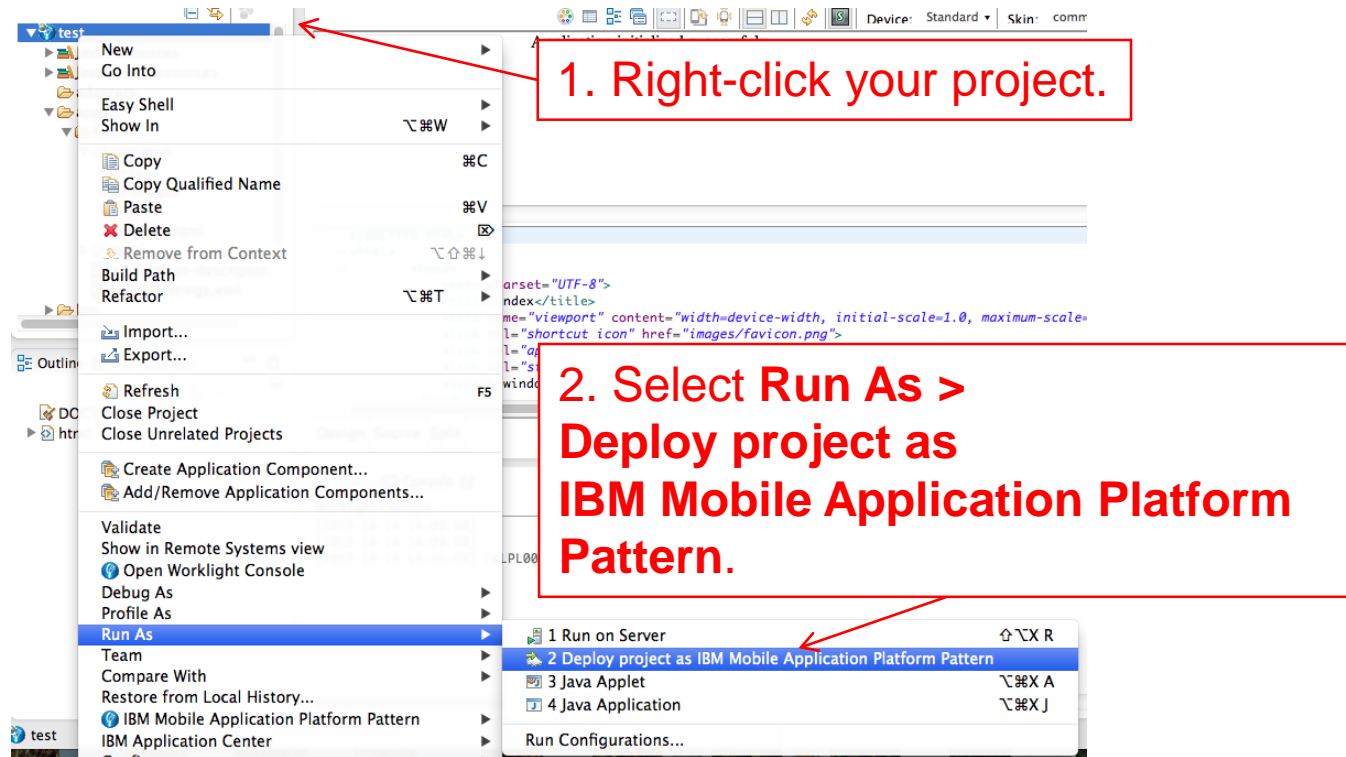
# Specify the cloud environment

1. Click **Window > Preference**.
2. Go to **Worklight > IBM Mobile Application Pattern**.
3. Enter the values of the following fields:
  - **System Host**
  - **User name**
  - **Password**
4. Click **Fetch Deployment Information**.
5. Select the target profile.
6. Click **Apply** to save the settings.



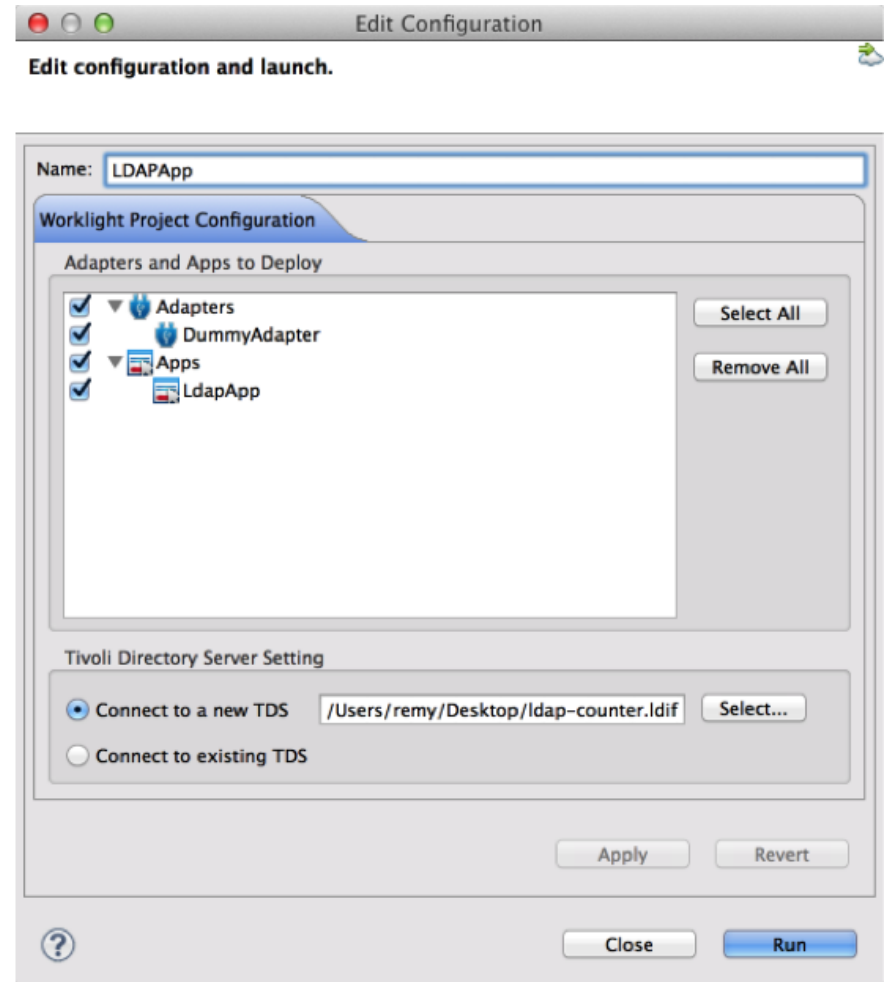
# Deploy the Worklight project to PureApplication System

- To deploy your IBM Worklight project to PureApplication System, right-click the project, and then select **Run As > Deploy project as IBM Mobile Application Platform Pattern**.



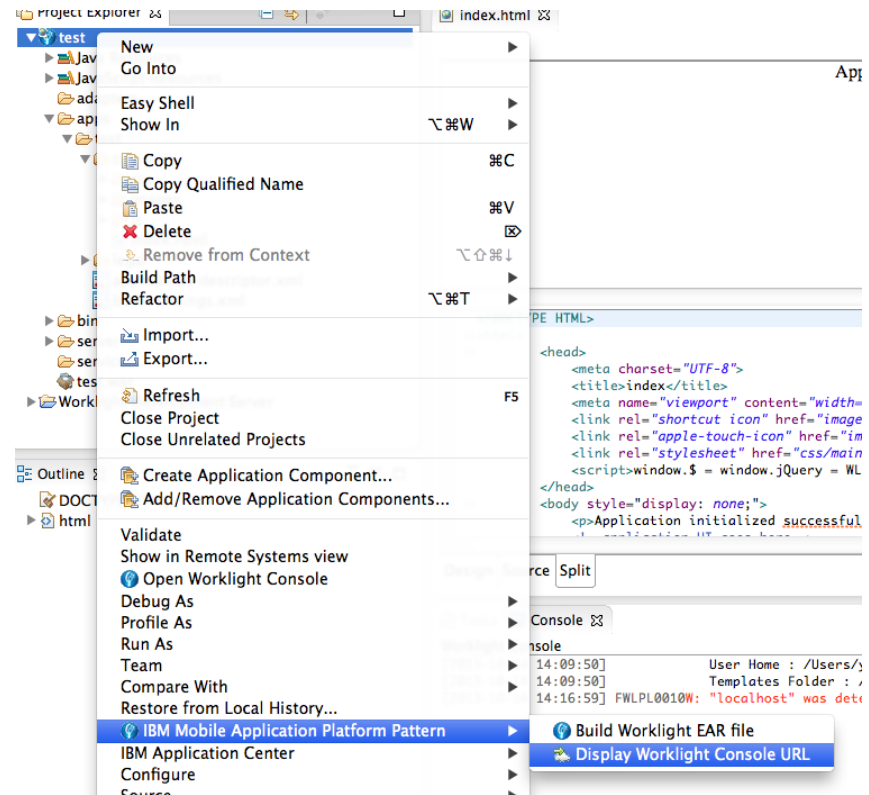
## Select the assets to deploy

- In the **Edit Configuration** dialog, select the applications and adapters that you want to deploy. Also, upload LDIF file for your Tivoli Directory Server or connect to an existing TDS.
- Check the status in the Worklight Console.
- A window opens when the deployment is complete.



# Get the Worklight Console URL

- You can get the URL of the Worklight Console of the deployed project.
- Right-click your Worklight project, and select **IBM Mobile Application Platform Pattern > Display Worklight Console URL**.
- A window displays the URL.



# Agenda

- Introduction
- Installation of Worklight Pattern Type
- Installation of Worklight Database Workload Standards
- Create and deploy Worklight Virtual Application Pattern
- Work with PureApplication System in Worklight Studio
- **Build and deploy by using the command line interface**
- Deploy Application Center



## ***Prerequisites***

- Get the Ant task JAR file from the installation of IBM Mobile Application Platform Pattern.

## ***Build VAP by Ant script (1 of 3)***

- Use the following Ant script as a template to build the VAP with Ant:

```
<taskdef resource="com/worklight/ant/defaults.properties"
  classpath="${taskdefClasspath}"/>

<target

  name="buildIPAS_VAP"
  depends="buildAll" >

  <vap-builder

    worklightWar="${worklightWar}"
    destinationFolder="${wlProjectDestDir}"
    artifactsFolder="${artifactsFolder}"
    elbHost="${elbHost}"/>

</target>
```

## Build VAP by ANT script (2 of 3)

- Specify the following attributes:

Attributes	Description
<b>worklightWar</b>	Required. This file is the Worklight Runtime WAR file – make sure to include the full file path. Note <i>worklight-management-ui.war</i> and <i>worklight-management-service.war</i> must be retrieved from Studio (under <code>{workspace}/WorklightServerConfig/servers/worklight/apps</code> ) and put in the same folder as the Worklight Runtime WAR file.
<b>destinationFolder</b>	Optional. The destination folder. Default value: <code>\${projectfolder}/bin</code>
<b>artifactsFolder</b>	Optional. This folder is where adapters and apps are stored by Worklight Studio or CLI.
<b>elbHost</b>	Optional. Host name for elastic load balancer.
<b>createVAPFlag</b>	Optional. If set to <b>true</b> , the Virtual Application Pattern compressed file is generated. Default value: <b>true</b>
<b>isConnectNewTDS</b>	Optional. Use this attribute to define whether there is a need to connect a new Tivoli Directory Server.

(continued on next slide)

## Build VAP by ANT script (3 of 3)

- Specify the following attributes

(continued from previous slide)

Attributes	Description
<code>ldifFile</code>	Optional. If not set, the default LDIF file is used to connect to the TDS server.
<code>ipasModel</code>	Optional. Possible values are the following ones: <ul style="list-style-type: none"> <li>•<b>W1500</b>: when PureApplication System runs on Intel</li> <li>•<b>W1700</b>: when PureApplication System runs on Power system.</li> </ul> If not specified, the default value is <b>W1500</b> .
<code>ipasHost</code>	Optional. The URL of PureApplication System – required if <code>createVAPFlag</code> is <b>true</b> .
<code>username</code>	Optional. The user name to access the PureApplication System console – required when <code>createVAPFlag</code> is <b>true</b> .
<code>password</code>	Optional. The password to access the PureApplication System console – required when <code>createVAPFlag</code> is <b>true</b> .

## Deploy VAP by ANT script (1 of 2)

- Use the following Ant script as a template to deploy the VAP with Ant:

```
<taskdef resource="com/worklight/ant/defaults.properties"
  classpath="${taskdefClasspath}"/>
<target name="deployVAP" depends="buildVap4IPAS">
  <ipas-deployer
    vapZipFile="${vapFile}"
    ipasHost="${ipasHost}"
    username="${username}"
    password="${password}"
    profileName="${profileName}"
    cloudGroupName="${cloudGroupName}"
    ipGroupName="${ipGroupName}"
    priority="${ipasPriority}" />
</target>
```

## Deploy VAP by ANT script (2 of 2)

- Specify the following attributes:

Attributes	Description
<b>vapZipFile</b>	Required. The path to the *.zip file that the vap-builder built.
<b>ipasHost</b>	Required. The URL of PureApplication System.
<b>username</b>	Required. The user name that is required to access the PureApplication System console.
<b>password</b>	Required. The password that is required to access the PureApplication System console.
<b>deploymentTarget</b>	Optional. The deployment target type that is used to deploy VAP. The value can be either "environment profile" (default value) or "cloud group".
<b>profileName</b>	Required when <b>deploymentTarget</b> is equal to "environment profile". The environment profile name that is used to deploy VAP.
<b>cloudGroupName</b>	Required. The cloud group name that is used to deploy VAP.
<b>ipGroupName</b>	Required when <b>deploymentTarget</b> is equal to "environment profile". The IP group name that is used to deploy VAP.
<b>priority</b>	Required when <b>deploymentTarget</b> is equal to "environment profile". The priority that is used to deploy VAP.
<b>IPVersion</b>	Required when <b>deploymentTarget</b> is equal to "cloud group". The IP version that is used to deploy VAP. The value can be either "IPv4" or "IPv6".

# Agenda

- Introduction
- Installation of Worklight Pattern Type
- Installation of Worklight Database Workload Standards
- Create and deploy Worklight Virtual Application Pattern
- Work with PureApplication System in Worklight Studio
- Build and deploy by using the command line interface
- **Deploy Application Center**

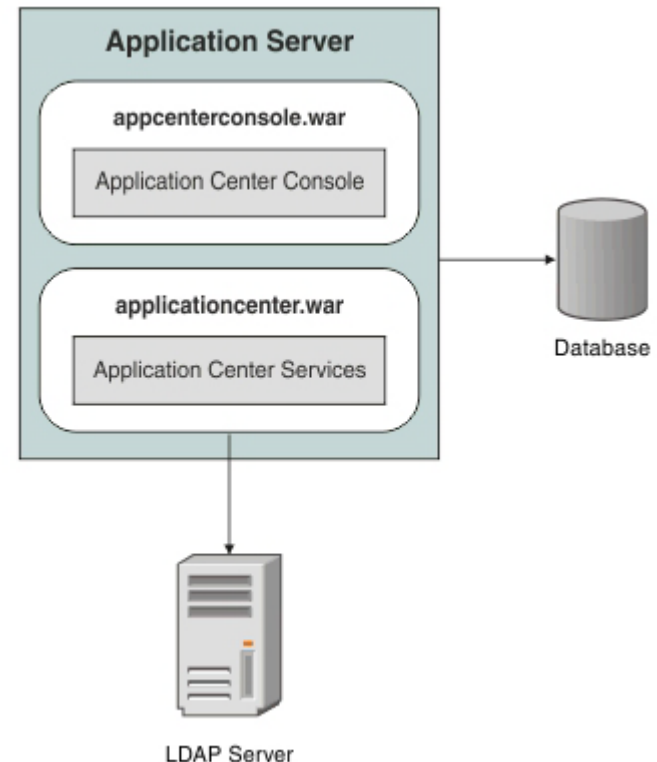
## ***Introduction to Application Center***

- The Application Center is provided as an enterprise application store.
- It is similar to the Apple App Store or Google Play, except that it targets only private usage within a company.
- For more information, see the Application Center topic in the IBM Worklight Foundation user documentation.



## Typical operation model

- Here is a typical operation model of Application Center:
  - The Application Server hosts the Application Center console and services.
  - The LDAP Server is responsible for authentication and user management.
  - The database is the repository for tracking information such as users, apps, or feedback.



## Prerequisites

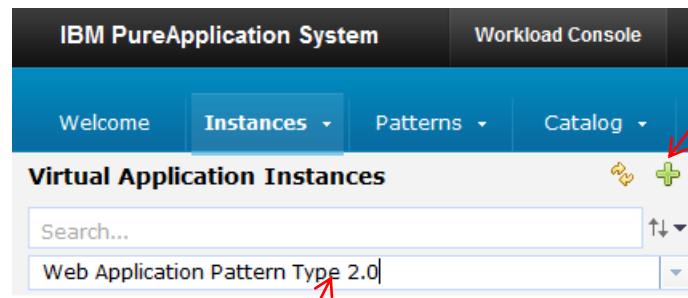
- Before you start to deploy Application Center to PureApplication System, ensure that it is installed.
- The Application Center is part of IBM Worklight Server. You can install it either through IBM Installation Manager or through manual installation. For more information, see the IBM Worklight user documentation.
  - Take note of the IBM Worklight installation folder `{worklight_install_folder }`.
  - When you install the Worklight Server with the Installation Manager, the Application Center artifacts are installed in the `{worklight_install_folder }/ApplicationCenter`.
- You must have a PureApplication System environment with privilege to create Virtual Application Pattern and run Virtual Application instances.

## ***Get Application Center EAR file***

- Since IBM Worklight V5.0.6, the App Center is divided into two WAR files: the Console and the Services.
- The pre-built EAR file is available in `{worklight_install_folder}/ApplicationCenter/console`.
- The paths of the WAR files in this EAR file are as follows:
  - Console: `/applicationconsole`
  - Services: `/applicationcenter`
- For information about how to build this EAR file yourself, see the IBM Worklight Foundation user documentation.

## Create Virtual Application Pattern (1 of 2)

- Log in to PureApplication System
- Go to **Workload Console > Patterns > Virtual Applications.**
- In the list on the left, select **Web Application Pattern Type 2.0**, and then click **+**.

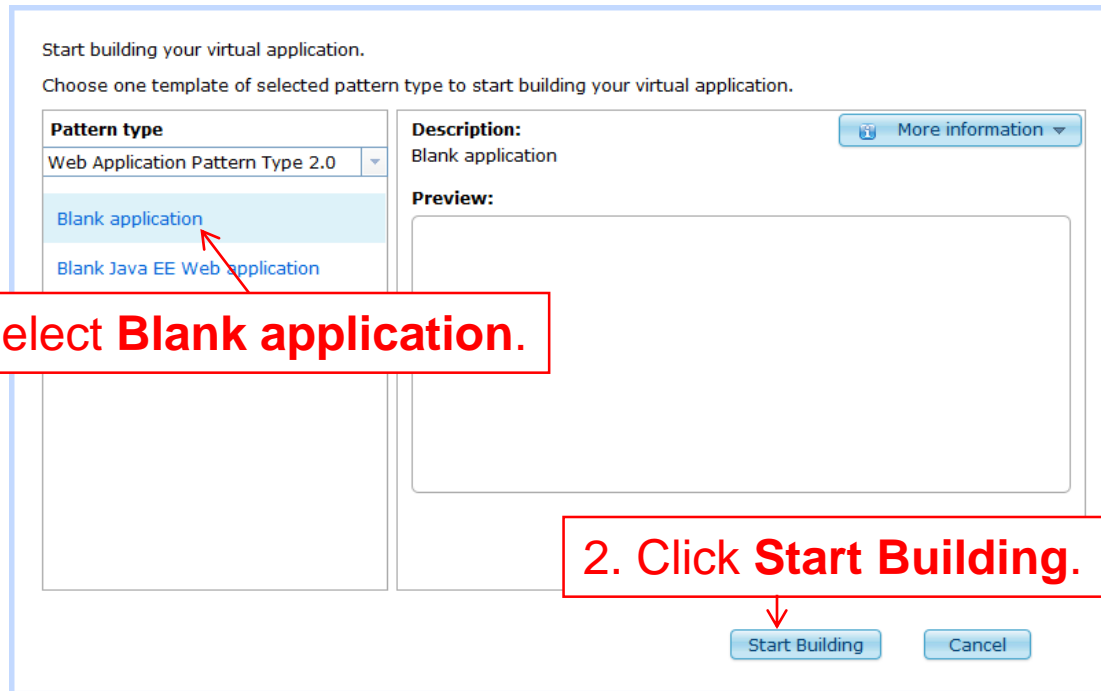


2. Click **+** to add.

1. Select **Web Application Pattern Type 2.0**.

## Create Virtual Application Pattern (2 of 2)

- In the dialog, select a template to start from, then click **Start Building**.
  - Select the template that is convenient for you.
  - You must create one web application component, one database component, and one user registry component.
  - For this module, select the **Blank Application** template.



Start building your virtual application.

Choose one template of selected pattern type to start building your virtual application.

**Pattern type**

Web Application Pattern Type 2.0

Blank application

Blank Java EE Web application

**Description:** Blank application [More information](#)

**Preview:**

1. Select **Blank application**.

2. Click **Start Building**.

Start Building Cancel

## Add an Enterprise Application component

- On the Diagram pane on the left, expand **Application Components**.
- Drag an **Enterprise Application** (WebSphere Application Server) component.
- On the property pane on the right, select the component, and specify the EAR file for the application center.

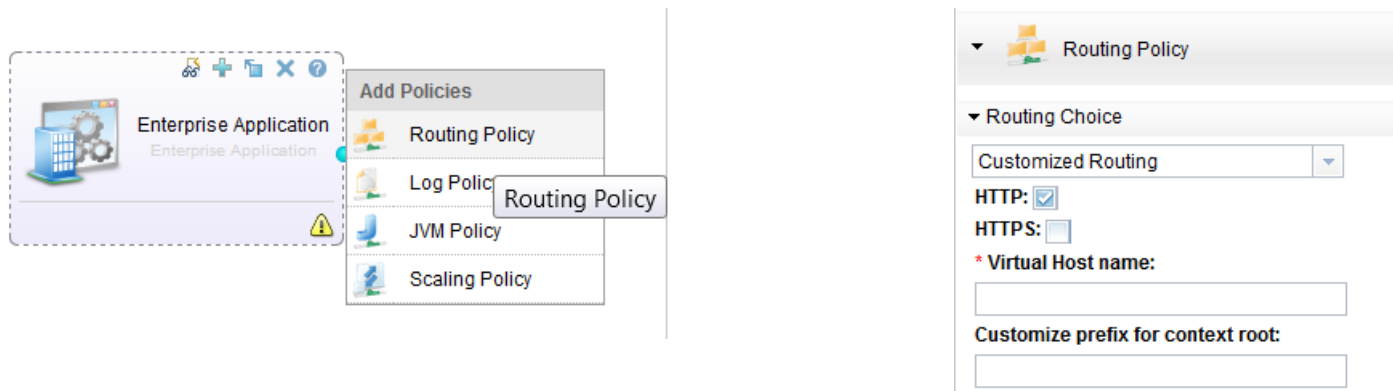
The screenshot displays the IBM PureApplication System - Virtual Application Builder interface. The top navigation bar includes 'Diagram', 'List View', and 'Source' tabs, with 'Diagram' selected. The main workspace shows a diagram with an 'Enterprise Application' component being added. The left pane shows the 'Assets' list with 'Enterprise Application' selected. The right pane shows the properties for the 'Enterprise Application' component, with the 'EAR file' field set to 'artifacts/appcenter.ear'.

1. Drag and Drop a WAS Component.

2. Specify the EAR file.

## Add a routing policy

- From the menu of the Enterprise Application component, click the **+** (add) icon, and then select **Routing Policy**.
- In the property pane of the Routing Policy component, specify the **Virtual Host name**.



# Add a database component

- On the left pane, expand **Database Components**.
- Drag a database (for this module, select **Database DB2**).
- Click the database and, on the property panel, specify the **Schema file**.
  - You can get the `create-appcenter-{db}.sql` in the `{worklight_install_folder}/ApplicationCenter/database` folder.

**1. Drag a DB2 component.**

**2. Specify the Schema file.**

Name	Description
<input checked="" type="radio"/> Departmental Transactional	For databases primarily used for online transaction processing (OLTP). The database will be optimized for transactional applications.
<input type="radio"/> Data Mart	For databases primarily used for data warehousing. The database will be optimized for reporting applications.

Database version:

Database size (GB):

Database compatibility mode:

Schema file:



# Connect the application and the database

- From the Enterprise Application component, click and hold the solid circle on the right edge, move the mouse to the database component, and then release.
  - You created a connection (link) between the web application and the database.
- Click the connection line, and specify the data source as `jdbc/AppCenterDS`.



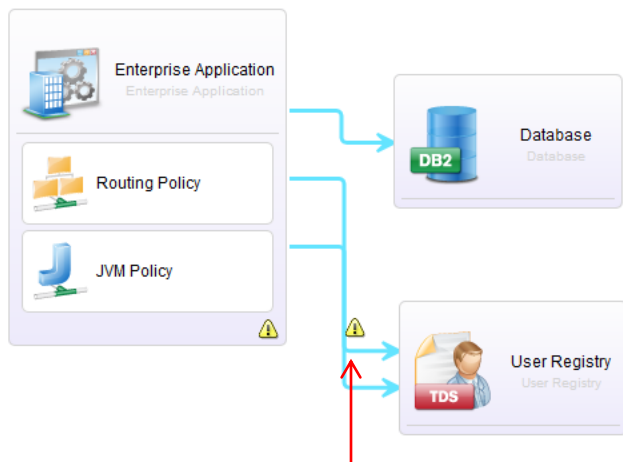
# Add a user registry component

- On the left pane, expand **User Registry Components**.
- Drag a User Registry component.
- Select the User Registry component, and, on the property pane, specify the values of the **Base DN** and **LDIF file** fields.

The screenshot illustrates the configuration process in the IBM WebSphere console. On the left, the 'Assets' pane shows a tree view where 'User Registry Components' is expanded, and the 'User Registry' component (Tivoli Directory Server) is selected. A red arrow points from this selection to a red callout box containing the text: "1. Drag a User Registry component." In the center, a diagram shows an 'Enterprise Application' connected to a 'Database' (DB2) and a 'User Registry' component. On the right, the configuration pane for the 'User Registry' component is shown. Two red callout boxes highlight specific fields: "2. Specify the values of the Base DN and LDIF file fields." The 'Base DN' field is set to 'o=acme,c=us', and the 'LDIF file' field is set to 'artifacts/ldap-counter.l'. Other fields like 'Custom schema file', 'Admin DN password', 'Instance password', 'User filter', and 'Group filter' are also visible.

# Connect the application and the user registry

- Create two links between the Enterprise Application and the User Registry component.
- Configure the user role mapping for these links:
  - For the first link, set the **Role name** to **appcenteradmin**, and set **Mapping special subjects** to **All AuthenticatedUsers**.
  - For the second link, set the **Role name** to **appcenteruser**, and set **Mapping special subjects** to **All AuthenticatedUsers**.



1. Create 2 links.

Enterprise Application → User Registry

Enterprise Application → User Registry

\* Role name:

User role mapping:

Group role mapping:

\* Mapping special subjects:  
 None  
 AllAuthenticatedUsers  
 Everyone

Enterprise Application → User Registry

Enterprise Application → User Registry

\* Role name:

User role mapping:

Group role mapping:

\* Mapping special subjects:  
 None  
 AllAuthenticatedUsers  
 Everyone

2. Specify the Role name.

# Save and deploy

- Save the virtual application. You can give it a name.
- Back to the Virtual Application Patterns page, you now see the pattern that you created.
- Click **Deploy**.

The screenshot shows the IBM Worklight Application Center interface. At the top, there is a navigation bar with tabs for Welcome, Instances, Patterns, Catalog, Cloud, and System. Below this, the 'Virtual Application Patterns' section is active, displaying a list of patterns on the left and a detailed view of the selected 'Worklight Application Center' pattern on the right. The 'Worklight Application Center' pattern details include:

- Application ID:** a-577d7e1c-c71f-4d72-9aa6-df0057bdef05
- Description:** Blank application
- Created by:** deploy35
- Updated by:** deploy35
- Created on:** Feb 28, 2013 6:22:04 PM
- Updated on:** Feb 28, 2013 6:31:16 PM
- Preview:** Fetching the thumbnail, please wait ...
- Access granted to:** admin [ all ] [ remove ]

At the top of the pattern details view, there are several action buttons: Deploy, Open, Export, Delete, and Clone. The 'Deploy' button is highlighted with a red box, and a red arrow points from it to the 'Worklight Application Center' entry in the left-hand list, which is also highlighted with a red box.

# Notices

- Permission for the use of these publications is granted subject to these terms and conditions.
- This information was developed for products and services offered in the U.S.A.
- IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.
- IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:
  - IBM Director of Licensing  
IBM Corporation  
North Castle Drive  
Armonk, NY 10504-1785  
U.S.A.
- For license inquiries regarding double-byte character set (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:
  - Intellectual Property Licensing  
Legal and Intellectual Property Law  
IBM Japan Ltd.  
1623-14, Shimotsuruma, Yamato-shi  
Kanagawa 242-8502 Japan
- **The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:** INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.
- This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.
- Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.
- IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.
- Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:
  - IBM Corporation  
Dept F6, Bldg 1  
294 Route 100  
Somers NY 10589-3216  
USA

- Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.
- The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.
- Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

## COPYRIGHT LICENSE:

- This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs.
- Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows:
  - © (your company name) (year). Portions of this code are derived from IBM Corp. Sample Programs.  
© Copyright IBM Corp. \_enter the year or years\_. All rights reserved.

## Privacy Policy Considerations

- IBM Software products, including software as a service solutions, ("Software Offerings") may use cookies or other technologies to collect product usage information, to help improve the end user experience, to tailor interactions with the end user or for other purposes. In many cases no personally identifiable information is collected by the Software Offerings. Some of our Software Offerings can help enable you to collect personally identifiable information. If this Software Offering uses cookies to collect personally identifiable information, specific information about this offering's use of cookies is set forth below.
- Depending upon the configurations deployed, this Software Offering may use session cookies that collect session information (generated by the application server). These cookies contain no personally identifiable information and are required for session management. Additionally, persistent cookies may be randomly generated to recognize and manage anonymous users. These cookies also contain no personally identifiable information and are required.
- If the configurations deployed for this Software Offering provide you as customer the ability to collect personally identifiable information from end users via cookies and other technologies, you should seek your own legal advice about any laws applicable to such data collection, including any requirements for notice and consent. For more information about the use of various technologies, including cookies, for these purposes, see IBM's Privacy Policy at <http://www.ibm.com/privacy> and IBM's Online Privacy Statement at <http://www.ibm.com/privacy/details> the sections entitled "Cookies, Web Beacons and Other Technologies" and the "IBM Software Products and Software-as-a-Service Privacy Statement" at <http://www.ibm.com/software/info/product-privacy>.

# Support and comments

- For the entire IBM Worklight documentation set, training material and online forums where you can post questions, see the IBM website at:
  - <http://www.ibm.com/mobile-docs>
- **Support**
  - Software Subscription and Support (also referred to as Software Maintenance) is included with licenses purchased through Passport Advantage and Passport Advantage Express. For additional information about the International Passport Advantage Agreement and the IBM International Passport Advantage Express Agreement, visit the Passport Advantage website at:
    - <http://www.ibm.com/software/passportadvantage>
  - If you have a Software Subscription and Support in effect, IBM provides you assistance for your routine, short duration installation and usage (how-to) questions, and code-related questions. For additional details, consult your IBM Software Support Handbook at:
    - <http://www.ibm.com/support/handbook>
- **Comments**
  - We appreciate your comments about this publication. Please comment on specific errors or omissions, accuracy, organization, subject matter, or completeness of this document. The comments you send should pertain to only the information in this manual or product and the way in which the information is presented.
  - For technical questions and information about products and prices, please contact your IBM branch office, your IBM business partner, or your authorized remarketer.
  - When you send comments to IBM, you grant IBM a nonexclusive right to use or distribute your comments in any way it believes appropriate without incurring any obligation to you. IBM or any other organizations will only use the personal information that you supply to contact you about the issues that you state.
  - Thank you for your support.
  - Submit your comments in the IBM Worklight Developer Edition support community at:
    - <https://www.ibm.com/developerworks/mobile/worklight/connect.html>
  - If you would like a response from IBM, please provide the following information:
    - Name
    - Address
    - Company or Organization
    - Phone No.
    - Email address

***Thank You***

