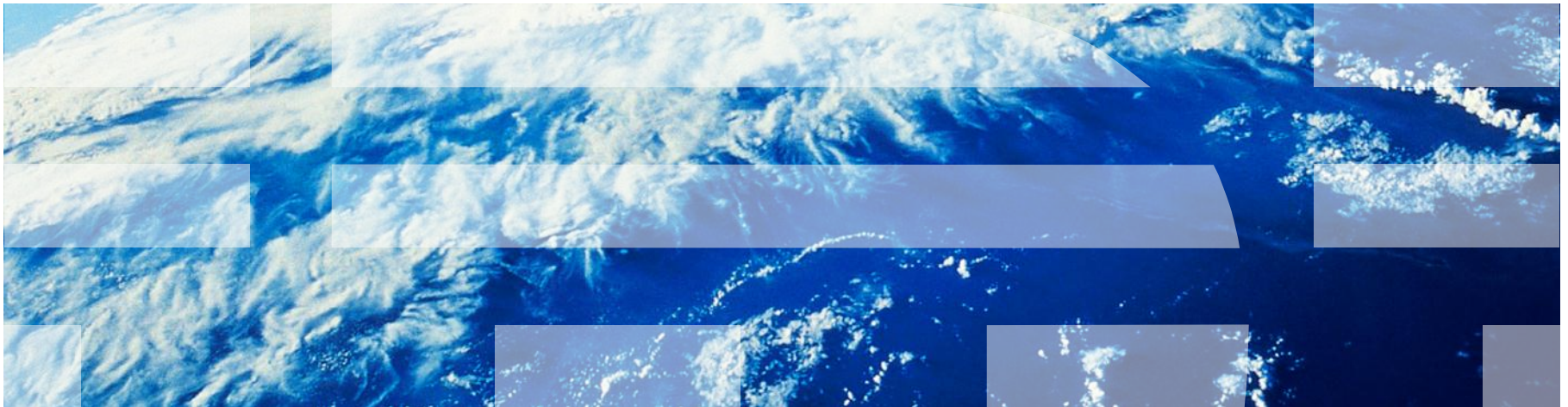*IBM*

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

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Agenda

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- 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.

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- 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.

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.

Pattern Types

Search...

IBM Messaging Extension for Web Application Pattern 2.0

IBM Messaging Extension for Web Application Pattern 2.0.0.1

IBM Mobile Application Platform Pattern Type 5.0

IBM Mobile Application Platform Pattern Type 5.0.6.0

IBM Transactional Database Pattern 1.1

IBM Tran...

IBM Mobile Application Platform Pattern Type

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

prerequisites that need to be enabled first. In orde in sequence. Press "Enable All" to enable the patt

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

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

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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 (2.0.0.5 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.

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- Installation of Worklight Pattern Type

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- 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.

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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).

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.

1. Drag a DB2 component.

2. Apply a database workload standard.

Configure database connection

- Link Worklight server and DB2.

- Specify the resource that is referenced as `jdbc/WorklightDS`.

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.

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`.
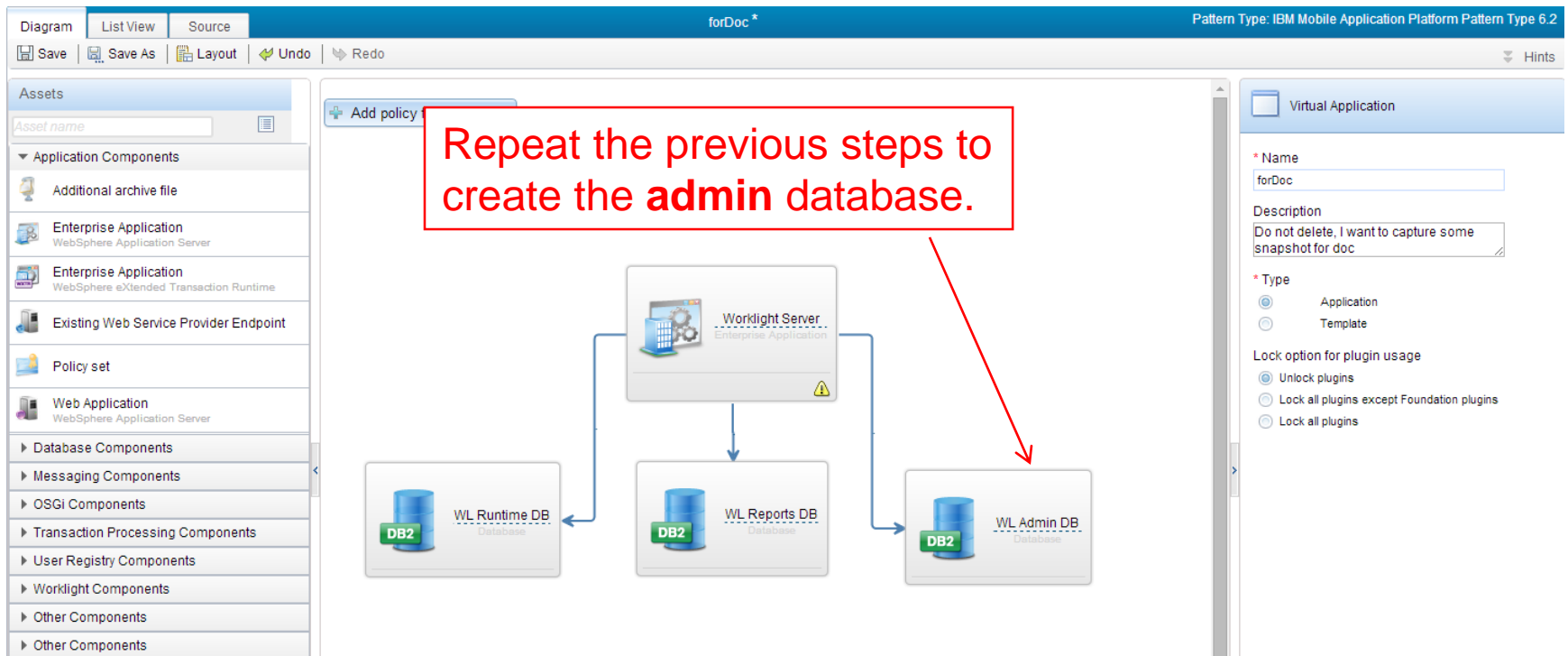
Configure User Registry Server

- 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*).
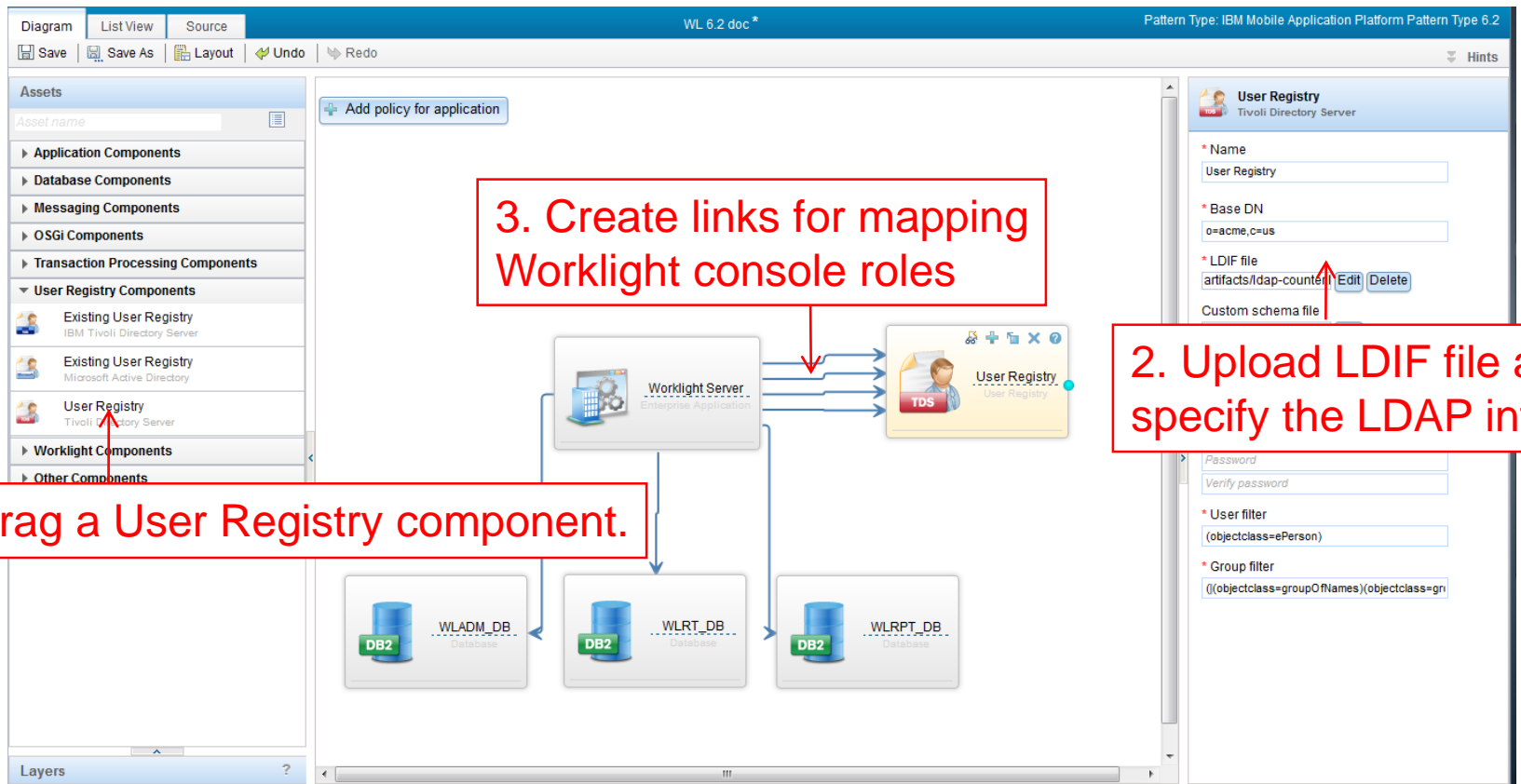
Configure Worklight Server

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

2. Create a link.

3. Specify the deployment credentials.

1. Drag a Configuration component.
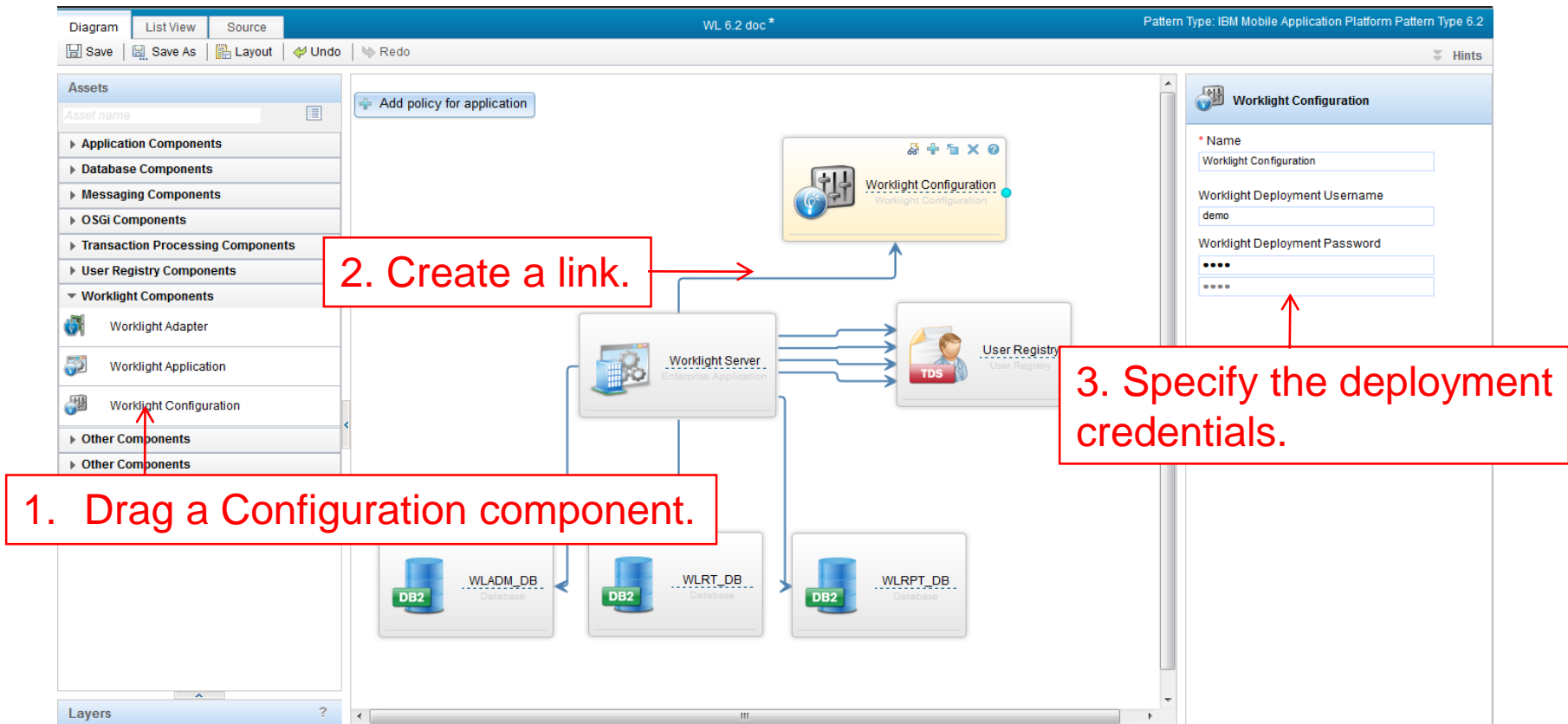
Create application and adapter

- Now you can create Worklight applications and adapters by dragging the corresponding components, and link them to Worklight Server.

  – For applications, upload the `.wlapp` file.

  – For adapters, upload the `.adapter` file.
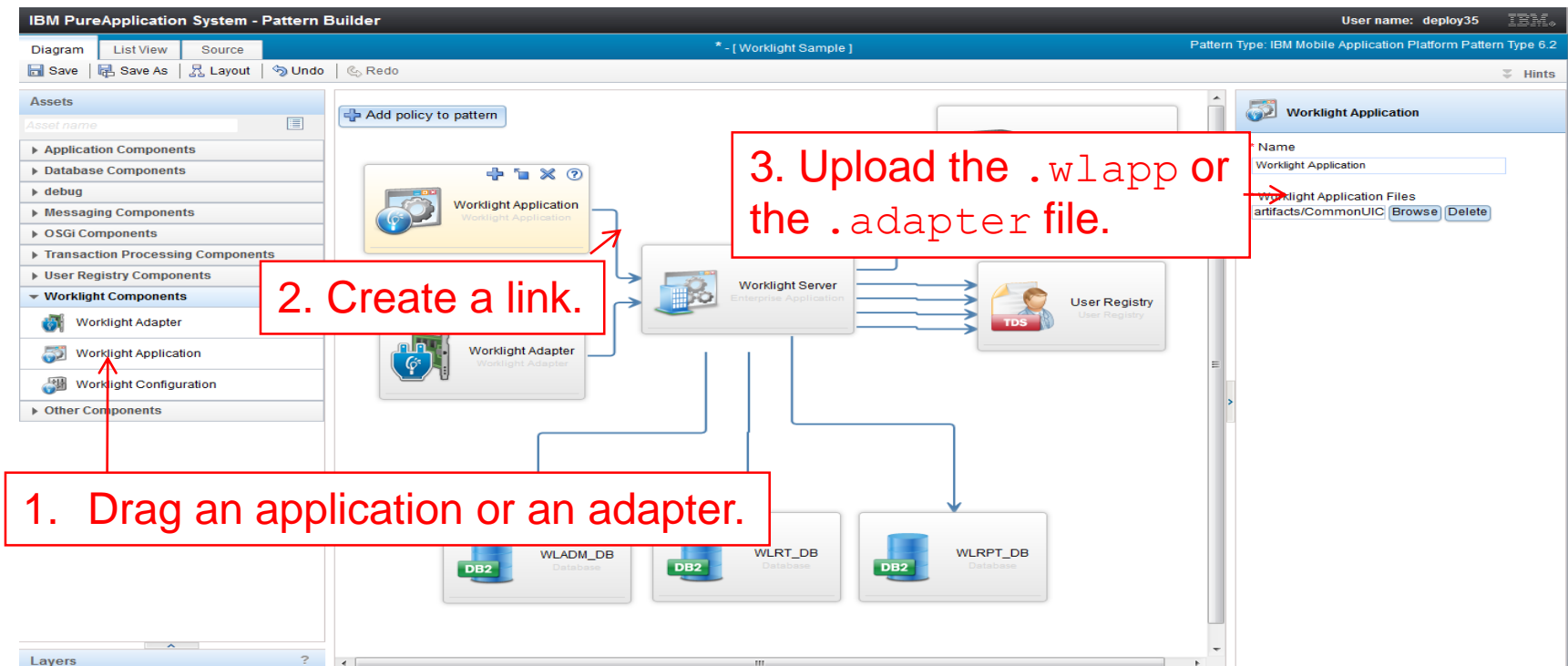
Manage Worklight VAP instance (1 of 2)

- 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**.

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.
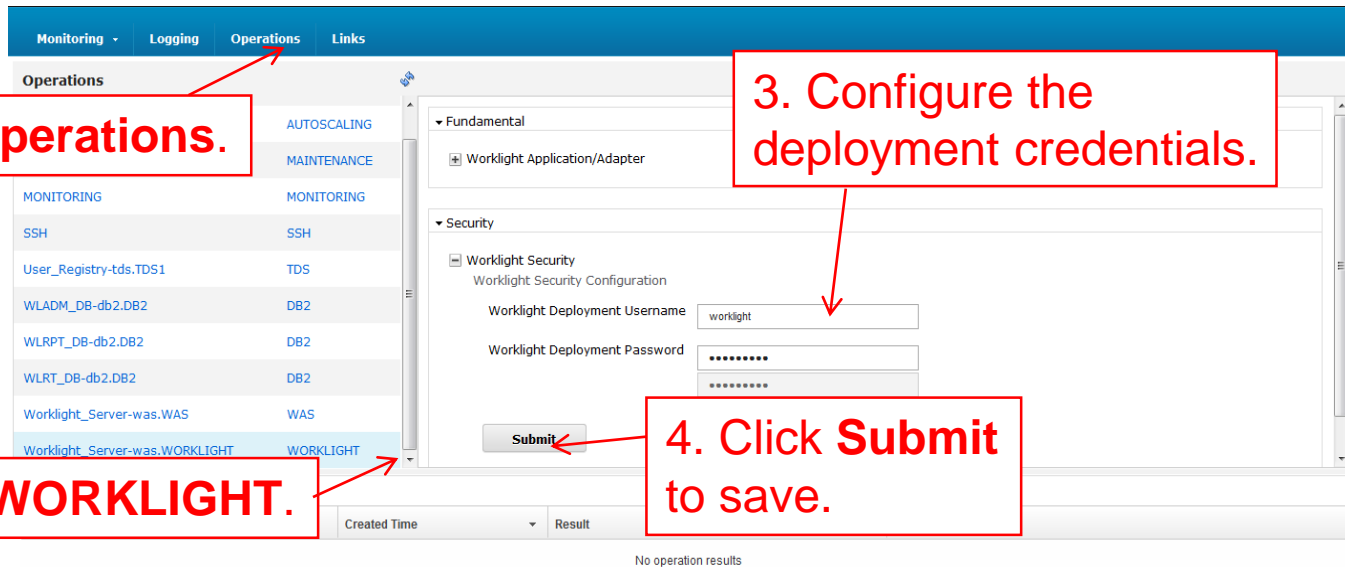
1. Click **Operations**.

2. Select **WORKLIGHT**.

3. Configure the deployment credentials.

4. Click **Submit** to save.

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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.
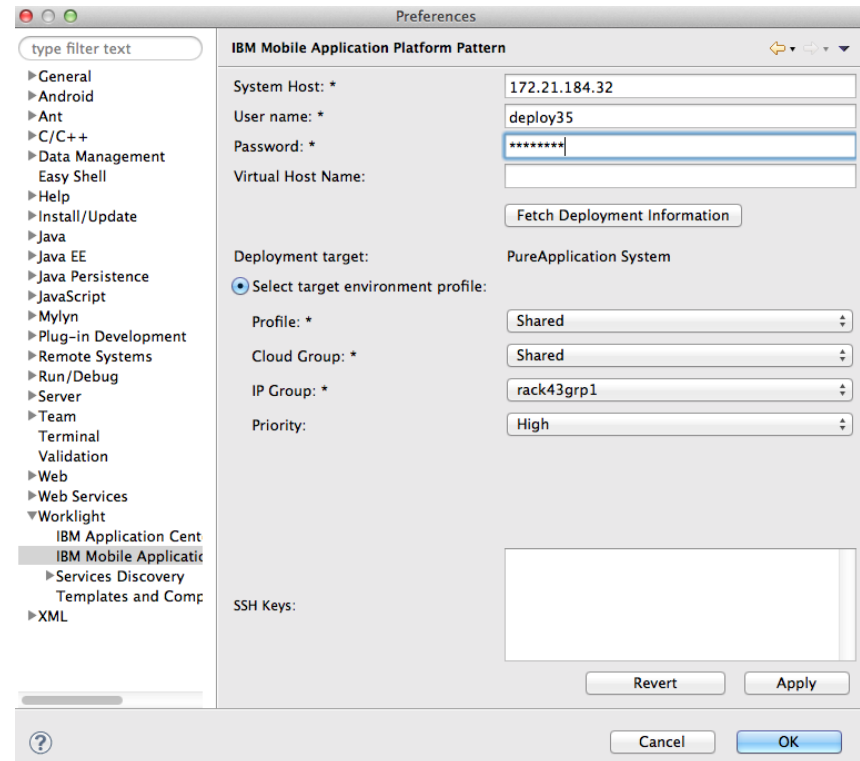
Deploy the Worklight project to PureApplication System

- 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**.

1. Right-click your project.

2. Select **Run As > Deploy project as IBM Mobile Application Platform Pattern**.
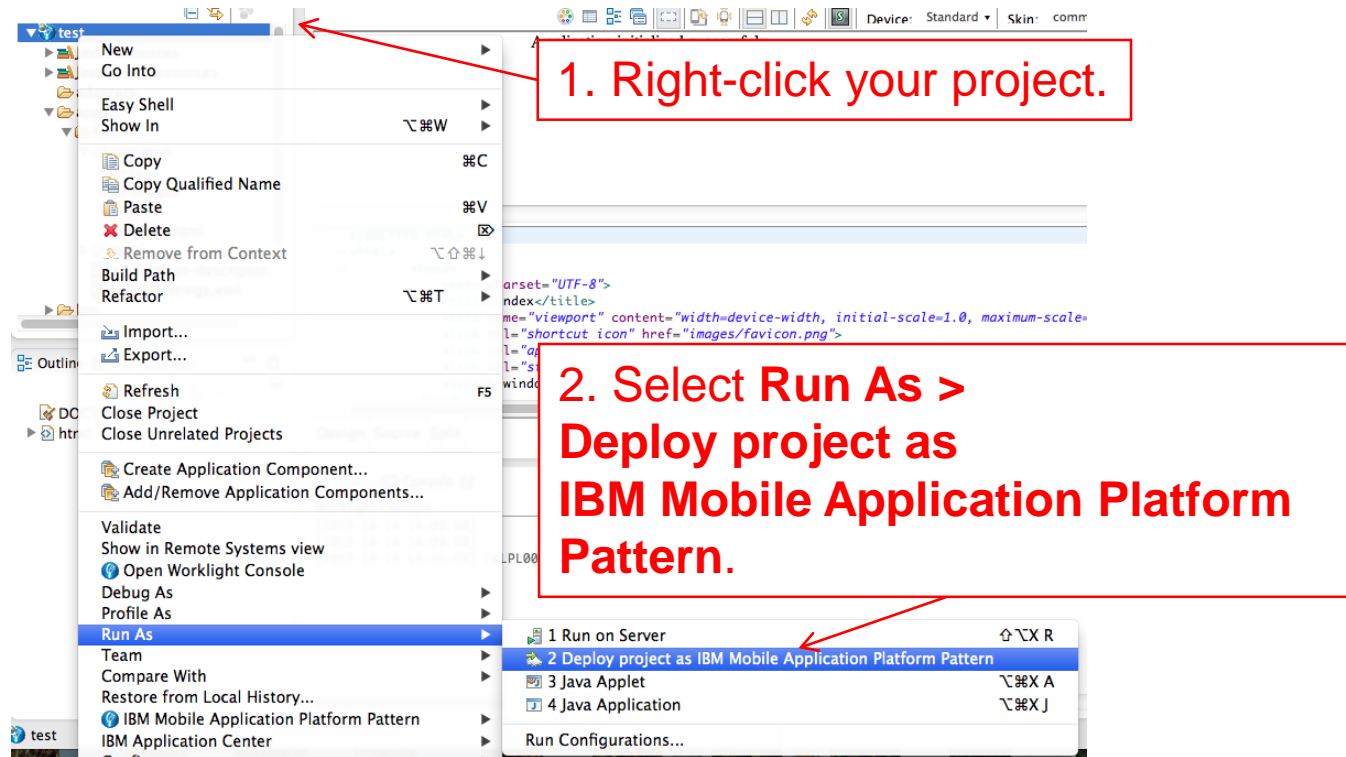
Select the assets to deploy

- 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.
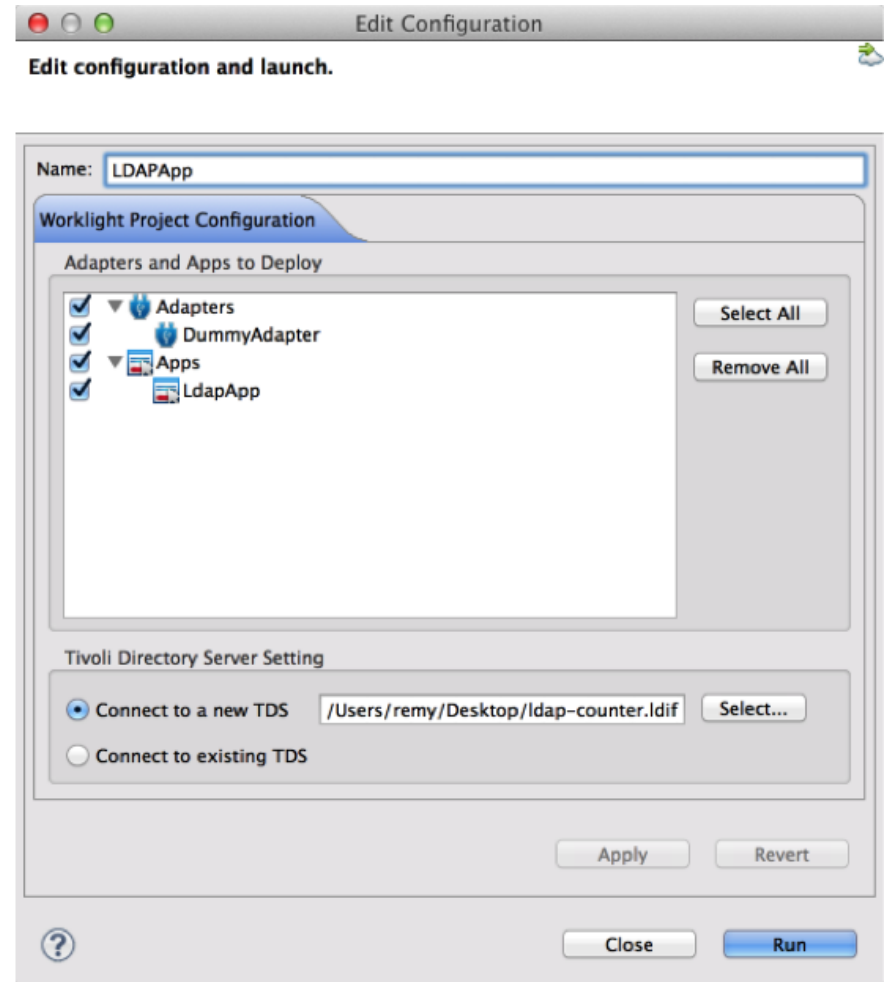
Get the Worklight Console URL

- 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.
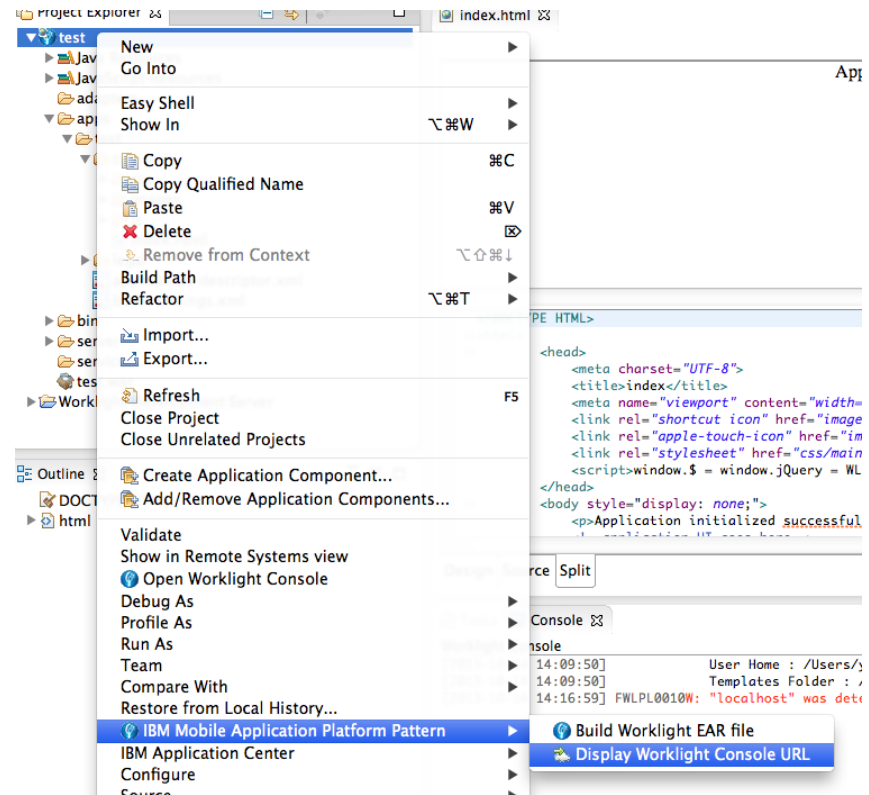
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Prerequisites

- 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
`worklightWar`	Required. This file is the Worklight Runtime WAR file – make sure to include the full file path. Note *worklight-management-ui.war* and *worklight-management-service.war* must be retrieved from Studio (under {$workspace}/WorklightServerConfig/servers/worklight/apps) and put in the same folder as the Worklight Runtime WAR file.
`destinationFolder`	Optional. The destination folder. Default value: `${projectfolder}/bin`
`artifactsFolder`	Optional. This folder is where adapters and apps are stored by Worklight Studio or CLI.
`elbHost`	Optional. Host name for elastic load balancer.
`createVAPFlag`	Optional. If set to **true**, the Virtual Application Pattern compressed file is generated. Default value: **true**
`isConnectNewTDS`	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
`ldifFile`	Optional. If not set, the default LDIF file is used to connect to the TDS server.
`ipasModel`	Optional. Possible values are the following ones: •**W1500**: when PureApplication System runs on Intel •**W1700**: when PureApplication System runs on Power system. If not specified, the default value is **W1500**.
`ipasHost`	Optional. The URL of PureApplication System – required if `createVAPFlag` is **true**.
`username`	Optional. The user name to access the PureApplication System console – required when `createVAPFlag` is **true**.
`password`	Optional. The password to access the PureApplication System console – required when `createVAPFlag` is **true**.

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

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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.
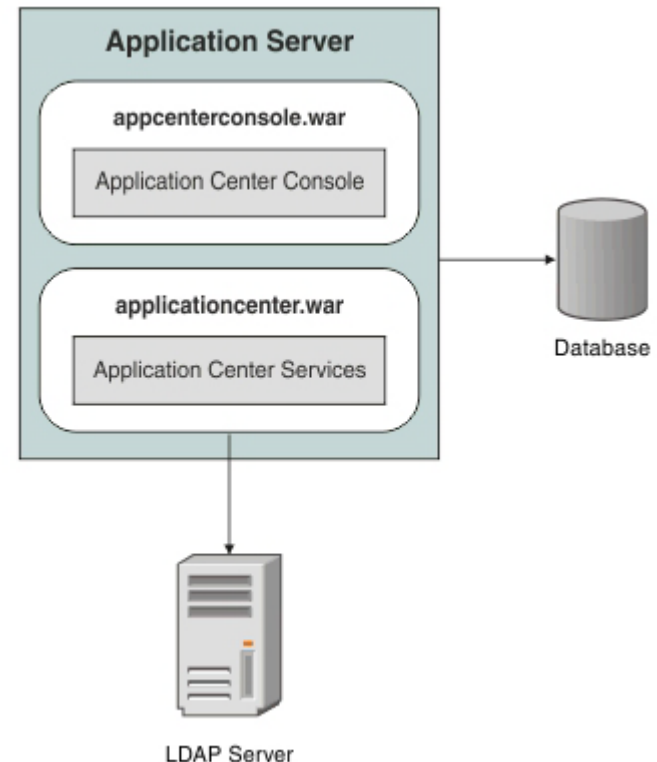
Prerequisites

- 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 **+.**
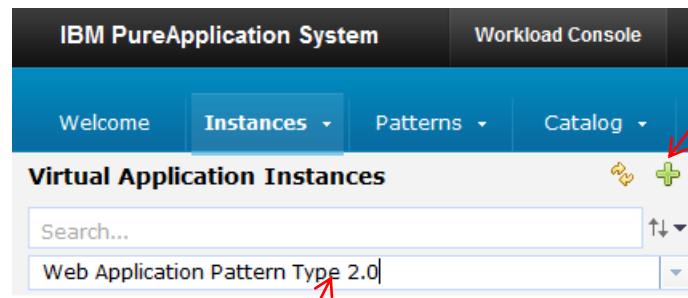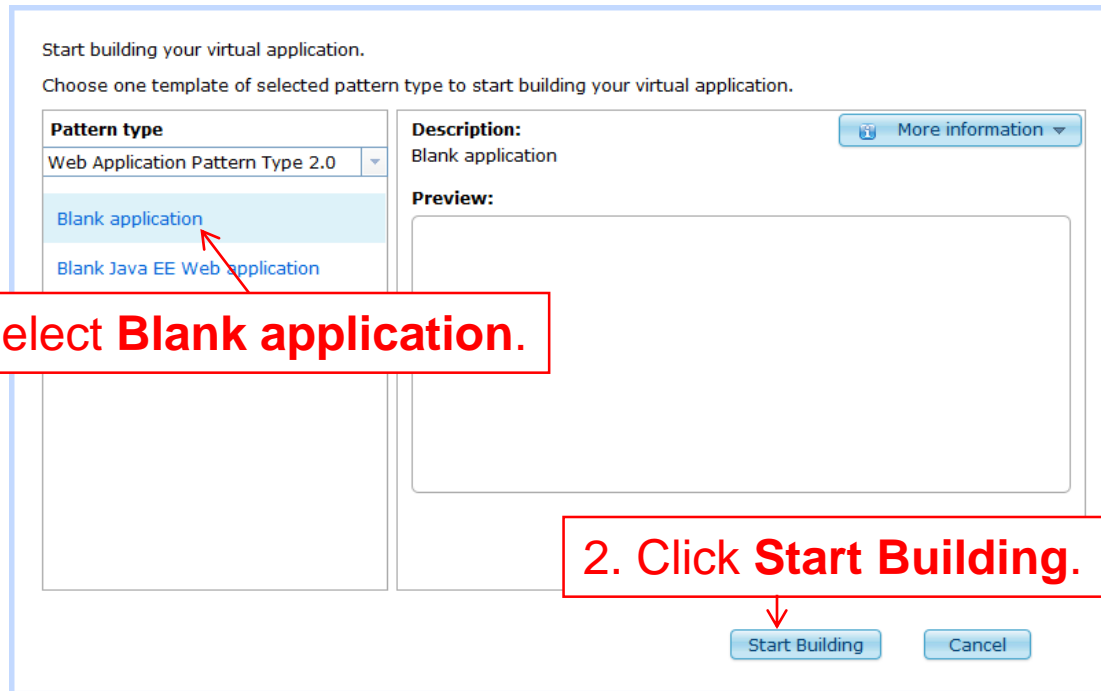
2. Click **+** to add.

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.

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.

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**.
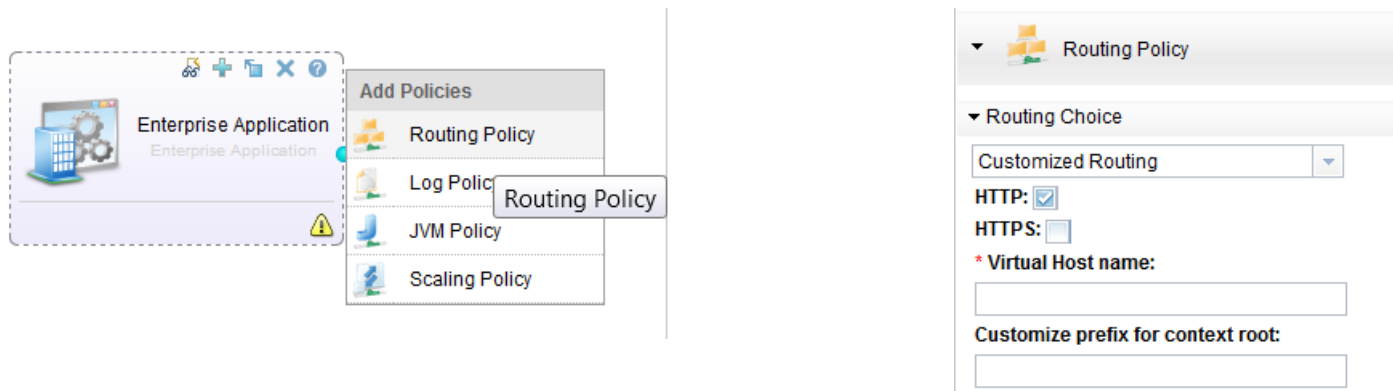
Add a database component

- 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**.

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`.

1. Create a link.

2. Specify the data source.

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.

2. Specify the values of the **Base DN** and **LDIF file** fields.

1. Drag a User Registry component.

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.

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**.

Notices

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
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        - http://www.ibm.com/support/handbook
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    - 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
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        - Address
        - Company or Organization
        - Phone No.
        - Email address

Thank You

20 June 2014