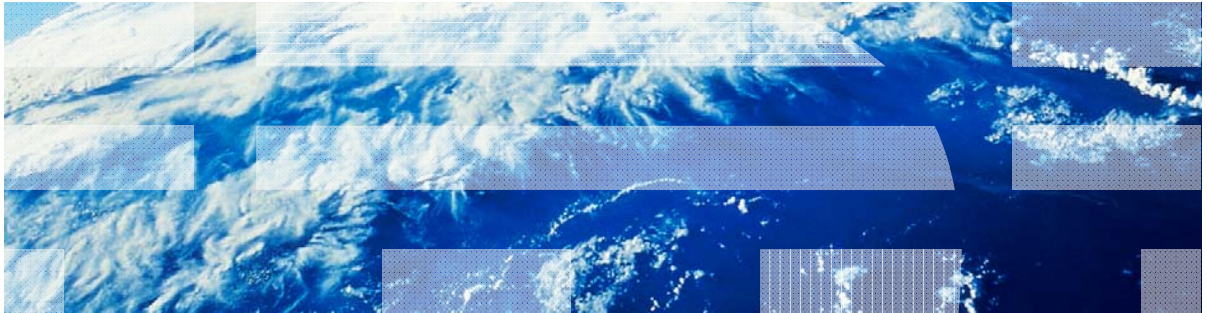




IBM Worklight V5.0.6 Getting Started

**Introducing Worklight Server and Application
Center on IBM PureApplication System**



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Agenda

- Introduction
- Installation of Worklight Pattern Type
- Create and deploy Worklight Virtual Application Pattern
- Work with PureApplication System in Worklight Studio
- Build and deploy by using Command Line Interface

Overview

- IBM Worklight® provides the capability to deploy and manage Worklight Server and applications on IBM PureApplication™ System.
- 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 on PureApplication System.
- In this module, you also learn how to deploy Application Center onto PureApplication System
 - For more information, in particular about integrating Tivoli Directory Server, see module **Integrating Tivoli Directory Server on IBM PureApplication System** and the IBM Worklight user documentation.

Agenda

- Introduction
- **Installation of Worklight Pattern Type**
- Create and Manage Worklight Virtual Application Pattern
- Work with PureApplication System in Worklight Studio
- Build and deploy by using 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 Worklight for IBM PureApplication System.

Upload Pattern Type

- 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.

The screenshot shows the IBM PureApplication System interface. The top navigation bar includes 'Welcome', 'Instances', 'Patterns', 'Catalog', 'Cloud', and 'System'. The main content area is titled 'Pattern Types' and contains a search bar and a list of pattern types. A red box highlights a '+' button in the top right corner of the page with the text '1. Click the + button.' A modal dialog titled 'Install a pattern type' is open, showing 'Local' and 'Remote' tabs. A red box highlights the 'Browse' button in the dialog with the text '2. Specify the IBM Mobile Application Platform Pattern Type tgz file.'

Accept License (1)

- 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 Transact...

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

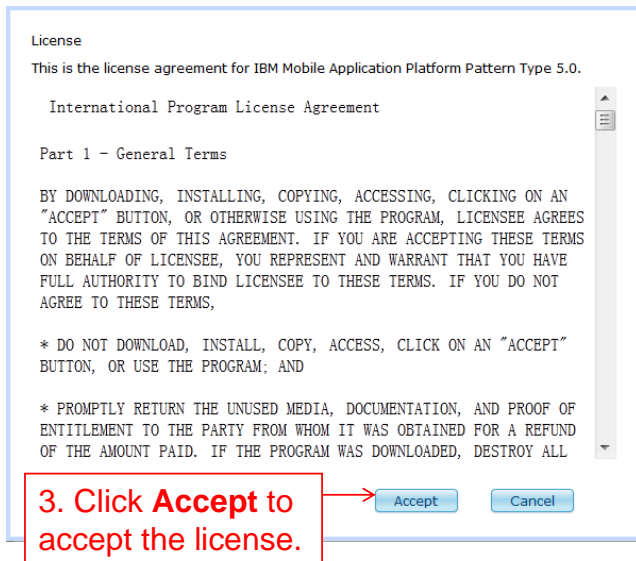
1. Notice that the Pattern Type is not enabled after the Installation.

2. View the license and accept it.

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

Accept License (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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* 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 is complete, the pattern is enabled.

IBM Mobile Application Platform Pattern Type

Description:	IBM Mobile Application Platform Pattern Type
License Agreement:	 Accepted [View...] ← 4. The Pattern Type is accepted.
Status:	 Unavailable [Enable...] ← 5. Enable it.
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

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Create Worklight Server

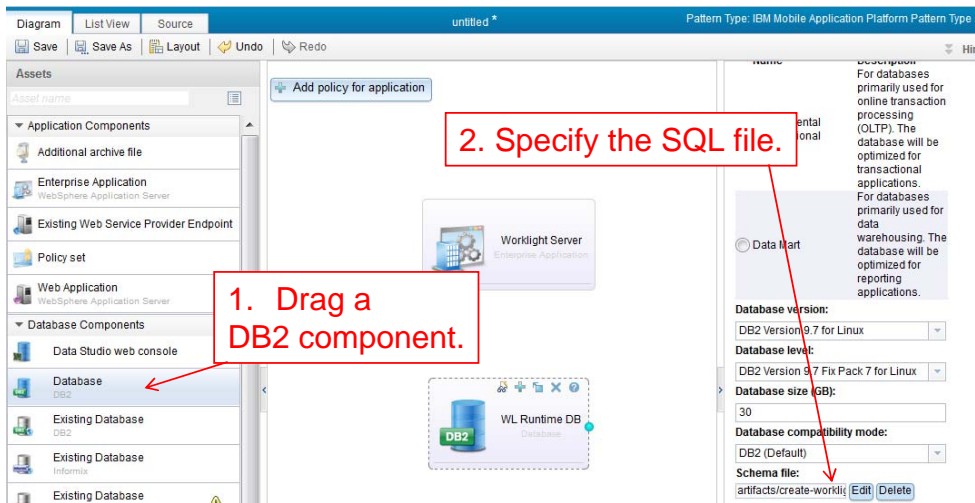
- Create a Virtual Application Pattern.
- Drag an Enterprise Application component.
- Upload the **Worklight.ear** onto it.
 - You can generate this **ear** file from Worklight Studio or by using the command line interface (CLI).

The screenshot shows the IBM PureApplication System - Virtual Application Builder interface. The left sidebar displays the 'Assets' panel with 'Enterprise Application' selected. A red arrow points from the 'Enterprise Application' component to the main workspace. A red box highlights the 'Enterprise Application' component in the workspace, with a red arrow pointing to the 'Name' field in the properties panel. Another red box highlights the 'EAR file' field in the properties panel, with a red arrow pointing to the 'artifacts/module_21_(Edit Delete)' button. The properties panel shows the following configuration:

- Name: Worklight Server
- EAR file: artifacts/module_21_(Edit Delete)
- Total transaction lifetime timeout (seconds): 120
- Async response timeout (seconds): 120
- Client inactivity timeout (seconds): 60

Create Worklight Database

- Drag a DB2 component and then specify the path to the **create-worklight-db2.sql** file in the **Schema file** field.
 - You can get the SQL file in the **WorklightServer/databases** folder under your IBM Worklight installation folder.



Configure Database Connection

- Link Worklight server and DB2.
- Specify the JNDI name as **jdbc/WorklightDS**.

The screenshot displays the IBM PureApplication System - Virtual Application Builder interface. The main workspace shows a diagram with two components: 'Worklight Server' (Enterprise Application) and 'WL Runtime DB' (Database). A yellow arrow points from the Worklight Server to the WL Runtime DB, indicating a link. A red box with the text '3. Create a link.' has an arrow pointing to this connection line.

On the right side, the configuration panel for 'Enterprise Application → Database' is visible. It shows the configuration for 'Worklight Server → WL Runtime DB'. The 'JNDI Name of Data Source' is set to 'jdbc/WorklightDS'. Other settings include 'Non-Transactional Data Source' (unchecked), 'Maximum Connections' (50), and 'Connection timeout' (180). The 'Transaction Type for JDBC Provider' is set to 'Connection Pool data source'. The 'JDBC Driver' field is empty, with an 'Edit' button next to it.

A red box with the text '4. Specify the Data Source.' has an arrow pointing to the 'JNDI Name of Data Source' field.

The left sidebar shows the 'Assets' panel with 'Database Components' expanded, listing 'Data Studio web console', 'Database', 'Existing Database', and 'Existing Database'.

Configure Report Database

- Create and connect the report database by following the same steps as in the previous slide with the following changes:
 - The schema file name is **create-worklightreports-db2.sql**.
 - The JNDI name is **jdbc/WorklightReportsDS**.

The screenshot displays the IBM Mobile Application Platform configuration interface. The main workspace shows a diagram with a 'Worklight Server' (Enterprise Application) connected to two databases: 'WL Runtime DB' and 'WL Reports DB'. A red box highlights the 'WL Reports DB' with the text 'Repeat previous steps to create the report database.' A red arrow points from this text to the 'WL Reports DB' component. The right-hand pane shows the configuration for the 'Database DB2'. The configuration fields are as follows:

Field	Value
Name	WL Reports DB
Database name	mydb
Database description	
Purpose	Production
Source	Apply a default database workload sta
Name	Departmental Transactional
Description	For databases primarily used for online transaction processing (OLTP). The database will be optimized for transactional applications.

Configure Worklight Server

- Finally, drag a Worklight Configuration component, link it to Worklight Server, and specify the security of the Worklight console.

IBM PureApplication System - Virtual Application Builder

Diagram | List View | Source | untitled * | Pattern Type: IBM Mobile Application Platform Pattern T

Save | Save As | Layout | Undo | Redo

Assets

Asset name

- Application Components
- Database Components
- Messaging Components
- OSGI Components
- Transaction Processing Components
- User Registry Components
- Worklight Components
 - Worklight Adapter
 - Worklight Application
 - Worklight Configuration
- Other Components

2. Create a link.

1. Drag a Configuration component.

3. Specify the login credentials.

Worklight Configuration

Worklight Server
Enterprise Application

WL Runtime DB
Database

WL Reports DB
Database

Worklight Configuration

Name:
Worklight Configuration

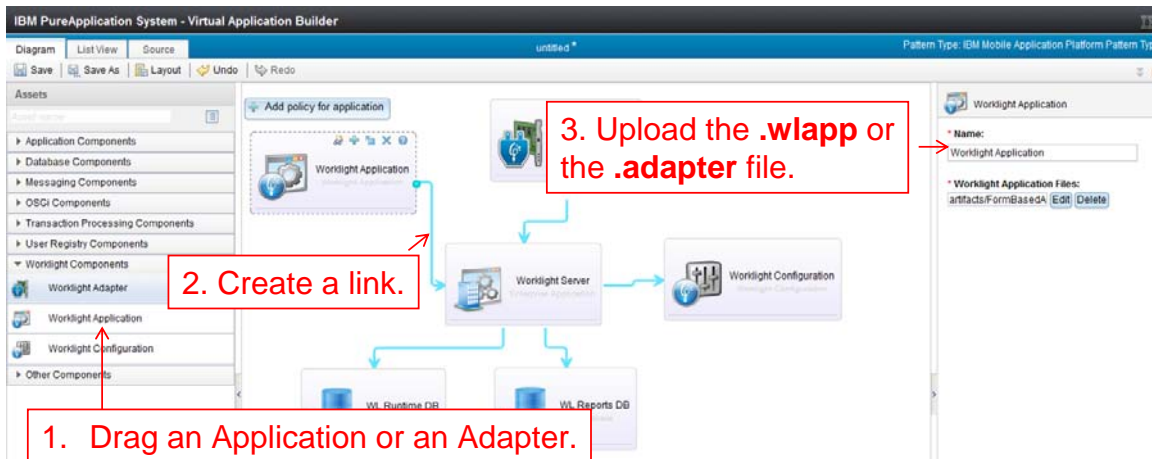
Worklight Console Protection:

Worklight Console Username:
worklight

Worklight Console Password:
.....
.....

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)

- After you created 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 5.0** 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 displays a list of instances. The instance 'module_21_0_FormBasedAuthentication' is selected and highlighted in blue. A red box with an arrow points to this instance, labeled '1. Select the instance.'. To the right, the details for this instance are shown, including Name, Created by, Started on, Access granted to, ID, Status (Launching), Progress (80%), and Priority. A red box with an arrow points to the 'Manage' button in the instance details, labeled '2. Click Manage.'.

Manage Worklight VAP Instance (2)

- Click **Operations**, and select **Worklight**.
- On the right panel, you can do the following operations:
 - Install or update applications and adapters.
 - Set security protection of the Worklight Console.

Virtual Application Console

Maintenance mode [deploy](#)

Monitoring Logging **Operations** Links Main Console

Operations

AGENT
MAINTENANCE
MONITORING
MONITORING
SSH
SSH
Worklight_Reports_DB-db2.DB2
DB2
Worklight_Runtime_DB-db2.DB2
DB2
Worklight_Server-was.ElbServicePlaceholder
ElbServicePlaceholder
Worklight_Server-was.WAS
WAS
Worklight_Server-was.WORKLIGHT
WORKLIGHT

1. Click **Operations.**

2. Select **WORKLIGHT.**

3. Configure the login credentials.

4. Click **Submit to save.**

Worklight Application/Adapter

Security

Worklight Security
Worklight Security Configuration

Worklight Console Protection:

Worklight Console Username:

Worklight Console Password:

Operation Execution Results

Name	Status	Created Time	Result	Value
No operation results				

Agenda

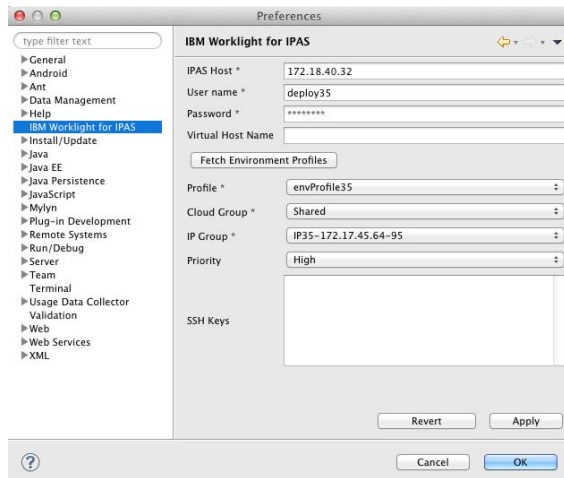
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- Build and deploy by using Command Line Interface
- Deploy Application Center

Set up PureApplication System Preference in Worklight Studio

- The PureApplication System extension is integrated in Worklight Studio.
- Before you use the PureApplication System capability, you must set up some preferences.
 - See next slide.

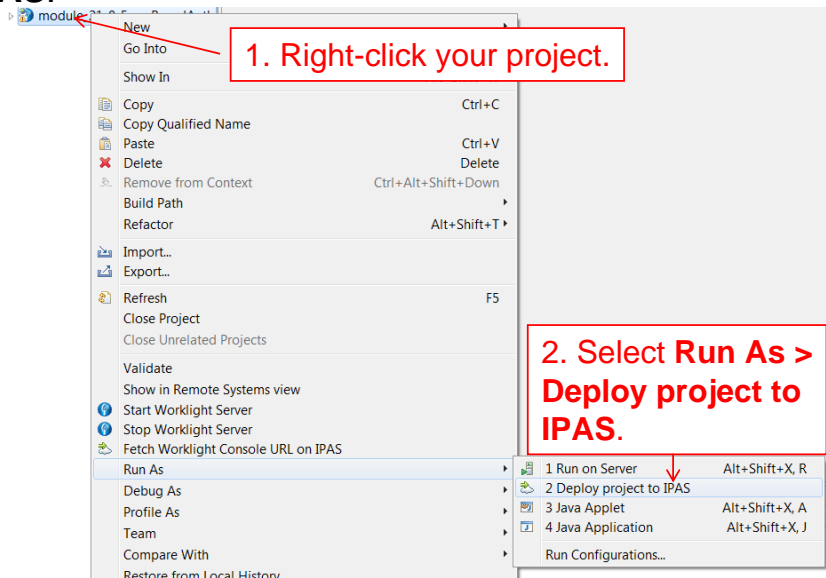
Specify Cloud Environment

1. Open the **Preference** window of Eclipse.
2. Go to **IBM Worklight for IPAS**.
3. Enter the values of the following fields:
 - **IPAS Host**
 - **User name**
 - **Password**
4. Click **Fetch Environment Profiles**.
5. Select the target profile.
6. Click **Apply** to save the settings.



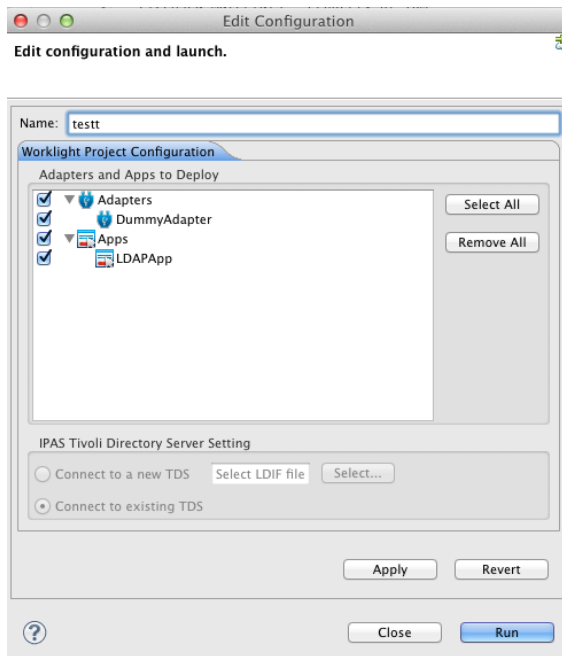
Deploy Worklight Project to PureApplication System

- To deploy your IBM Worklight project to PureApplication System, right-click the project, and then select **Run As > Deploy project to IPAS**.



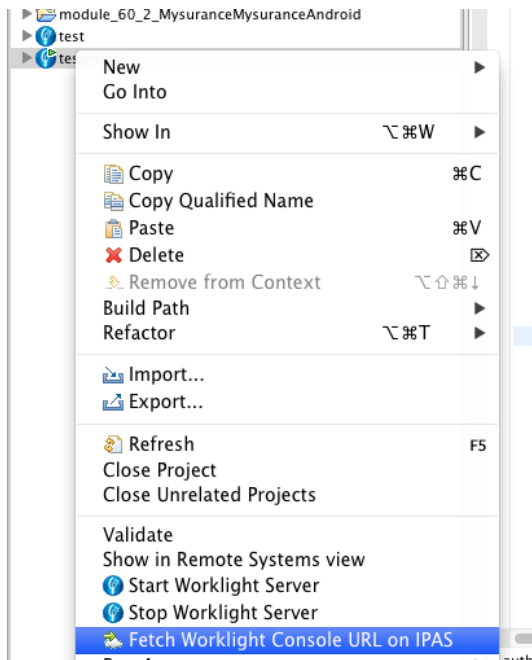
Select Assets to Deploy

- In the **Edit Configuration** dialog, select the applications and adapters that you want to deploy.
- Check the status in the Worklight Console.
- A window opens when the deployment is complete.



Get Worklight Console URL

- You can get the URL of the Worklight Console of the deployed project.
- Right-click your Worklight project, and select **Fetch Worklight Console URL on IPAS**.
- A window displays the URL.



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Prerequisites

- Get the Ant task JAR file from the installation of IBM Worklight for IBM PureApplication System.

Build VAP by Ant Script (1 of 2)

- 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 2)

- Specify the following attributes:

Attributes	Description
<i>worklightWar</i>	Required. This file is the Worklight Console war file – make sure to include the full file path.
<i>destinationFolder</i>	Optional. The destination folder. Default value: <code>\${projectfolder}/bin</code>
<i>artifactsFolder</i>	Optional. This folder is where adapters and apps are stored by Worklight Studio or CLI.
<i>elbHost</i>	Optional. Host name for elastic load balancer.
<i>createVAPFlag</i>	Optional. If defined and set to true , the Virtual Application Pattern compressed file is generated. Default value: true
<i>isConnectNewTDS</i>	Optional. Use this attribute to define whether there is a need to connect a new Tivoli Directory Server.
<i>ldifFile</i>	Optional. Set this attribute if isConnectNewTDS is true to define the LDIF file.
<i>ipasModel</i>	Optional. Possible values are: <ul style="list-style-type: none"> •W1500: when PureApplication System runs on Intel •W1700: when PureApplication System runs on Power system. If not specified, the default value is W1500 .

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
<i>vapZipFile</i>	Required. The path to the *.zip file that the vap-builder built
<i>ipasHost</i>	Required. The URL of PureApplication System
<i>username</i>	Required. The user name that is required to access the PureApplication System console
<i>password</i>	Required. The password that is required to access the PureApplication System console
<i>profileName</i>	Required. The profile name that is used to deploy VAP
<i>cloudGroupName</i>	Required. The cloud group name that is used to deploy VAP
<i>ipGroupName</i>	Required. The IP group name that is used to deploy VAP
<i>priority</i>	Required. The priority that is used to deploy VAP

Agenda

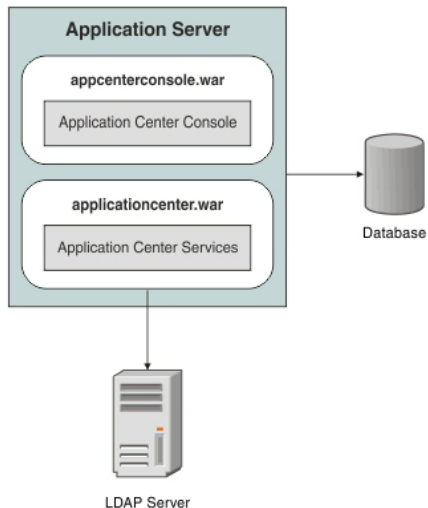
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- **Deploy Application Center**

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.
- In its current version, the Application Center supports applications that are built for Google Android, Apple iOS and BlackBerry 6/7.
- For more information, see the Application Center topic in the IBM Worklight user documentation.

Typical Operation Model

- Here is a typical operation model of Application Center. It contains three components:
 - 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 users, apps, feedback, and so on.



Prerequisites

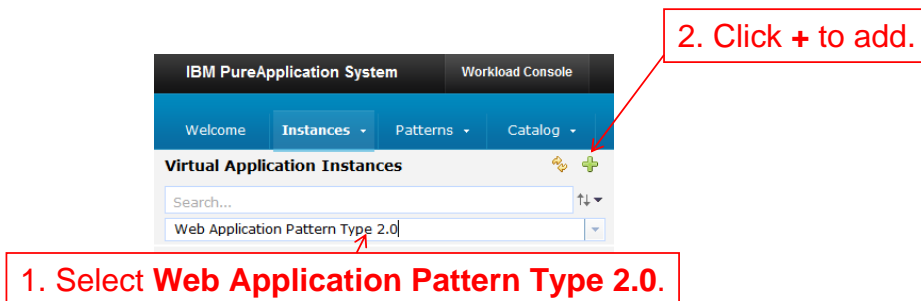
- Before you start to deploy Application Center to PureApplication System, ensure that it is installed.
- The Application Center is part of IBM Worklight Server. You can install it either through IBM Installation Manager or through manual install. For more information, see the IBM Worklight user documentation.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

Get App Center EAR

- As of 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 user documentation.

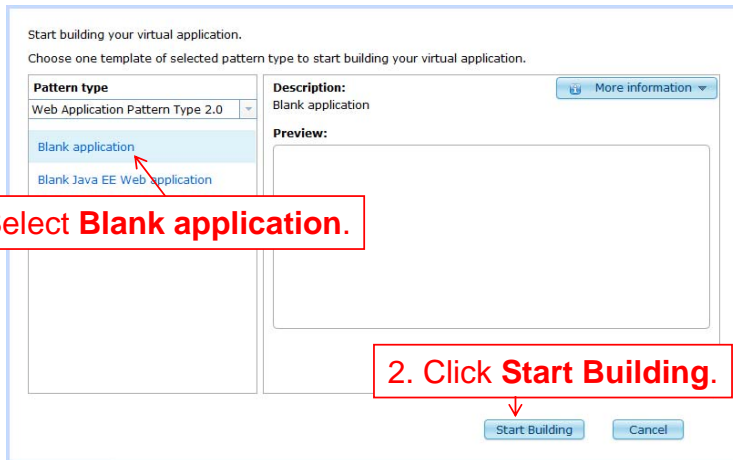
Create Virtual Application Pattern

- Log into PureApplication System
- Go to **Workload Console > Patterns > Virtual Applications.**
- In the list on the left, select **Web Application Pattern Type 2.0.**
- Click the **+** button.



Create Virtual Application Pattern – cont'd

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



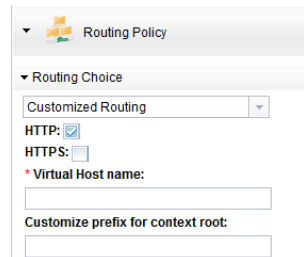
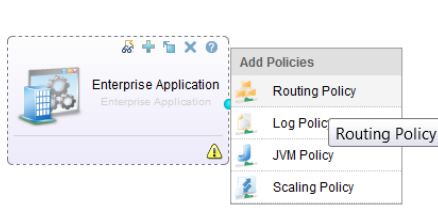
Add a Enterprise Application Component

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

The screenshot shows the IBM PureApplication System - Virtual Application Builder interface. The main window is titled "untitled*" and shows a diagram area with a button "Add policy for application". In the center of the diagram area, an "Enterprise Application" component is being dragged, indicated by a red box and the text "1. Drag and Drop a WAS Component." Below the diagram area, a red box contains the text "2. Specify the EAR file." pointing to the "Enterprise Application" component in the Assets pane on the left. The Assets pane shows a list of components, with "Enterprise Application" selected. The right-hand pane shows the properties for the selected component, including fields for "Name" (Enterprise Application) and "EAR file" (artifacts/appcenter.ear). The "EAR file" field has "Edit" and "Delete" buttons next to it. Below the "EAR file" field, there are several other properties: "Total transaction lifetime timeout (seconds): 120", "Async response timeout (seconds): 120", and "Client inactivity timeout (seconds): 60".

Add 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**.



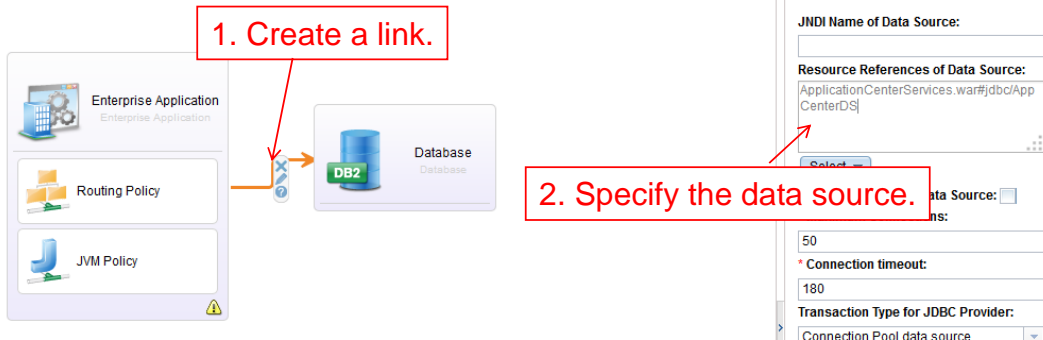
Add a Database Component

- 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.

The screenshot illustrates the steps to add a database component in the IBM Worklight console. On the left, the 'Assets' pane shows the 'Database Components' folder expanded, with 'Database DB2' selected. A red arrow points from this selection to the main workspace. In the workspace, a diagram shows an 'Enterprise Application' component connected to 'Routing Policy' and 'JVM Policy' components. A 'Database' component is being added to the diagram. A red box with the text '1. Drag a DB2 component.' points to the 'Database' component in the diagram. On the right, the 'Properties' panel for the 'Database' component is shown. A red box with the text '2. Specify the Schema file.' points to the 'Schema file' field, which is set to 'artifacts/create-appce'. The 'Name' field is set to 'Departmental Transactional' and the 'Description' field contains text about OLTP databases.

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.

1. Drag a User Registry component.

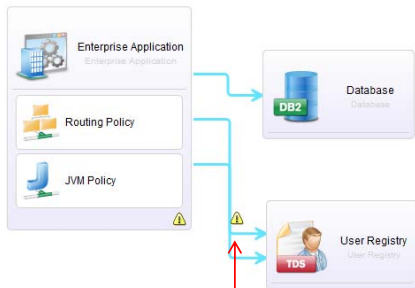
2. Specify the values of the Base DN and LDIF file fields.

The configuration pane on the right shows the following fields:

- Base DN:** o=acme.cus
- LDIF file:** artifacts/ldap-counter [Edit] [Delete]
- Custom schema file:** [Edit]
- Admin DN password:** [New password] [Verify password]
- Instance password:** [New password] [Verify password]
- User filter:** (objectclass=ePerson)
- Group filter:** (/!objectclass=groupoNameVnbiactra)

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:
appcenteruser

User role mapping:
[]

Group role mapping:
[]

* Mapping special subjects:
 None
 AllAuthenticatedUsers
 Everyone

2. Specify the Role name.

Enterprise Application → User Registry

Enterprise Application → User Registry

* Role name:
appcenteradmin

User role mapping:
[]

Group role mapping:
[]

* Mapping special subjects:
 None
 AllAuthenticatedUsers
 Everyone

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**.

Virtual Application

* **Name:**

Description:

Virtual Application Patterns

Search...

Web Application Pattern Type 2.0

- Sample Java EE Web application
- Sample Secured Java EE Web application
- Sample WAR EAR Web Services
- Sample Web application only
- untitled
- Worklight App Center
- Worklight Application Center**

Worklight Application Center

Deploy Open Export Delete Clone

Application ID: a-577d7e1c-c71f-4d72-9aa6-df057bdef05

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]

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