



# Installing and Configuring IBM MobileFirst Platform on Linux for z Systems

*Matthew Cousens*

*Thursday, August 13, 2015*

*10:00 AM-11:00 AM*

*Session 17267*



#SHAREorg



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# Meet the zPET Mobilization Team



Torin Reilly



Max Bender

- Max and Torin joined the IBM zPET team in January 2015 while Sophomores at Marist College. Working only part-time, they were able to quickly prototype mobile workloads. We are currently moving our first prototype to production.

# Agenda

- z/OS Platform Evaluation Test (zPET) introduction
  - Mission
  - Environment
  - Mobile challenge
- MobileFirst Server prereqs
- MobileFirst Server TEST Installation
  - WebSphere Liberty profile
  - Apache Derby
  - Deploying application
- MobileFirst Server PRODUCTION
  - WebSphere Application Server
  - DB2

# z/OS Platform Evaluation Test (zPET)

- Mission
  - Perform integration testing of z/OS and z/HW
  - Recreate field issues, assist with critsits, etc.
- Hardware
  - Approx. 175,000 MIPS
  - 3 generations of z/HW (z13, zEC12, z196)
- Logical
  - (up to) 32-way parallel sysplex

# z/OS Platform Evaluation Test (zPET)

- Middleware
  - 86 IBM products outside z/OS BCP
  - Subsystems: CICS, IMS, DB2, MQ, WAS, IIDER
  - Operations: System Automations, NetView, TWS, GDPS
- Workloads
  - 88 test applications
  - Designed to match client user flows, in some cases with direct input from IBM clients
- Mobile
  - MobileFirst workloads
  - Currently deploying to production

# Mobile challenge

- How do we include mobile flows in our test environment?
  - Need a scalable, automated solution to fit
- How are mobile flows different from other flows?
  - The back-end system of record is the same
  - Is the transaction mix different?
    - Read/Write
    - Search/Update
- Solution
  - Implement MobileFirst Platform to drive CICS, IMS, DB2, WAS, MQ, etc. via simulated mobile devices

**Well, we think we know how we're going to do this  
.... now we need to build a Server**



# MobileFirst Server Prereqs

- MobileFirst server requires an application server and a database management system. There are several supported configurations.
- Application Server
  - WebSphere Application Server Liberty Core
  - WebSphere Application Server
  - Apache Tomcat
- Database Management System
  - IBM DB2
  - MySQL
  - Oracle
  - Apache Derby (not for production use)

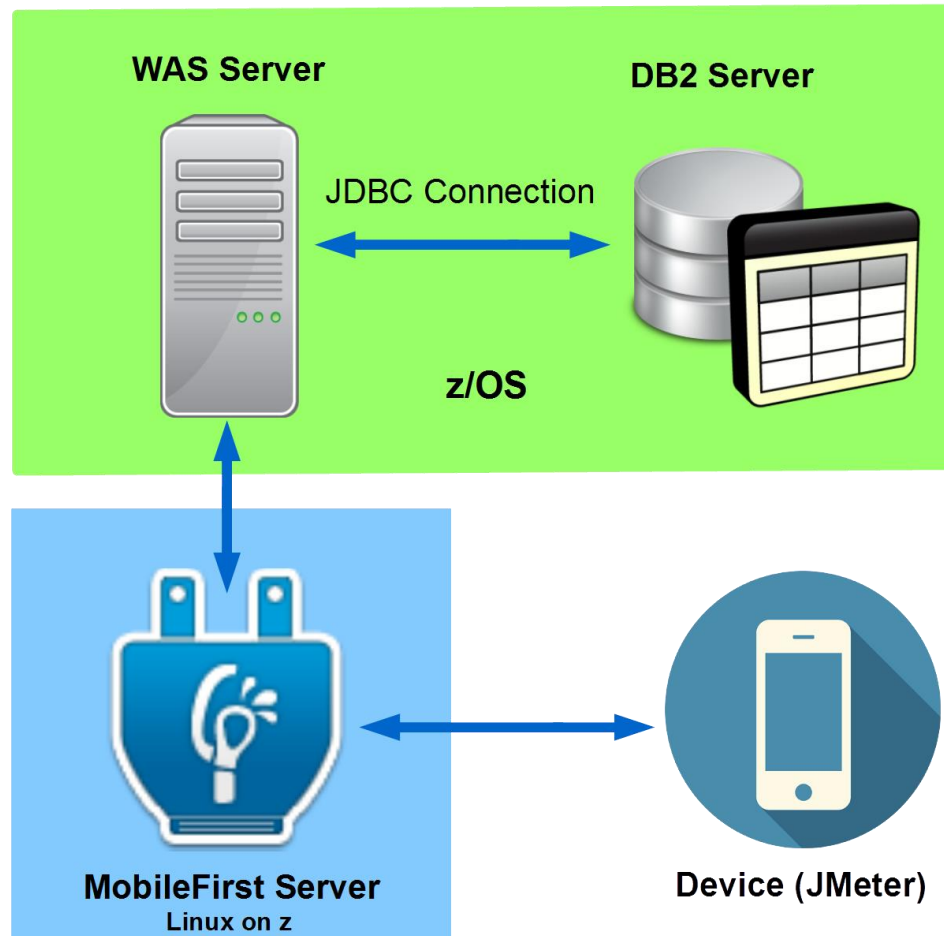
[http://www-01.ibm.com/support/knowledgecenter/SSHS8R\\_7.0.0/com.ibm.worklight.installconfig.doc/admin/c\\_installation\\_prerequisites.html](http://www-01.ibm.com/support/knowledgecenter/SSHS8R_7.0.0/com.ibm.worklight.installconfig.doc/admin/c_installation_prerequisites.html)

# What's the fastest implementation we can put together for TEST?

Complete your session evaluations online at [www.SHARE.org/Orlando-Eval](http://www.SHARE.org/Orlando-Eval)

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# Mobile Application Architecture



# Installing Liberty ... I mean Installation Manager

\*Note\* Installing all products from command line

- Download and extract Liberty installable files
- What do I do with this?
- Ah .. I need Installation Manager
- Download and extract Installation Manager
  - Also Known As IBM Enterprise Deployment
- Install in Console Mode .... Done!

[https://www-01.ibm.com/support/knowledgecenter/SSD28V\\_8.5.5/com.ibm.websphere.wlp.core.doc/ae/twlp\\_inst\\_im.html](https://www-01.ibm.com/support/knowledgecenter/SSD28V_8.5.5/com.ibm.websphere.wlp.core.doc/ae/twlp_inst_im.html)  
[http://www-01.ibm.com/support/knowledgecenter/SSDV2W\\_1.8.2/com.ibm.cic.uaccommon.nav.doc/topics/c\\_node\\_installing.html](http://www-01.ibm.com/support/knowledgecenter/SSDV2W_1.8.2/com.ibm.cic.uaccommon.nav.doc/topics/c_node_installing.html)

# Installing Liberty

- Start Installation Manager in Console Mode
- Add extracted WAS Liberty installable as Installation Manager repository
- Follow install prompts
  - Basically, your standard Installation Manager install
- Our TEST environment used Apache Derby for the DBMS
  - No install .. Extract and go
  - Database created by running MobileFirst installation scripts
  - <https://db.apache.org/derby/>

# Installing MobileFirst

- MobileFirst installation does not support console mode
- Must use Installation Manager response files in silent mode
  - Different sample file for each combination of app server/DBMS
- Download and modify sample response files
- Result from Installation Manager:

```
<?xml version='1.0' encoding='UTF-8'?>  
<result/>
```

I guess that's good

[http://www-01.ibm.com/support/knowledgecenter/SSHS8R\\_7.0.0/com.ibm.worklight.installconfig.doc/admin/c\\_silent\\_installation\\_working\\_with\\_sample\\_response\\_files.html](http://www-01.ibm.com/support/knowledgecenter/SSHS8R_7.0.0/com.ibm.worklight.installconfig.doc/admin/c_silent_installation_working_with_sample_response_files.html)

# Installation Frustrations

- “Hidden” prereqs like Installation Manager
- Product name changes
  - Enterprise Deployment
  - Installation Manager
- Scattered documentation
  - Installation Manager Knowledge Center
  - WAS Liberty Knowledge Center
  - MobileFirst Knowledge Center
- Different installation methods
  - Installation Manager console mode
  - Installation Manager response file

**Now that it's all there, let's try to configure it**



# Configuration Steps

- Database Management System
  - Create databases for administration services, report, and generic MobileFirst
- Application Server
  - Create logical server in Liberty
- MobileFirst
  - Deploy operations console and administration services
- Performed by executing Apache Ant tasks, using samples shipped with MobileFirst Server
  - No install .. Extract and go
  - <http://ant.apache.org/>

# Sample Ant script

- Sample scripts provided
- Modify a couple of lines at the top of the file, then execute:  

```
<property name="worklight.server.install.dir" value="/opt/IBM/MobileFirst_Platform_Server"/>  
  
<property name="database.derby.datadir" value="/opt/derbydb"/>  
  
<property name="database.derby.wladmin.dbname" value="WLADMIN"/>
```

- Contain a “help” target to explain what to run:

This ant project file can be used in the following ways:

```
ant -f configure-liberty-derby.xml admatabases
```

Configures the databases for use with a MobileFirst  
Administration Services component

# Configuration observations

- Surprisingly straightforward
- Great usability via provided sample scripts
- Samples sometimes difficult to locate (or remember where they are when you look for them again)
  - Some are shipped as files under MobileFirst installation directory
  - Some are downloaded from Knowledge Center

# Deploying applications, applications, and adapters

Yes, applications twice

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# Three parts to a deployment

- Three parts and two destinations:
- Application Server
  - WAR file from MobileFirst Studio
    - In WAS terms, this is an Application
  - Again, Ant sample can be used to do this
- MobileFirst Operations Console
  - MobileFirst applications (\*.wlapp)
  - MobileFirst adapters (\*.adapter)

# MobileFirst Operations Console

## IBM MobileFirst Platform Operations Console

Hello, admin | [Sign out](#) | [About](#)

Home > egui



### egui runtime environment

Click a link to manage specific areas of this runtime environment



### Deploy Application or Adapter

Select a file with the ".wlapp" or ".adapter" extension

**SELECT FILE**

**Applications (1)**

**Adapters (3)**

**Devices (0)**

**Push Notifications**

**Client Log Profiles**

**Error Log**

**License Tracking**

**Download Audit Log**

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# Configuring WebSphere Application Server (T-WAS) is easier ... but slower

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# Deploying in T-WAS

- Web-based panels (Administration Console) replace Ant tasks for deploying WAR file
- Exact interaction with these panels well-documented in MobileFirst KnowledgeCenter
- Click .. Click ... Click ...

[http://www-01.ibm.com/support/knowledgecenter/SSHS8R\\_7.0.0/com.ibm.worklight.deploy.doc/admin/t\\_configuring\\_websphere\\_application\\_server\\_manually.html](http://www-01.ibm.com/support/knowledgecenter/SSHS8R_7.0.0/com.ibm.worklight.deploy.doc/admin/t_configuring_websphere_application_server_manually.html)



# WebSphere Application Server Observations



- Because T-WAS is more interactive, takes longer to complete, etc. it has protected me from me much better.
  - I have perfected the Liberty install because I have broken things on more than one occasion

# Future Mobile Considerations

- Infrastructure
  - WebSphere Liberty z/OS Connect
  - MobileFirst in the cloud via BlueMix
  - Highly-available Mobile First Server implementation
  - Create maintenance/service procedures

These are Matt's thoughts. They do not represent any commitments, and I haven't discussed all items with my team ... although I expect to hear from them once they read this. ;>

# Additional details

- Additional details are available on zPET's developerWorks blog:

<https://www.ibm.com/developerworks/community/groups/community/zpet>

- Installation commands and output
- How we are driving virtual devices
- Future
  - Configuration steps during MobileFirst Server installation
  - Installing and configuring DB2 Workgroup Server Edition

# Questions



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