Mobile Anwendungs Transformation für z/VSE

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Prognose für das Bezahlen Morgen

Das bleibt...

Bargeld und klassische Nutzung von Kredit- und Debitkarten

Aktuelle Neuerungen...

Kontaktloses Bezahlen am Terminal mit Karte und Handy, Nutzung QR-Codes

Was kommt noch?

Andere Geräte: Uhren, Brillen,...?

Next Generation Bill Pay

For Private Banks & Trusts

Purpose built bill pay solutions.

Balance gives you the ability to connect with any US based checking account to pay any US bill. With Balance, you can scan and upload bills and set different payment rules and requirements related to payments. Provide access to multiple parties to make payments, approve bills and view documents.

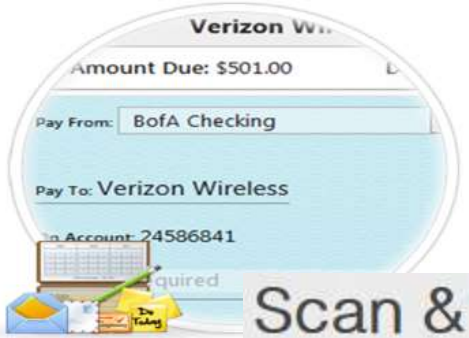


Photo Bill Pay & File

With the Balance iPhone app, client payments and file documents. They service professional such as a trust account. Use the photo bill pay pho organized and help clients better ma

Scan & Pay

It can be a hazzle to pay bills online, when you need to type in various payment details on your smartphone. Why not just scan the bill with your built-in camera on your mobile phone and pay, when you want?

An easy and well-proven solution

Trifork Scan & Pay is an intuitive solution which easily fits into your current mobile banking application or can be implemented as a feature into a new mobile banking solution. It's a well-

What about the mainframe?

The mainframe…

- Home to business critical applications and data

- How do we bridge the gap?

System z - Bridge Systems of Record and Systems of Engagement

Systems of Engagement

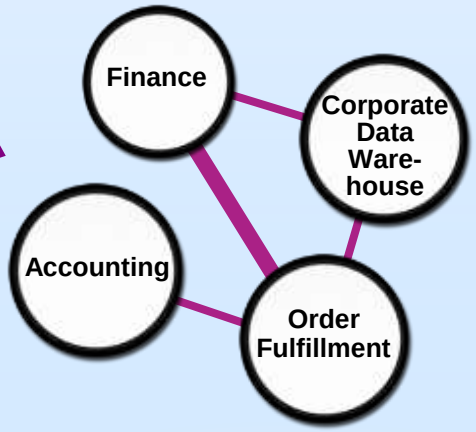
Systems of Engagement are cloud-based, decentralized, support rapid app development

Systems of Record

Systems of Record are well integrated, trusted repositories

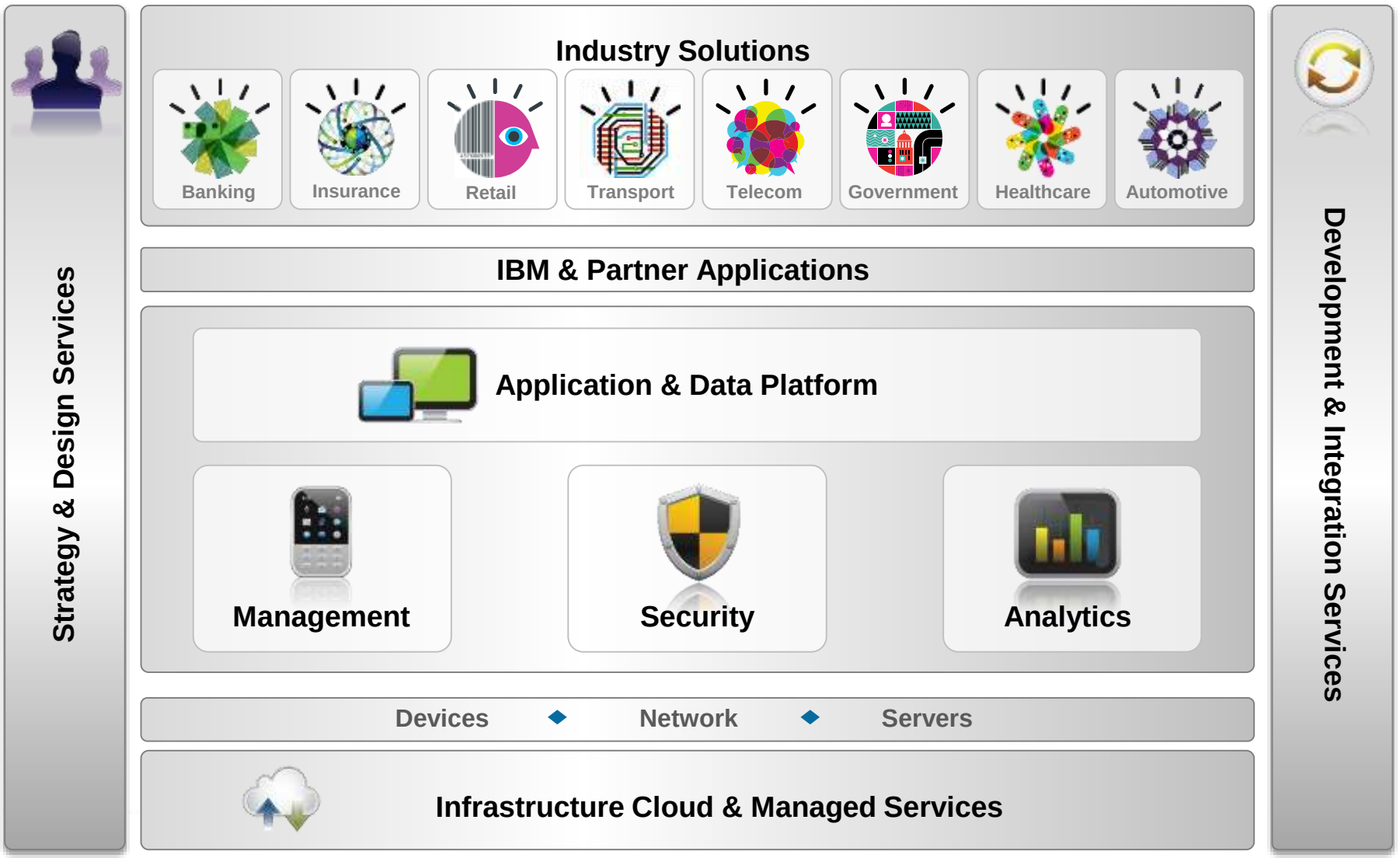
Existing Web Apps

Mobile Apps



IBM positioning to solve the Mobilizing challenges

MobileFirst Platform – An Enterprise Blueprint



Multi-tier Mobile Apps - Specific Challenges

Client Tier Devices

Middle Tier Server

Back-end Data & Services

Mobile-specific challenges:

- ✓ Lots of device targets
- ✓ Provisioning rules and artifacts
- ✓ Curated App Stores
- ✓ Dependent upon backend service versions

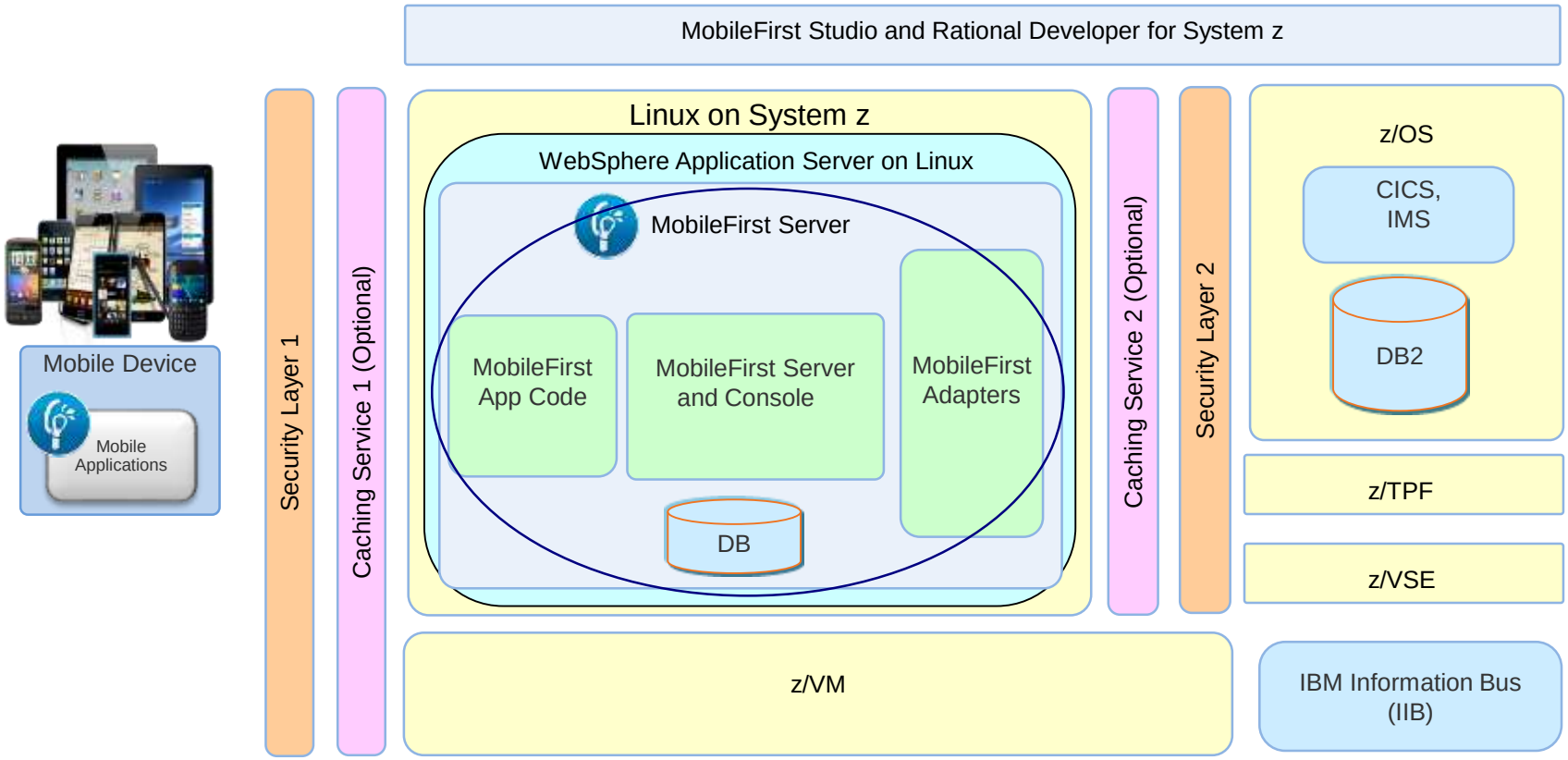
The Mobile-specific challenges are mainly:

1.Dealing with the **specific issues in the Mobile Client tier**

2.And subsequently **coordinating separate pipelines** for each tier:

- **Mobile Client**
- Middleware
- Back-end data and services

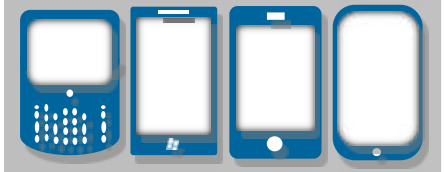
Mobile Architecture Overview for System z



MobileFirst overview

MobileFirst Studio
The most complete, extensible environment with maximum code reuse and per-device optimization

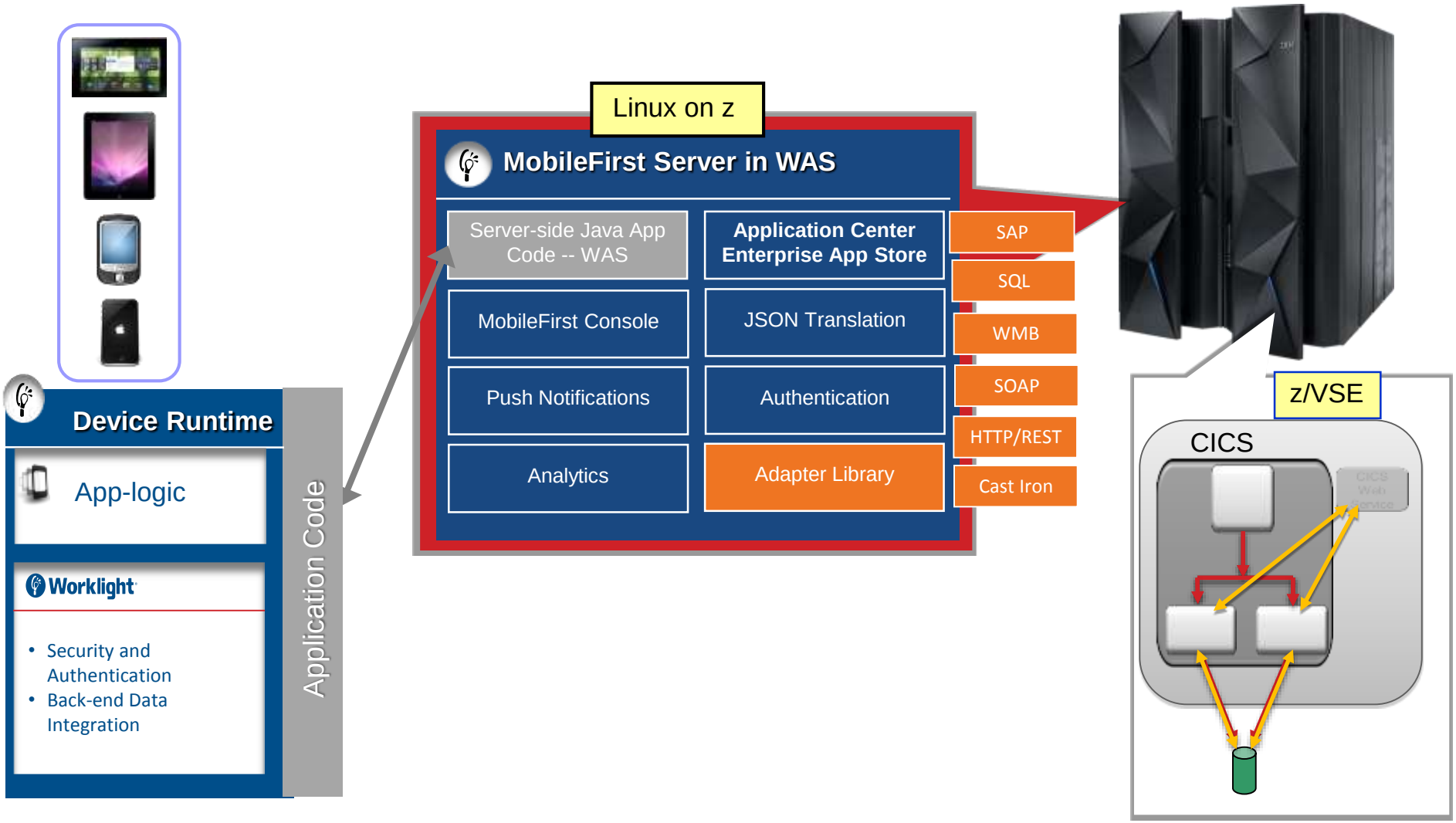
MobileFirst Server
Unified notifications, runtime skins, version management, security, integration and delivery



MobileFirst Runtime Components
Extensive libraries and client APIs that expose and interface with native device functionality

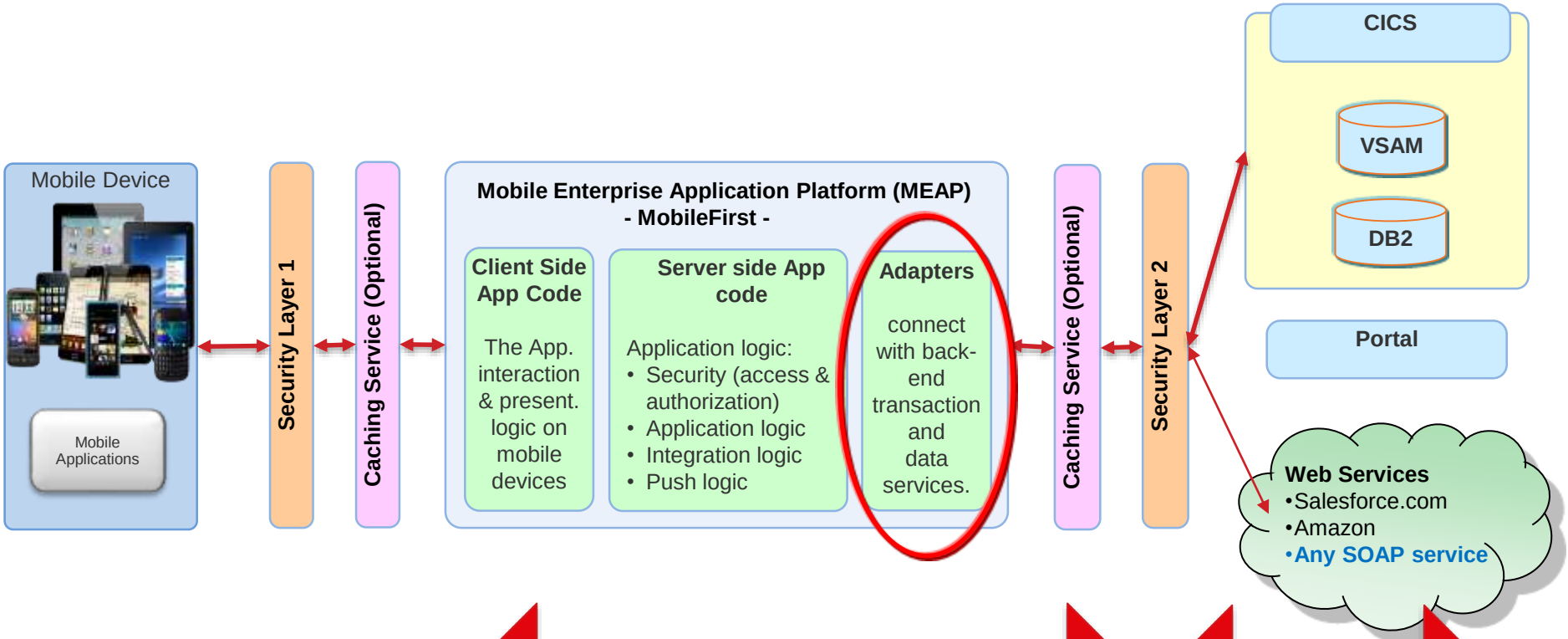
MobileFirst Console
A web-based console for real-time analytics and control of your mobile apps and infrastructure

IBM MobileFirst Server

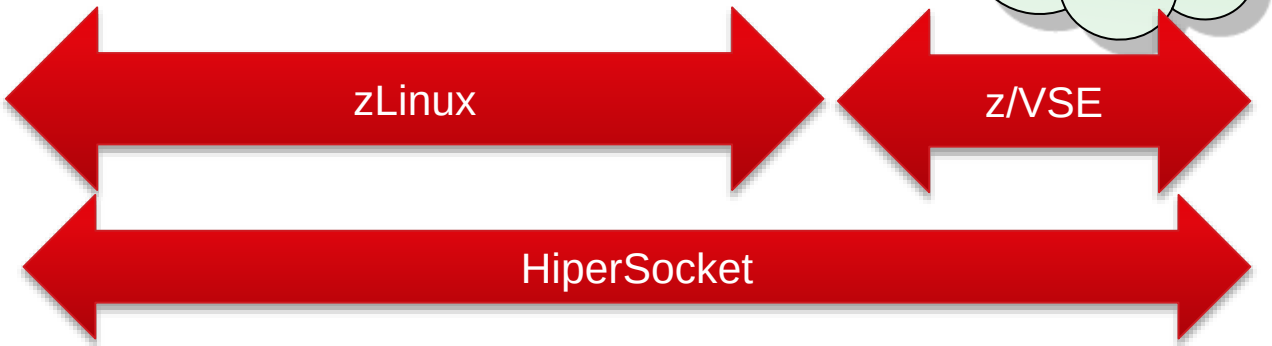


MobileFirst Video: http://www.youtube.com/watch?feature=player_embedded&v=zHnFw70XXXo

Mobile application overview diagram

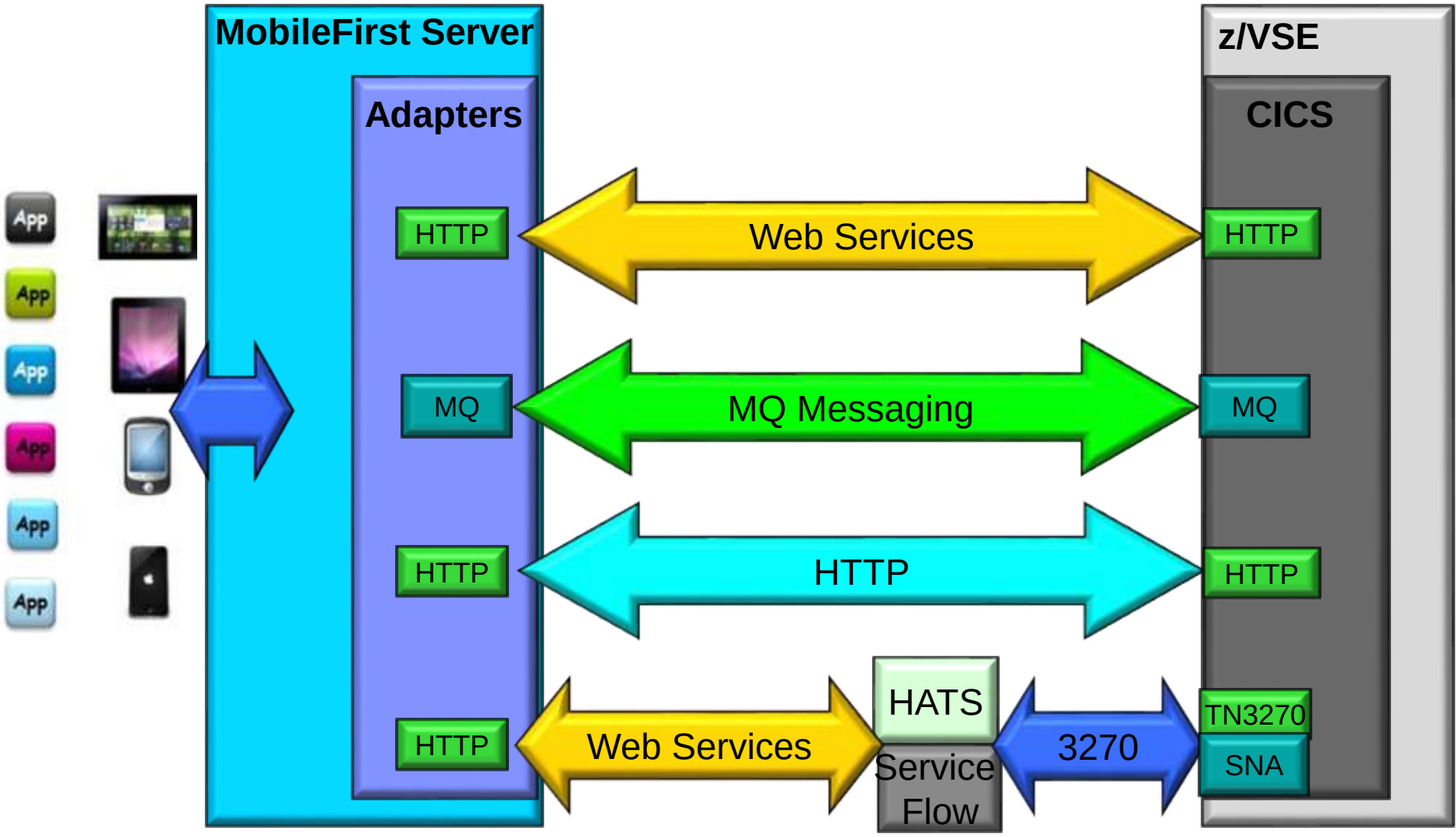


A mobile application needs end-to-end consideration for:
- Transactional integrity
- Data integrity
- Security

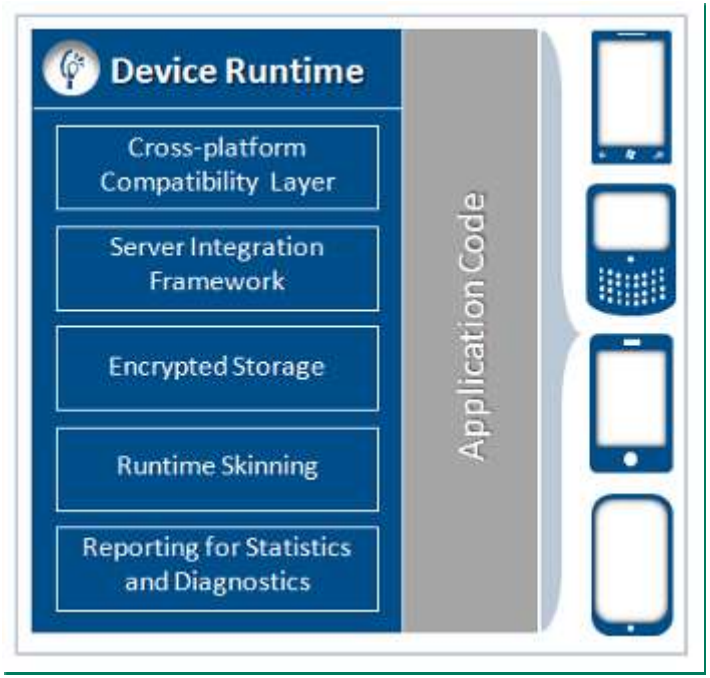


Mobile application integration is realized with MobileFirst Adapters

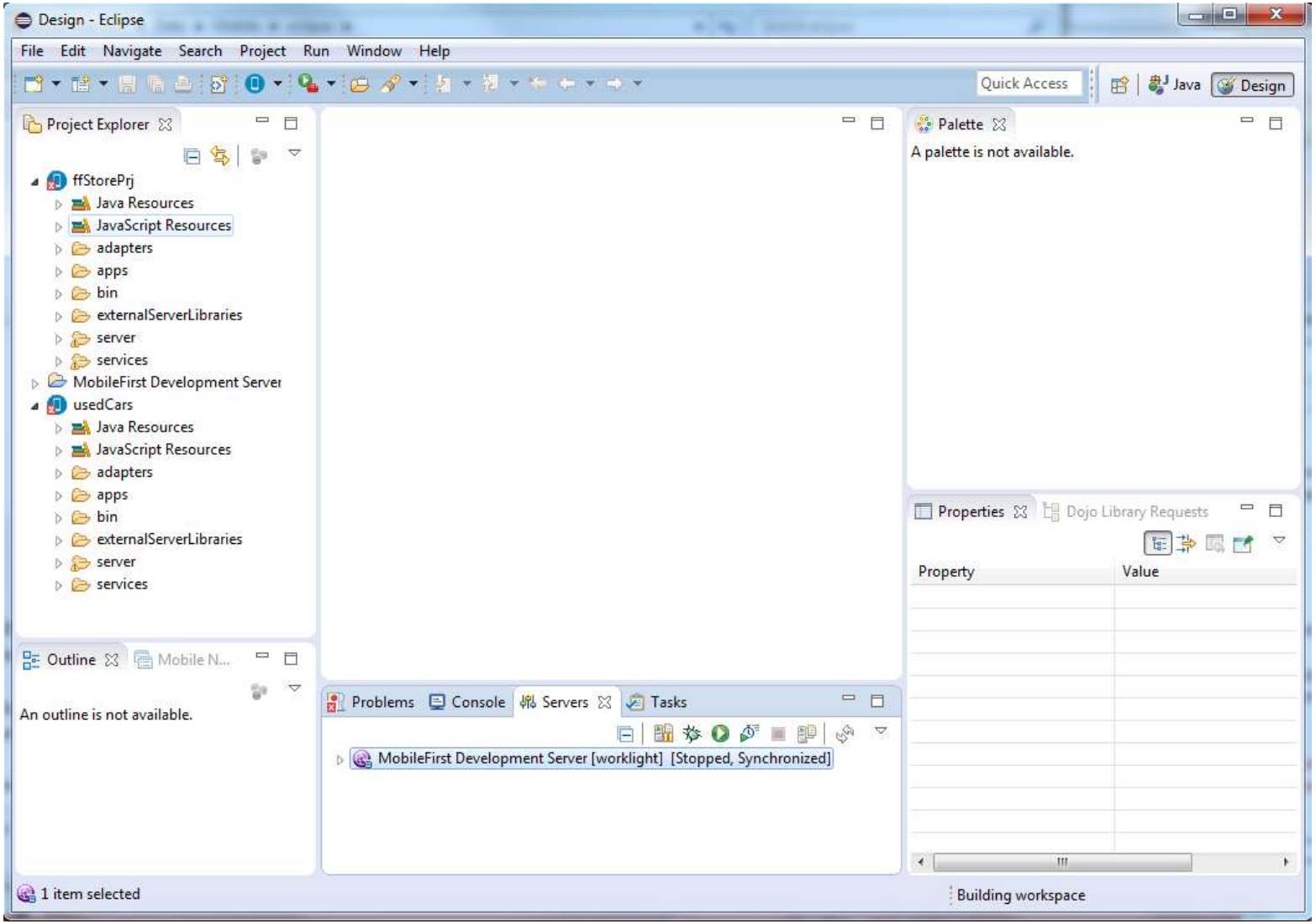
CICS Connectivity Options with MobileFirst



IBM MobileFirst Studio & Device Runtime



Eclipse based mobile **Integrated Development Environment (IDE)**



RDz with MobileFirst Studio a complete set of System z and Mobile Development capabilities (z/VSE Plug-In required)

Integration with Team Concert for Lifecycle and Source Management

- Built on Eclipse
- Common tool set for end to end development
- Build, preview, and deploy within the IDE
- Mobile simulator (for unit test)
- End-to-end debug
- Integrate with third-party SDKs (e.g. Android Development Tools)

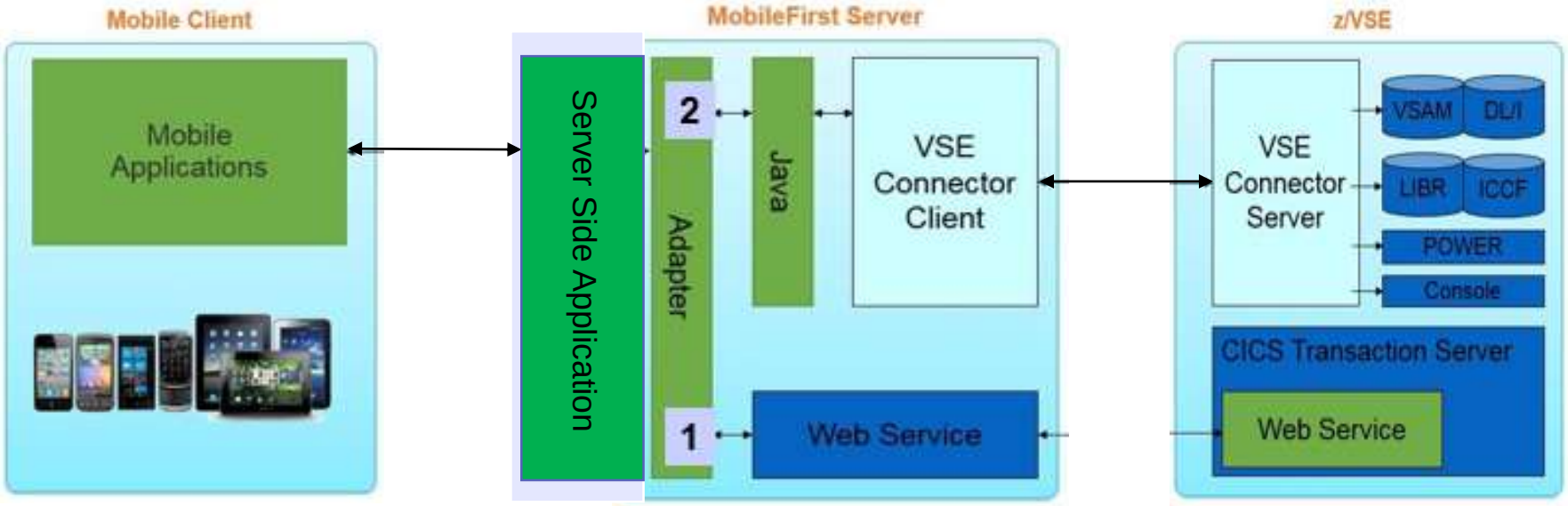
Access to typical System z sub-system functionality in, CICS, IMS, DB2, WAS

Robust Mobile Development in conjunction with MobileFirst

Integration with Fault Analyzer for Dump Analysis

Integration with Asset Analyzer for Application Understanding and Impact Analysis

z/VSE and MobileFirst



To start mobile development with z/VSE, you need to have the following applications:

- The **IBM MobileFirst Platform Developer Edition**
- The **z/VSE Connector Client**
- The **z/VSE Connector Server** (part of VSE/ESA 2.5 and later releases)

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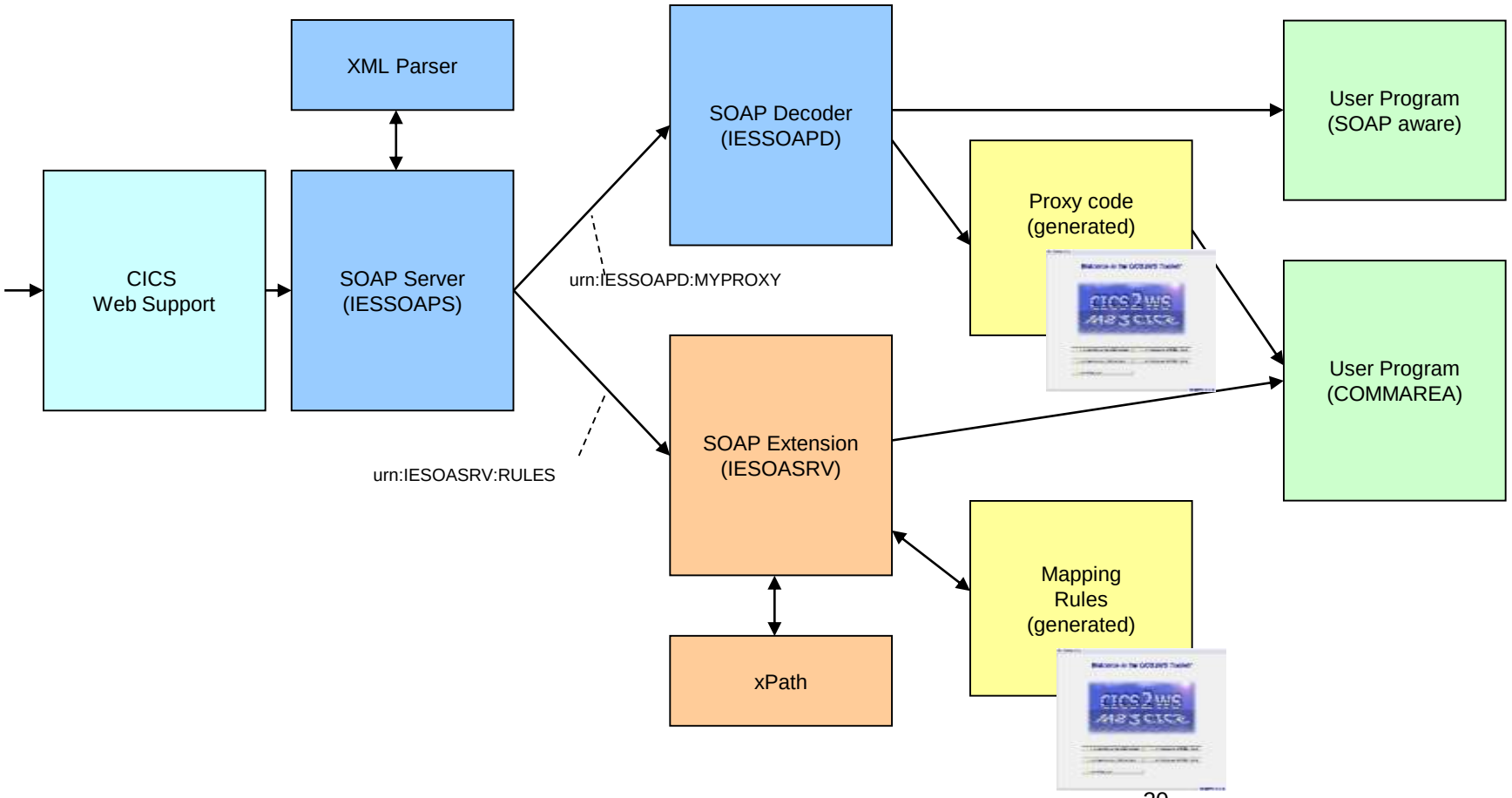
1) Web Services in z/VSE



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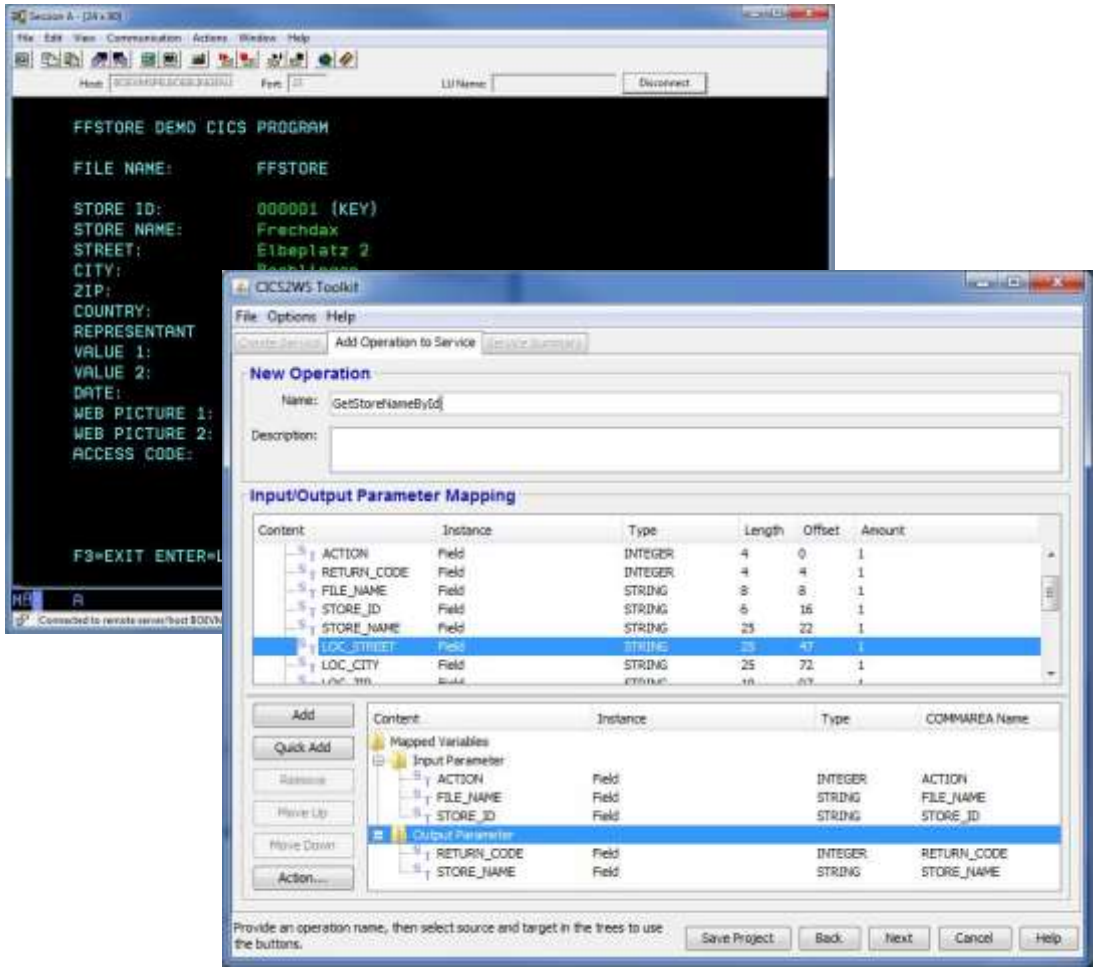
Existing z/VSE application

```
03 FSTIO-MAP.
   05 ACTION              PIC 9(8) COMP.
   05 RETURN-CODE         PIC 9(8) COMP.
   05 FILE-NAME           PIC X(8).
   05 STORE-ID            PIC X(6).
   05 STORE-NAME          PIC X(25).
   05 LOC-STREET          PIC X(25).
   05 LOC-CITY            PIC X(25).
   05 LOC-ZIP             PIC X(10).
   05 LOC-COUNTRY         PIC X(25).
   05 LOC-REP             PIC X(20).
   05 VAL1                PIC 9(8) COMP.
   05 VAL2                PIC 9(8) COMP.
   05 DATE                PIC X(10).
   05 WEB-PIC1            PIC X(20).
   05 WEB-PIC2            PIC X(20).
   05 A-CODE              PIC X(10).
   05 FILLER              PIC X(6).
```



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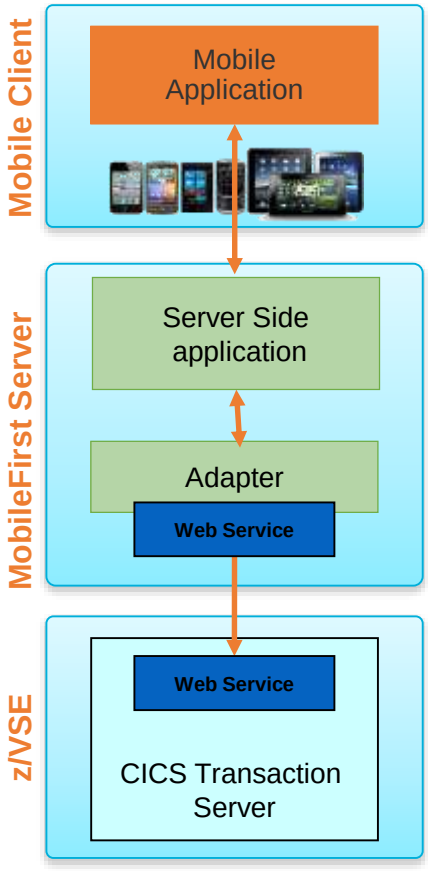
Web Services for mobile



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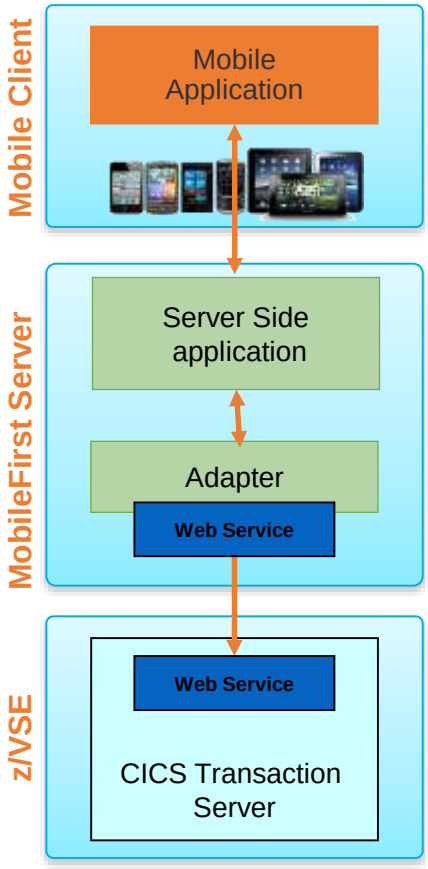
Web Services for mobile



- Create a project
- Create an adapter
  - SOAP adapter
  - Pure HTTP adapter

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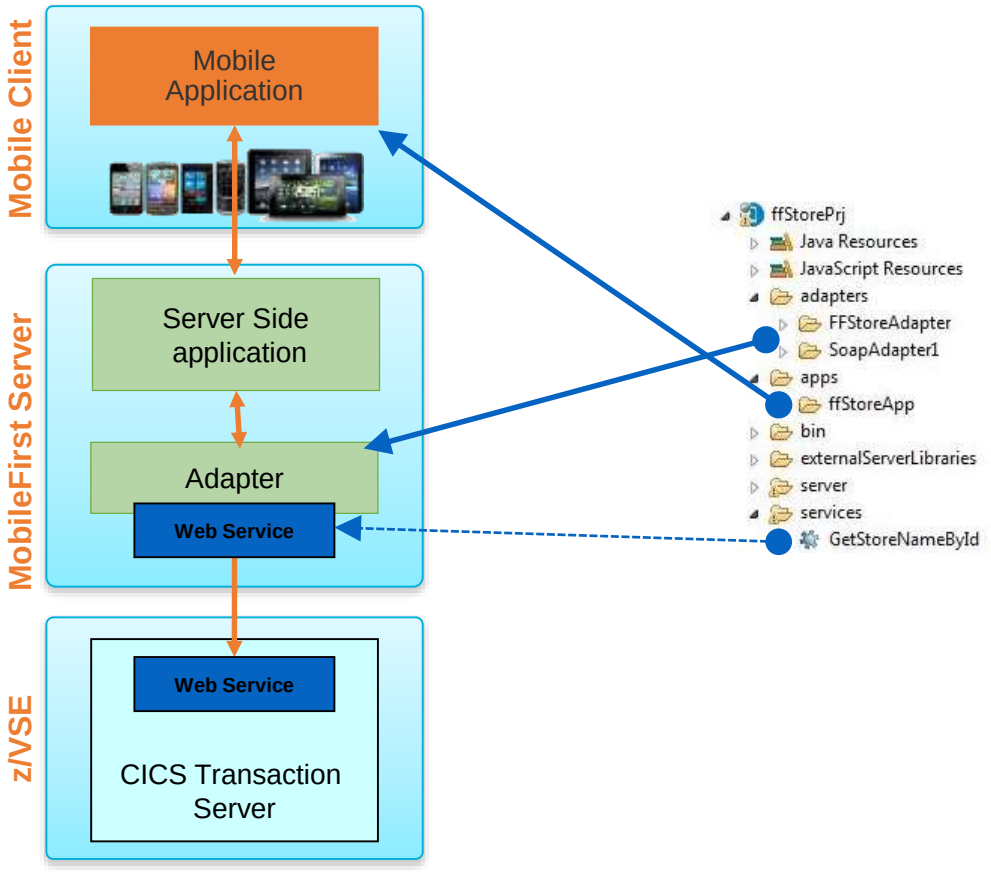
Web Services for mobile



- Create a project
- Create an adapter
  - SOAP adapter
  - Pure HTTP adapter

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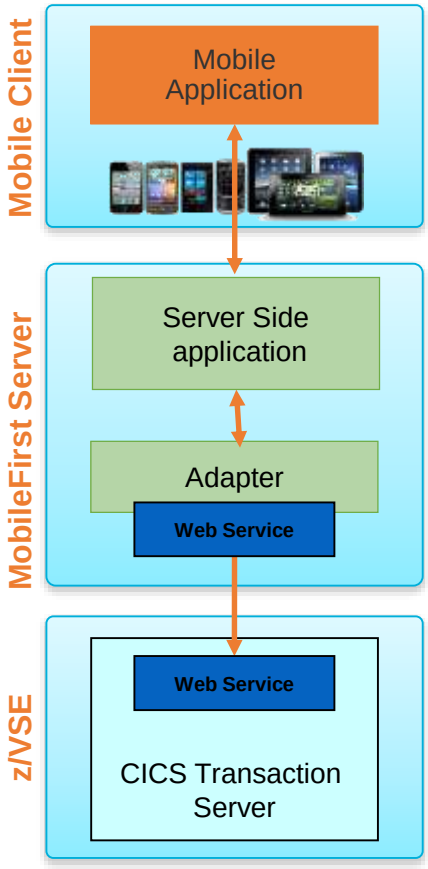
Web Services: create adapter



1. <*your project name*> → services → "Discover Back end "

2. <*your project name*> → adapters → New → MobileFirst Adapter

   MobileFirst will automatically create a simple adapter for you. You need to change files:
   - <*your project name*> → adapters → <*your adapter name*>.xml
   - <*your project name*> → adapters → <*your adapter name*>-impl.xml

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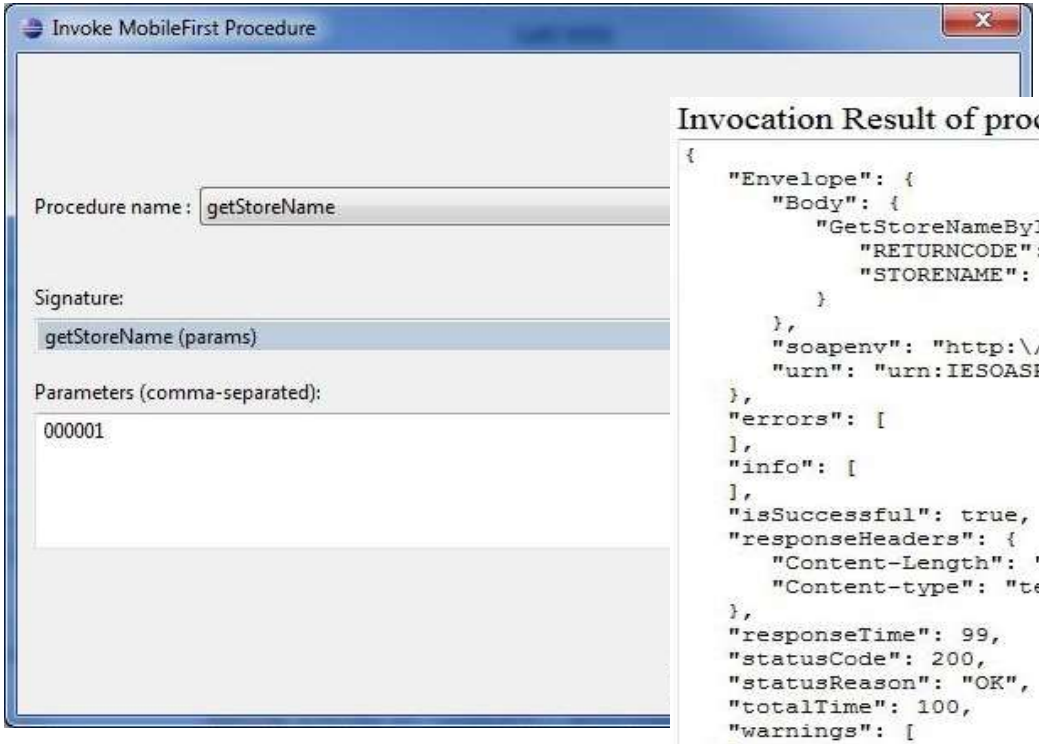
Web Services: test adapter

<*your adapter name*> → Run As → Invoke MobileFirst Procedure



Invocation Result of procedure: 'getStoreName' from the MobileFirst Server:


```
{
   "Envelope": {
      "Body": {
         "GetStoreNameByIdResponse": {
            "RETURNCODE": "0",
            "STORENAME": "Frechdax"
         }
      },
      "soapenv": "http:\/\/schemas.xmlsoap.org\/soap\/envelope\/",
      "urn": "urn:IESOASRV:FFSTRL"
   },
   "errors": [
   ],
   "info": [
   ],
   "isSuccessful": true,
   "responseHeaders": {
      "Content-Length": "00000292",
      "Content-type": "text\/xml; charset=utf-8"
   },
   "responseTime": 99,
   "statusCode": 200,
   "statusReason": "OK",
   "totalTime": 100,
   "warnings": [
   ]
}
```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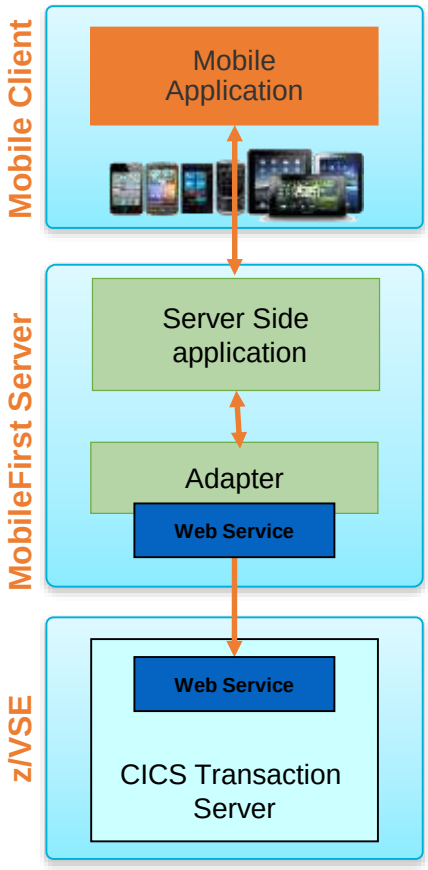
Web Services: create mobile application



User Interface

<your project name> → apps → *<your app name>* → common → **index.html**

```
<div data-role="content" style="padding: 15px">
    <!--application UI goes here-->
    <label for="text">Type Store ID:</label> <input type="number" name="storeID" id="storeID" value="00001">
    <a href="#" data-role="button" onclick="getStoreNameById();" id="button" data-icon="forward">Get Store Name</a>
    <label id="storeName">Result:</label>
</div>
```

Logic

<your project name> → apps → *<your app name>* → common → js → **main.js**

```
function getStoreNameById( ){

    // Get input parameters
    var storeId = document.getElementById('storeID').value;

    // Predefine adapter data
    var invocationData = {
            adapter : 'FFStoreAdapter',
            procedure : 'getStoreName',
            parameters : [storeId]
        };

    // Call adapter and show results
    WL.Client.invokeProcedure(invocationData,{
        onSuccess : showResultSuccess,
        onFailure : showResultFailure
    });
}
```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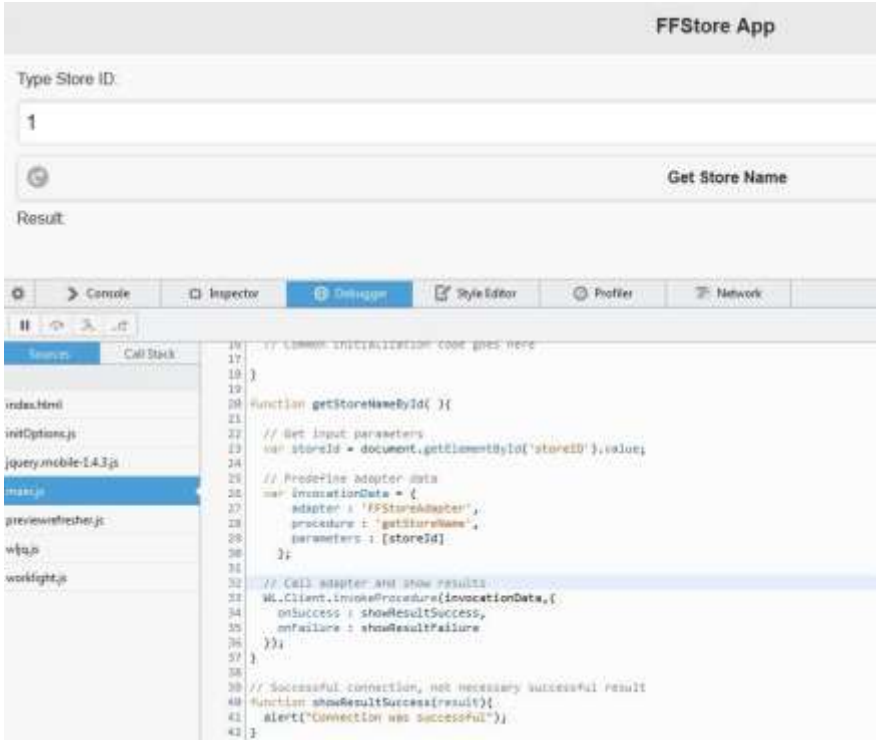
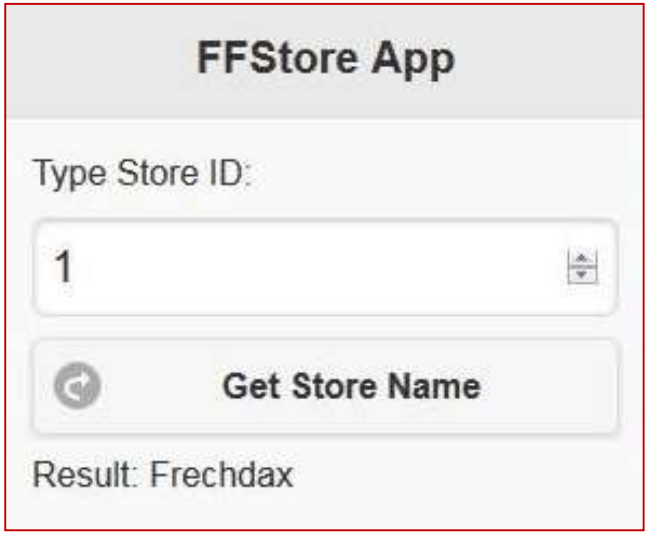
Web Services: test and debug

<your mobile app name> → Run As →

Run on MobileFirst Development Server

<your mobile app name> → Run As → Preview





2) z/VSE Connectors for Mobile

Skeleton in lib 59: SKVSSAMP

Export of a VSAM data in HTML format

Catalog: VSESP.USER.CATALOG
Cluster: VSAM.CONN.SAMPLE.DATA
Map: USEDCARS
Number of records: 7
Date: 23.12.2014 10:38:23

ARTICLENO	MANUFACTURER	TYPE	MODEL	HP	DISPLACEMENT	CYLINDERS	COLOUR	FEATURES	PRICE
1	Volkswagen	New Beetle	Petro Model	115	2000	4	Red	Sliding Roof	17000
2	Mustang	GT 2	DR CONV	250	4600	8	Black	Smoker's Package	30190
3	Ford	Taurus	SE Station Wagon	200	3000	6	Blue	Appearance Package	23280
4	BMW	compact	316i	102	1600	4	VelvetBlue Metallic	sport edition	20500
5	Mercedes	E220	Avantgarde	160	2300	6	Grey	Navigation System	67000
6	Porsche	Roadster		220	2700	6	Silver	Leather,CD Changer	42300
7	Ford	Escort	ZX2 2 Door Coupe	150	2000	6	White	Sp.Seats,Zetec Eng.	15715

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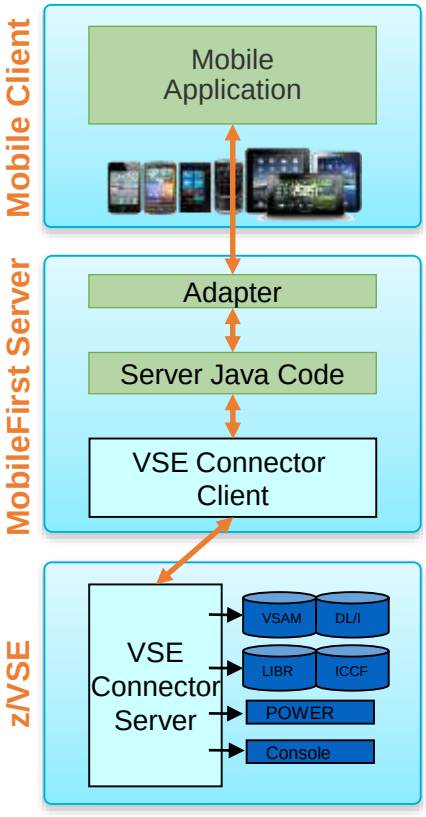
Using Java in MobileFirst adapters



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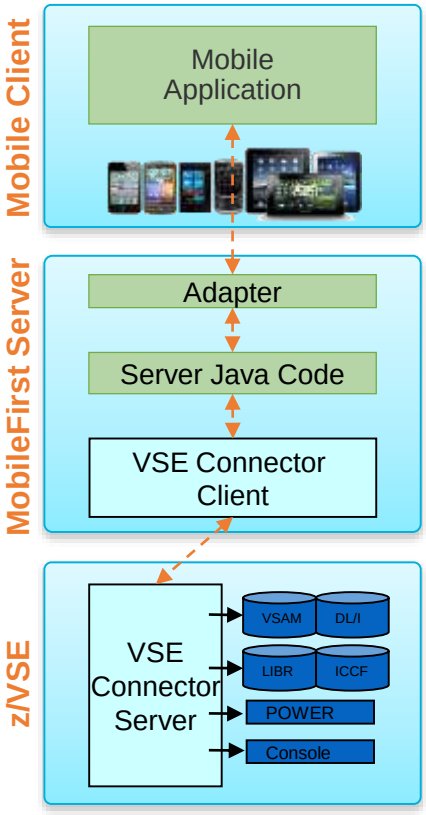
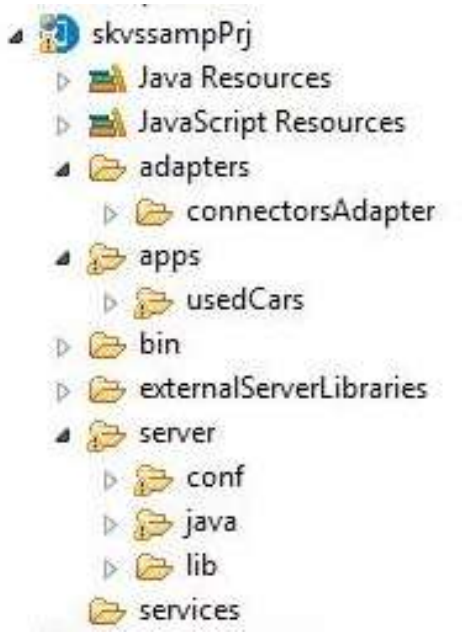
Using Java in MobileFirst adapters





1. Create a project
2. Add *VSEConnector.jar*, *cci.jar*, *ibmjsse.jar*, *ibmpkcs.jar* to your mobile project: copy these libraries to *<your project name> → server → lib*
3. Your java source code for adapter will be located under *<your project name> → server → java*

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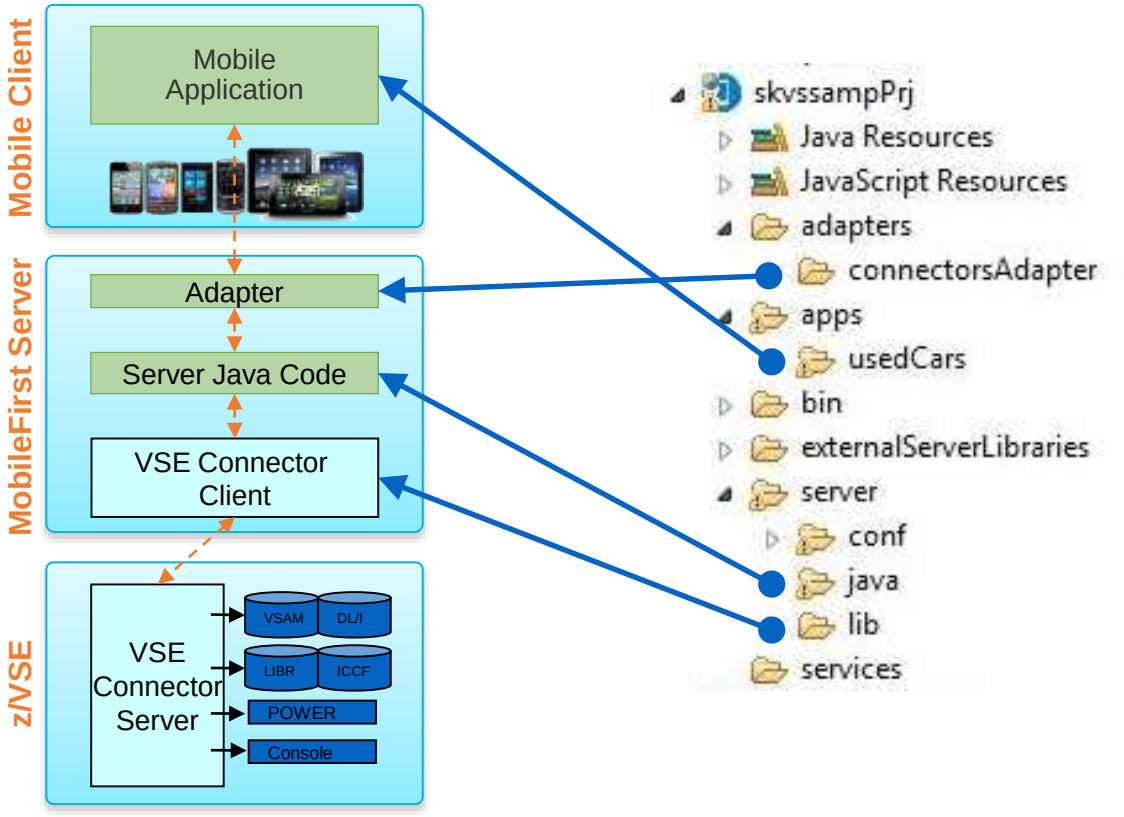
Using Java in MobileFirst adapters



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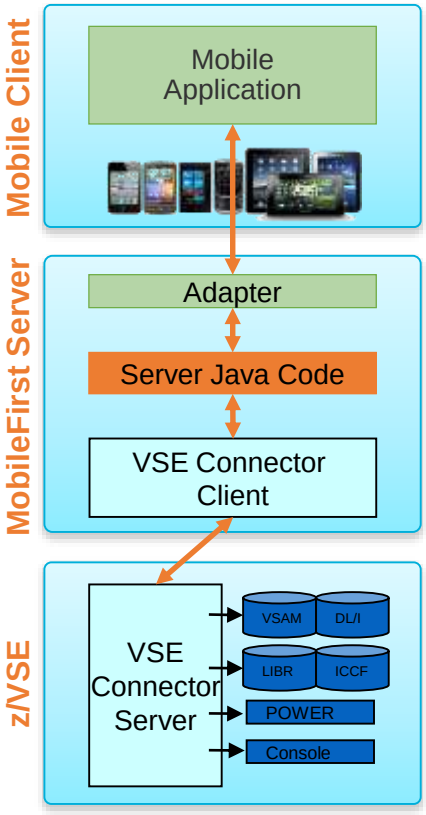
z/VSE Connectors: server Java code



<connector client folder> → samples → com → ibm → vse → samples → VsamDisplayExample.java

<project> → server → java → new Class → ...

Main java file is called *skvssampJava.java* with the predefined package *com.ibm.zvse.adapter*

addNewCar(…), changeCar(…), deleteCar(…), getInfo()

Code sample:
ftp://public.dhe.ibm.com/eserver/zseries/zos/vse/download/skvssampPrj.zip

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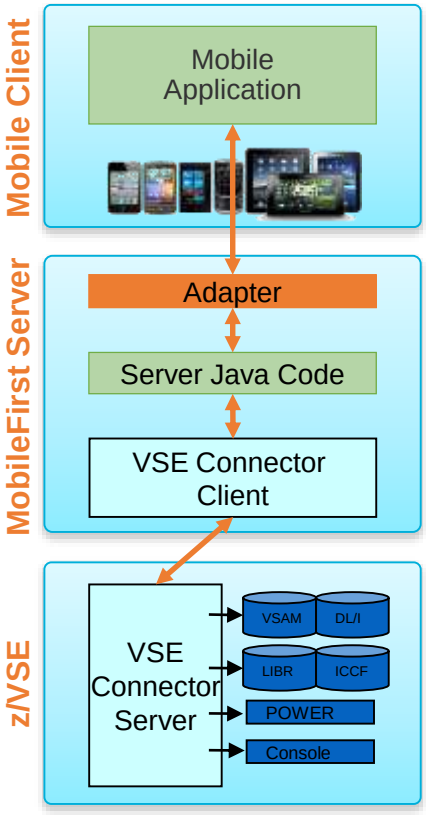
z/VSE Connectors: create adapter



Create a HTTP adapter

- *<your adapter name>.xml* − change connetivity
- *<your adapter name>-impl.js* − change logic

```
function getInfo() {
    var ccInstance = new com.ibm.zvse.adapter.skvssampJava();
    return {
        result: ccInstance.getInfo( )
    };
}
```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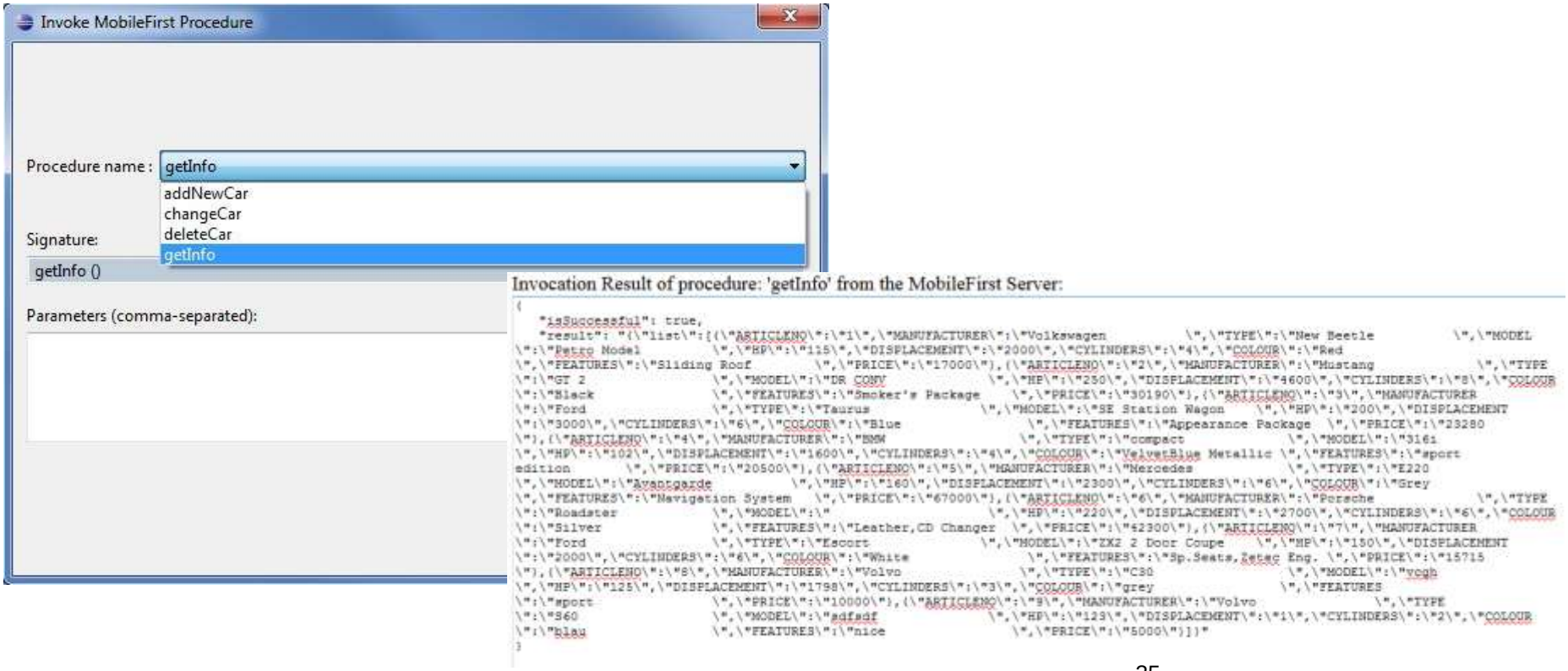
z/VSE Connectors: test adapter

<*your adapter name*> → Run As → Invoke MobileFirst Procedure



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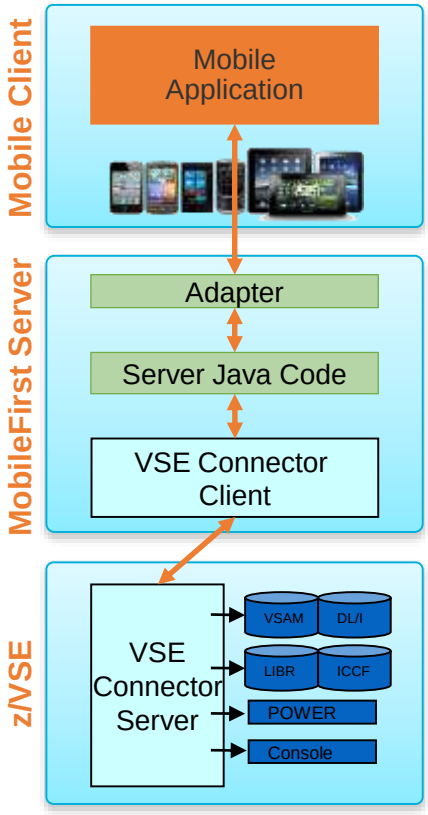
z/VSE Connectors: create mobile application



UI : *<your project name>* → apps → *<your app name>* → common → **index.html**

Logic : *<your project name>* → apps →

<your app name> → common → js → **main.js**

```
function getInfo( ){
        // call adapter with predefined procedure
        var invocationData = {
                adapter : 'connectorsAdapter',
                procedure : 'getInfo',
                parameters : []
        };
        WL.Client.invokeProcedure(invocationData,{
                onSuccess : showResultSuccess,
                onFailure : showResultFailure
        });

}
```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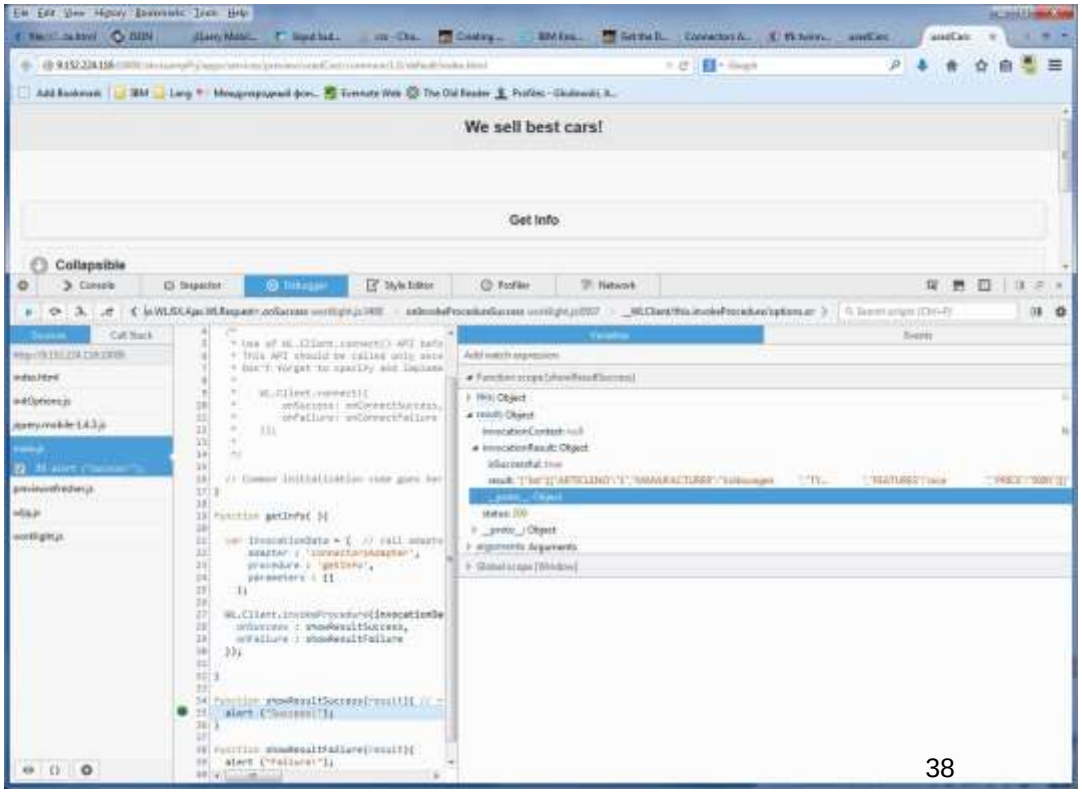
z/VSE Connectors: test and debug

<your mobile app name> → Run As →

Run on MobileFirst Development Server

<your mobile app name> → Run As → Preview



Add MobileFirst environment

<your mobile app name> → New → MobileFirst Environment

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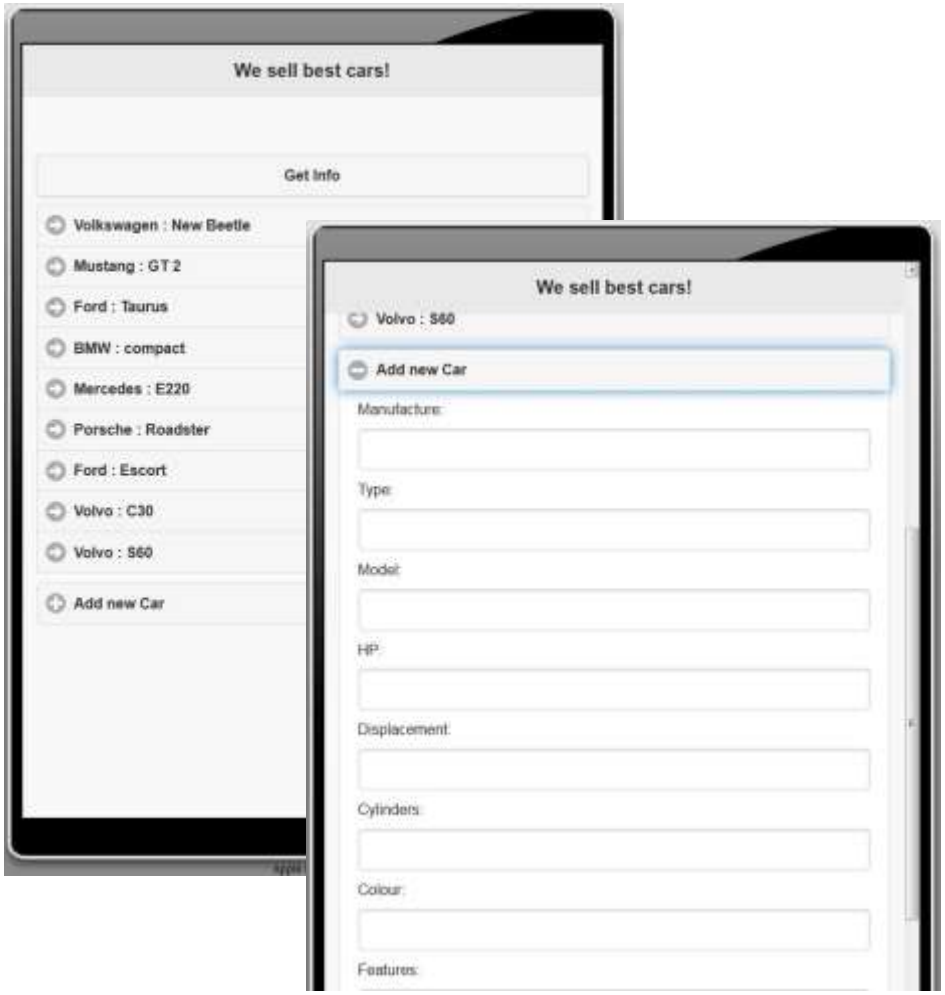
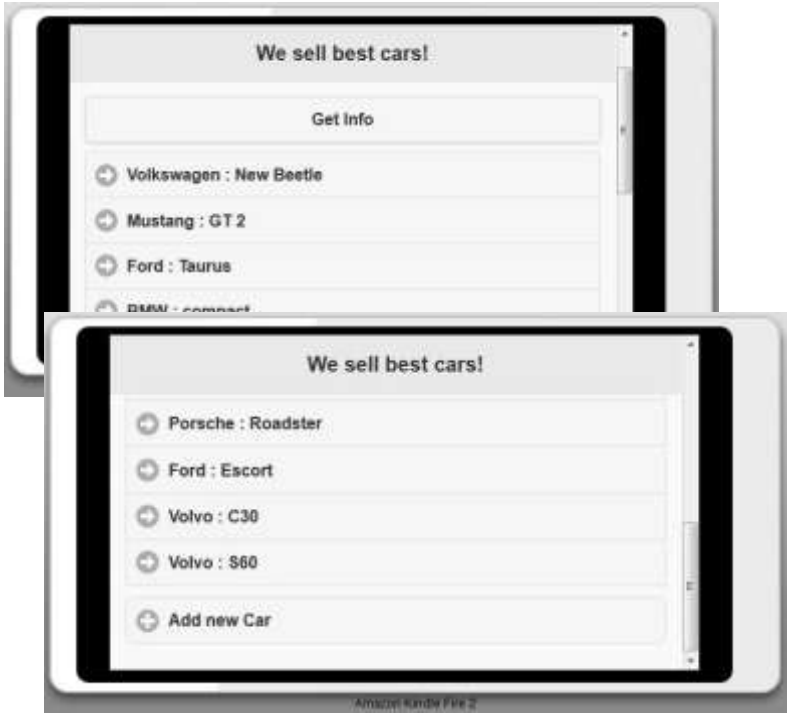
Running app in MobileFirst Environments





Live Virtual Class:
Mobile access to the existing z/VSE application (February 24, 2015)

http://www-03.ibm.com/systems/z/os/zvse/education/index.html

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Interested in mobile with z/VSE and z Systems ? Next steps…

- **Boeblingen Client Center is European Center of Competence (CoC) for Mobile**
- Request a Briefing, Demo or workshop
  - Industry independent
- Read our Point-of-View paper.
- Read the Mobile Solution Guide
- System z Mobile home page
  - Customer case studies
  - Analyst reports
  - Customer Videos

Contact us: zvse@de.ibm.com
tmcc@de.ibm.com

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Resources

- MobileFirst Foundation http://www-03.ibm.com/software/products/en/mobilefirstfoundation
- MobileFirst Platform https://developer.ibm.com/mobilefirstplatform/

- z/VSE Connectors Tools http://www-03.ibm.com/systems/z/os/zvse/downloads/index.html
- How to use Web Services with z/VSE
  ftp://public.dhe.ibm.com/eserver/zseries/zos/vse/pdf3/HowToUseWebServicesWithzVSE.pdf
- Getting started with Mobile Development for z/VSE
  ftp://public.dhe.ibm.com/eserver/zseries/zos/vse/download/GettingStartedWithMobileDevelopmentForVSE.pdf
- Samples source code ftp://public.dhe.ibm.com/eserver/zseries/zos/vse/download/skvssampPrj.zip

- IBM white paper: An overview of IBM MobileFirst Platform
  http://public.dhe.ibm.com/common/ssi/ecm/en/wsw14181usen/WSW14181USEN.PDF
- IBM white paper: Native, web or hybrid mobile-app development
  ftp://public.dhe.ibm.com/software/pdf/mobile-enterprise/WSW14182USEN.pdf
- IBM MobileFirst Strategy Software Approach http://www.redbooks.ibm.com/redbooks/pdfs/sg248191.pdf
- User interface design for the mobile web http://www.ibm.com/developerworks/web/library/wa-interface/index.html

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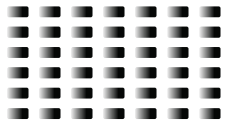
Wellcome to the Mobile era !



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