



Amplify2016
outthink ordinary

Integrate your IT

Dr. Thomas Stober

STSM

IBM Digital Experience

May 16 - 19 | Tampa, Florida | #ibmamplify



IBM Commerce

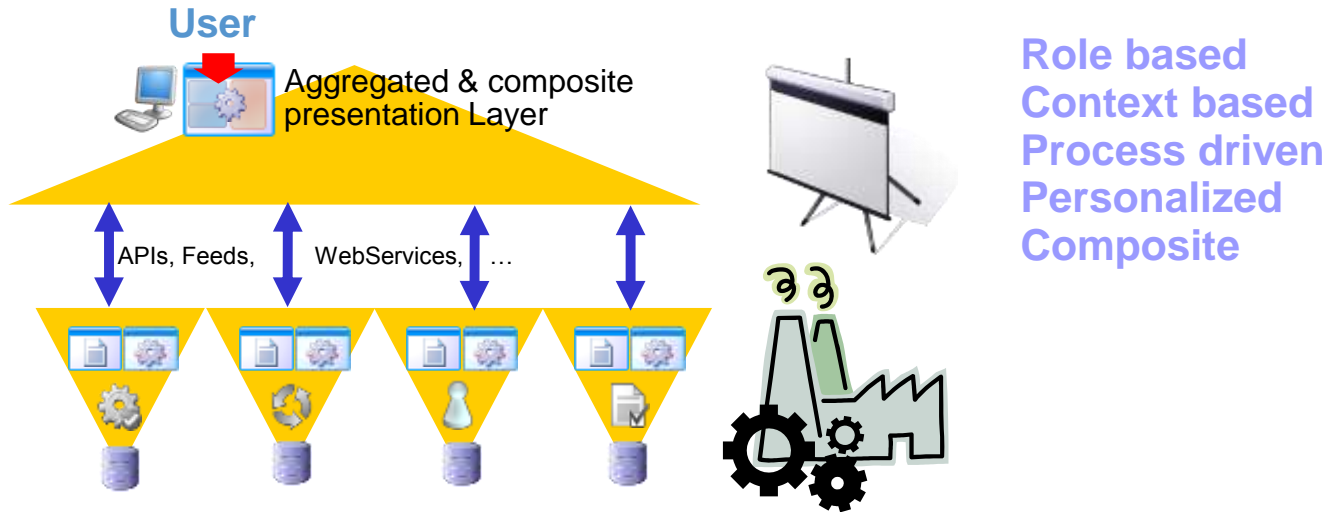
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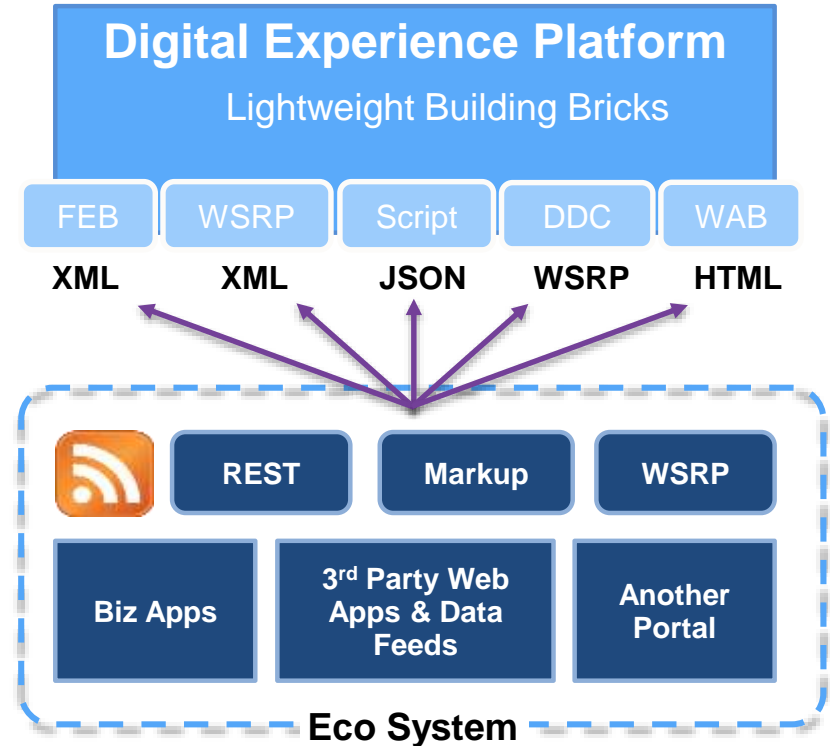
The traditional Portal Paradigma: Consuming and Integrating heterogeneous Systems and Data



- Portal gives the illusion of a nicely integrated system!
- But it's aggregation, composition and federation of lightweight UI components and services
- Let Portal pick the right face for the result
- Let another tier own the business logic (controller) and the data (model)

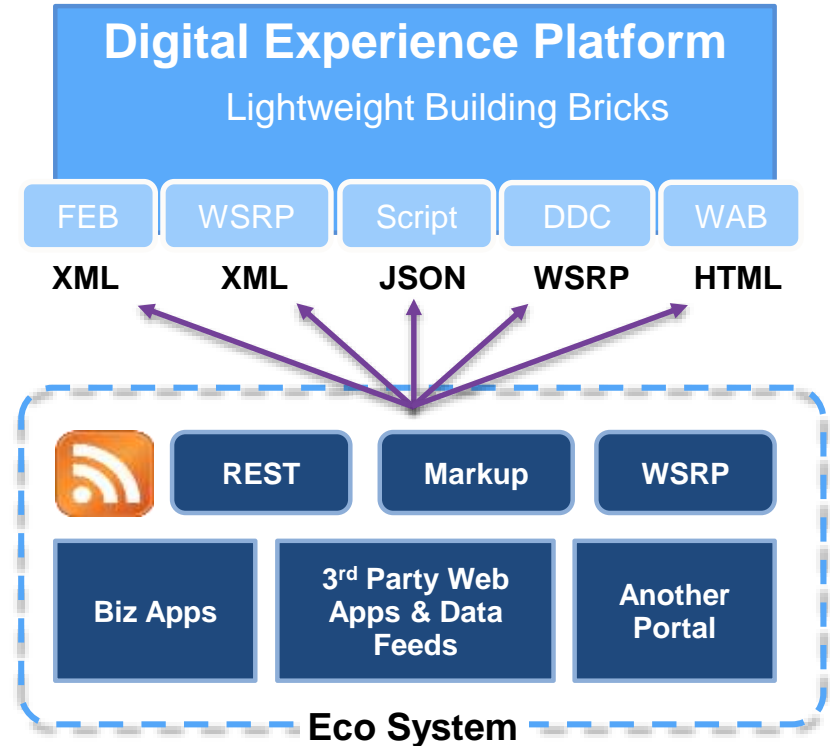
Application Integration Challenges

- Legacy Applications & IT Landscape
 - Unusual proprietary APIs
- Different 3rd Party Apps & Services
 - Different User Experiences & Interfaces
- Distributed business logic and data
- Latency & Scalability
- Multi-Channel Delivery
- Personalization & Targeting
- Access Control, single sign on and security patterns



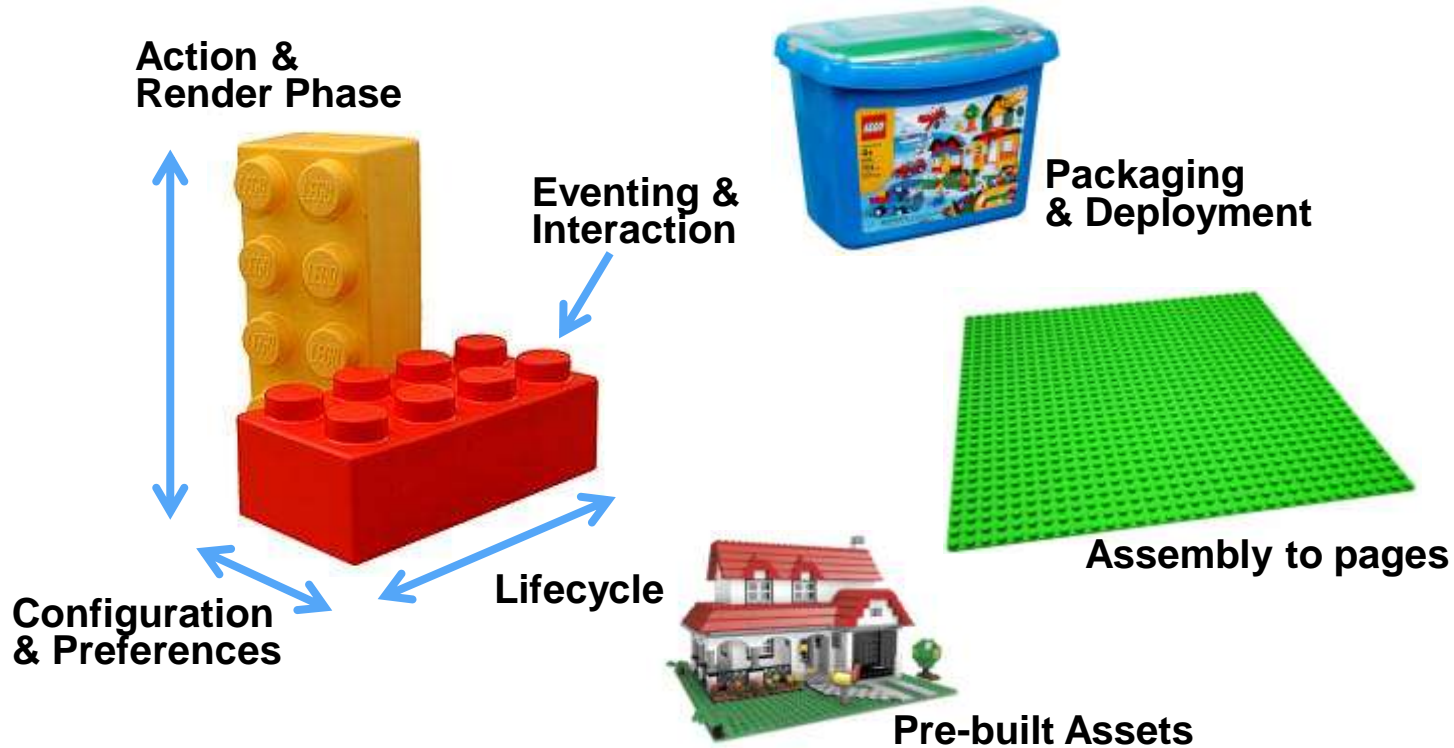
Simplified view on Integration Options

- Integrate
 - Data (XML, JSON, ...)
 - or Markup (HTML, WSRP, ...)
- Integration approach
 - driven by IT (J2EE, NodeJS...)
 - or driven by line of business (DDC, FEB, WAB, ...)
 - or something inbetween (Script, ...)
- Federation
 - rather than integration



IT driven Integration

Portlets: JSR 286



Re-usable Building Bricks

- Reusable Building Bricks, which communicate to any backend system
 - JSR 286 Portlets
 - Others (iWidgets, ...)
- Provide a rich set of such versatile building bricks for use by line of business
- Standardization on component level enables re-use, re-arrangements, re-factoring
- Traditional Software Development Process
- Examples
 - Unified task list
 - IBM Connections Portlets

JSR 286

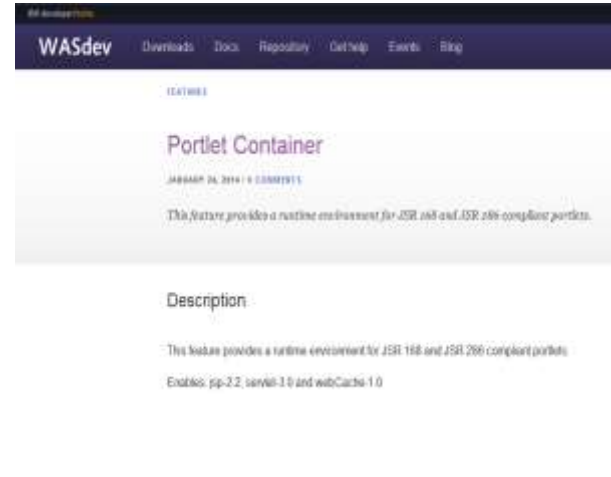
- Provides everything necessary to address the special considerations for Rich Internet Applications already in WebSphere Portal today
 - Based on standard J2EE, HTML, plus JavaScript
 - Supports Client-Side Programming Model (AJAX, Javascript, Dojo,)
- Open Standards based (JSR 286)
 - Standardized eventing support
 - Added support for PortletFilters
 - Added support for ResourceRequests
 - Portlets can serve standalone content
- Works best when
 - Minimal session usage
 - Light to medium weight business logic
 - Push complex things into the back-end services layer
 - No other consumer

The new JSR 362 Portlet Specification

- The JSR 362 Expert Group was formed in April 2013
 - Participants: IBM, Oracle, Liferay, RedHat, Apache Foundation, Independents
- In accordance with the JCP process version 2.9, our work is public
 - JCP page for JSR 362: <http://www.jcp.org/en/jsr/detail?id=362>
 - Project web site: <http://java.net/projects/portletspec3>
 - Interested parties can subscribe to an observers mailing list at the site
 - JIRA Issue tracker: <http://java.net/jira/browse/PORTLETSPEC3>
 - Portlet API working docs: <http://msnicklous.github.io/portletspec3/>
- Focus
 - API Improvements
 - AJAX Support
 - JSF
- The Portlet Specification 3.0 Reference Implementation
 - Work will begin in 2014
 - Apache Pluto subproject of Apache Portals project

Portlet Container in Liberty

- Provides a runtime environment for JSR 168 & JSR 286 compliant portlets
- Required to develop and deploy portlets on IBM WAS Liberty Profile
- The feature enables
 - jsp-2.2,
 - servlet-3.0
 - webCache-1.0



Download and more detailed step-by-step Instructions:

<https://www.ibm.com/developer/ibmdw.net/wasdev/repo/portlet-container/>

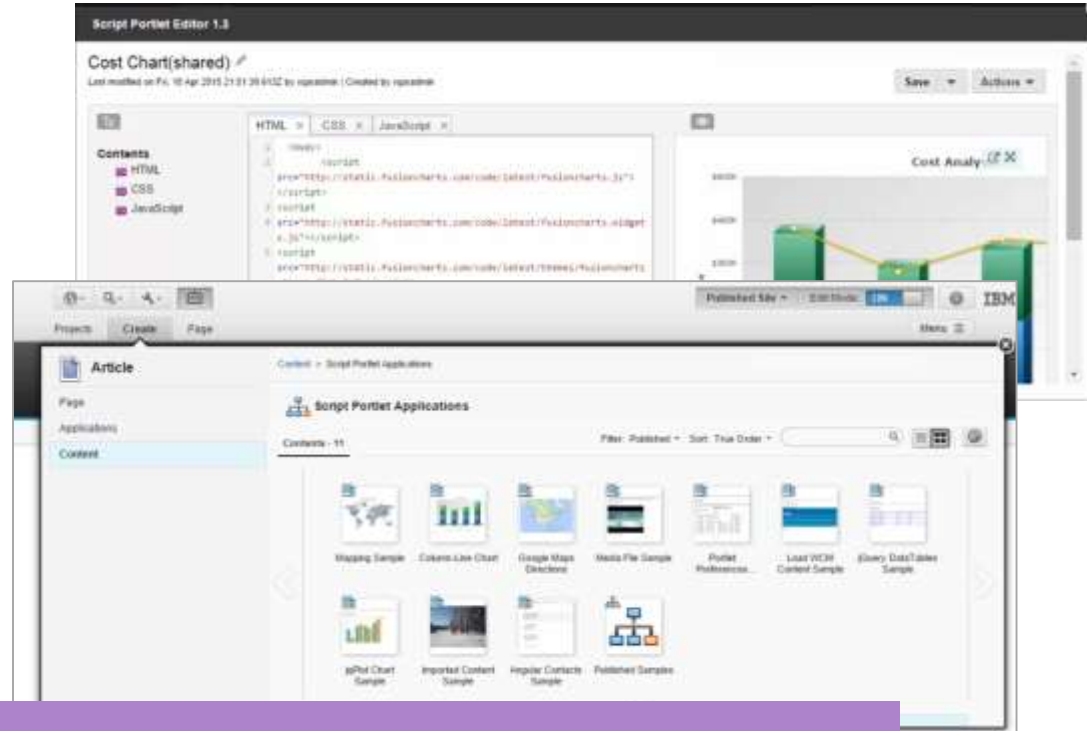
<https://developer.ibm.com/wasdev/docs/developing-portlet-applications-wdt-liberty-profile/>

Line of business driven Integration

Script Applications In Digital Experience

Create applications using only JavaScript

- Command line support for creating new Script applications
- Support for storing Script applications in shared WCM libraries
- Ability for Script applications to be available on the toolbar for a convenient drag and drop addition to the page
- Picker for inserting WCM tags
- Resource aggregator support, for performance improvement of complex Script applications



Script Applications

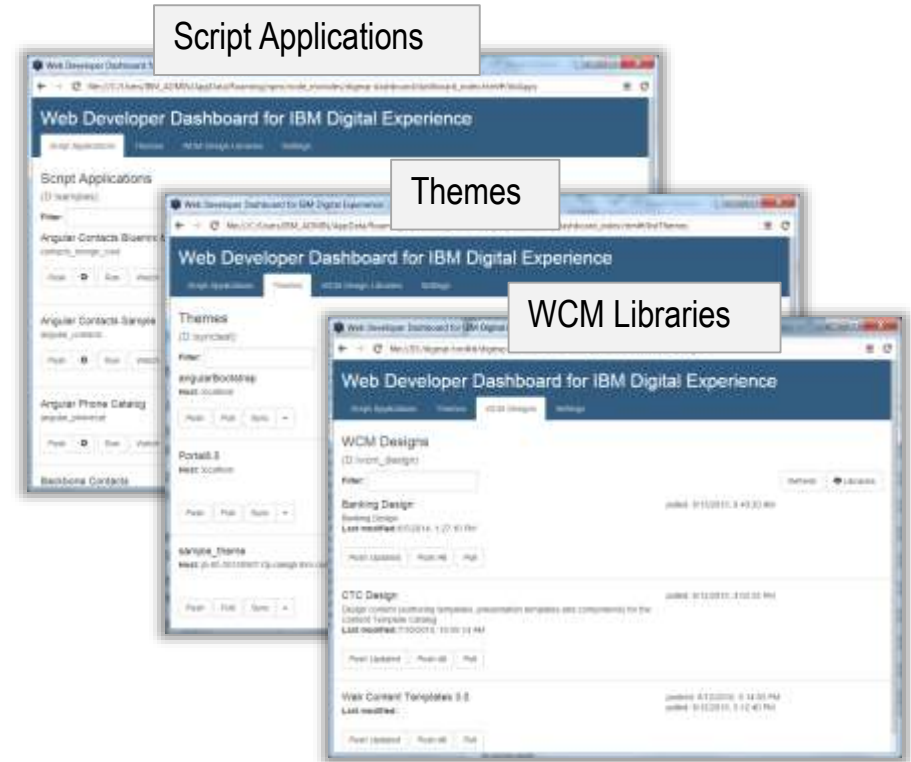
Advantage: Increase agility, use abundant scripting skills and reduce need for custom deployed Java code

Script Applications: Benefits

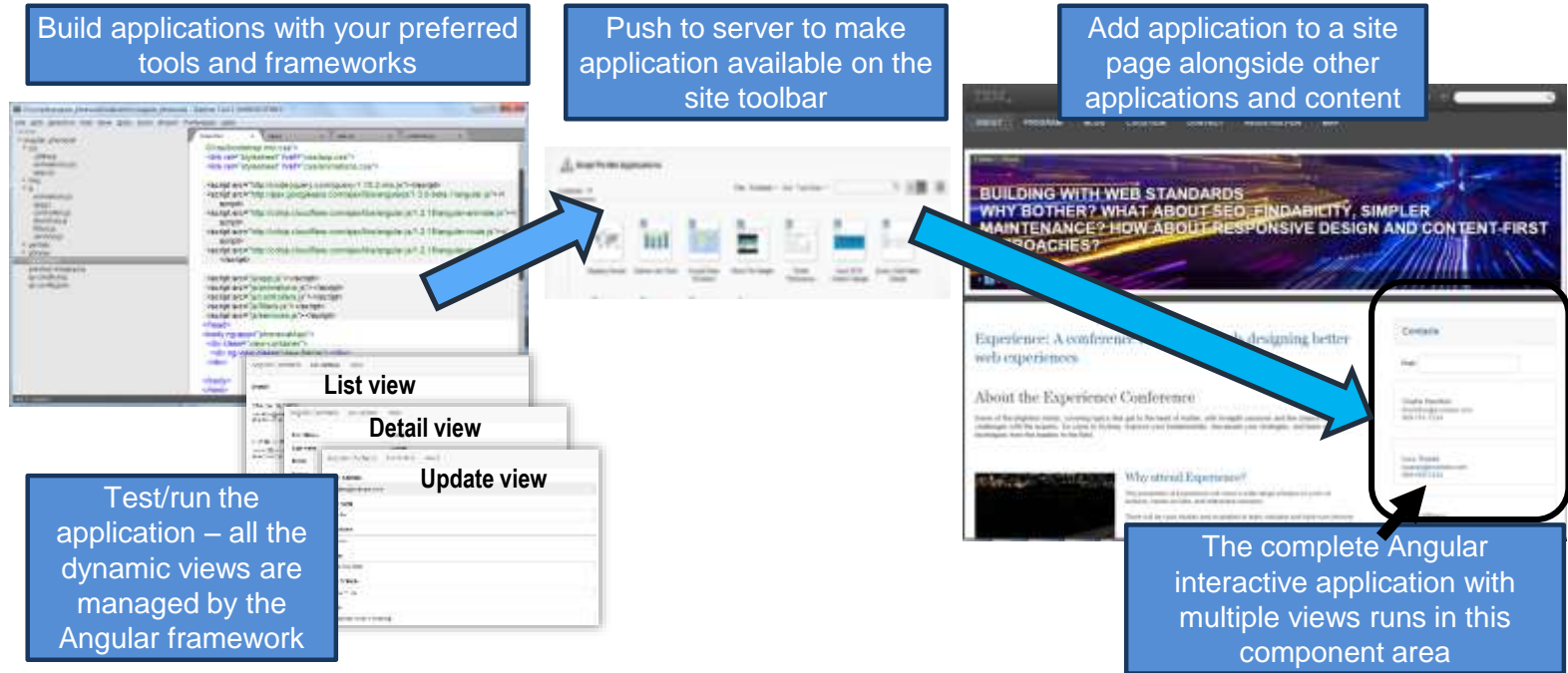
- Applications are built with pure web technology: HTML, JS, CSS, images, etc.
- Application artifacts are stored and managed in Web Content Manager
 - No code deployment!
 - WCM features such as projects and workflow can be used to manage applications
- You can build applications from the browser with the Script Editor, or use your favorite editor/IDE
- Data access is done with REST services, typically using JSON data
- Many of Digital Experience's key value-add features are available
 - Eventing, portlet preferences, multi-channel delivery, responsive design, public render parameters, etc.

Script Applications: Development Toolkit

- Work with script applications, DX themes, and WCM design elements in a simple UI
- Click to push or watch/sync applications and designs to a local or remote server
- Select themes and WCM design libraries and pull from server
- Use a simple UI to work with theme modules and profiles
- Run script applications locally on a test server

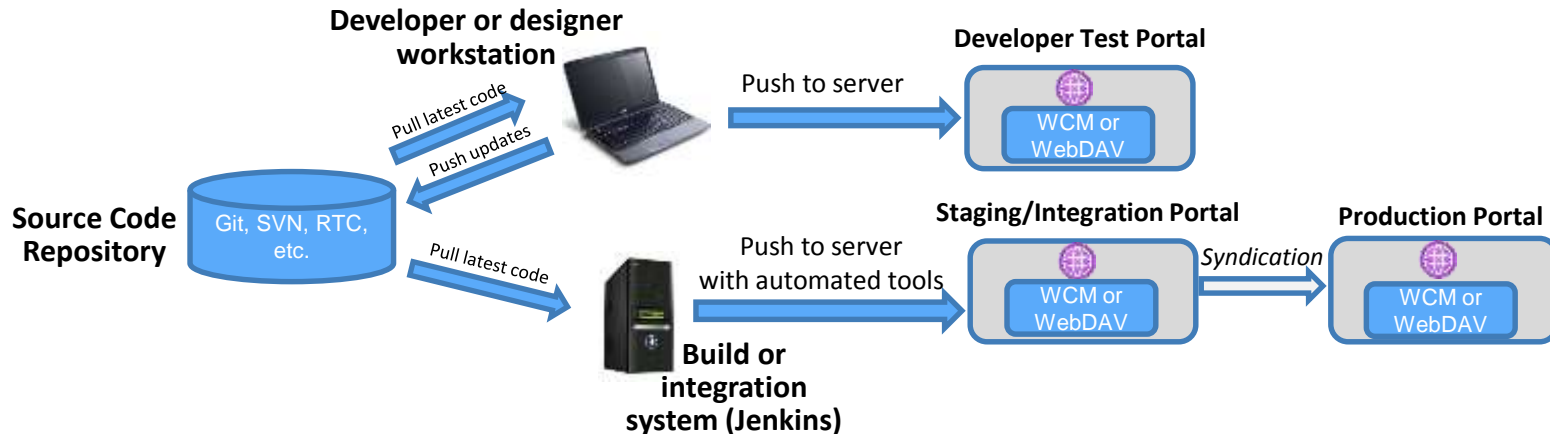


Script Applications: Development Toolkit



Script Applications: Test & Staging

- All the HTML/JS/CSS/etc. for Script applications, theme designs, and WCM designs can be maintained in a source code repository
- Command line or GUI tools can push files to a development or staging server
- Script applications and WCM designs can be syndicated from staging to production server



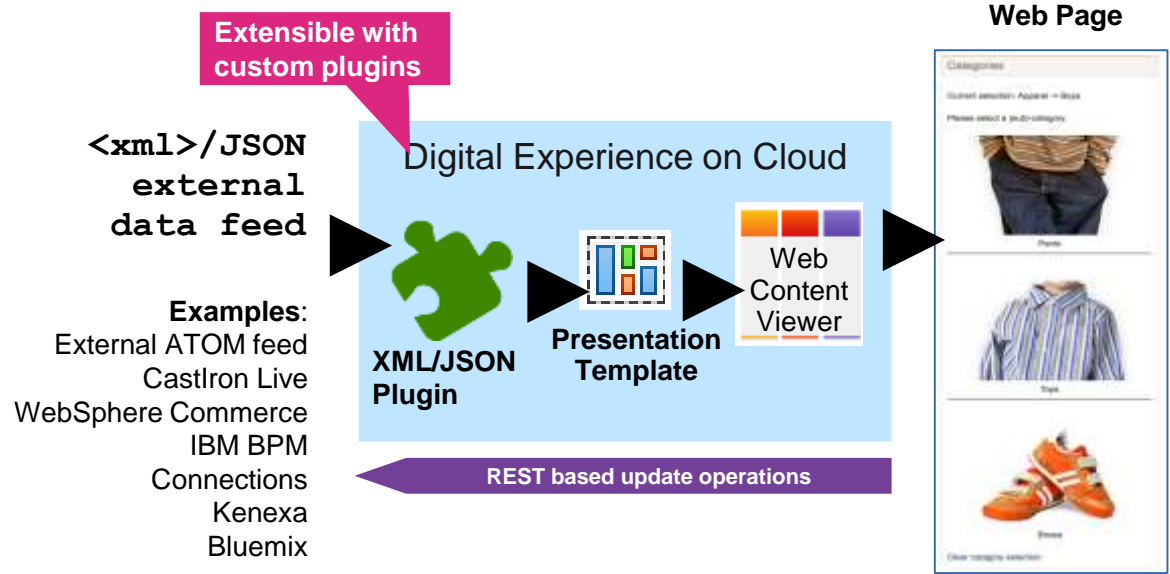
Single Page Applications and IBM Digital Experience

- Modern web applications use JavaScript frameworks to structure the application and provide valuable common functionality
 - Frameworks include features such as data binding, views, controllers, HTML templates, and storage
- The Single Page Application (SPA) model is used
 - A main HTML page provides the shell where all interaction takes place
 - JavaScript handles all dynamic interaction and accessing data from server
- With IBM Digital Experience a “single page application” runs as one component within a Web site
 - Don't be confused by the terminology – the site still has many pages
- IBM Digital Experience complements JavaScript frameworks
 - Addresses typical shortcomings of JS framework
 - Supports a heterogeneous and short-lived world of UI technologies

Digital Data Connector

Use IBM Web Content Manager design components to render data being served from external systems

- Provides a public plug-point to allow integration of all kinds of data
- Uses WCM contents items to describe what data to include and what design component to use to render the data
- Support dynamic context overwrites of source and filter attributes using public render parameters



Digital Data Connector

Advantage: Make it easy integrate remote XML data via Web Content Templates. Avoid custom coding

Digital Data Connector: Samples

SPiegel ONLINE - Schlagzeilen 

Dec 13, 2013 12:05:01 PM CET
Deutschlands führende Nachrichtenseite. Alles Wichtige aus Politik, Wirtschaft, Sport, Kultur, Wissenschaft, Technik und mehr.

Fallschirmhunde im Zweiten Weltkrieg: Angriff der königlichen Luftwaffe

Dec 13, 2013 9:43:22 AM CET



Luftsprung, Landung, Leck
Deutschland setzte das 1.
auf eine ungewöhnliche W
verführerischer Belohnung
Helden nicht immer freiwi

Weiterlesen auf Spiegel Online...

Geheimaktion: Beyoncé veröffentlicht Album

Dec 13, 2013 9:35:00 AM CET



Marketingcoup in der Musik
veröffentlichte die R&B-Sa
enthusiast auf iTunes - ganz
fertig, jetzt wolle sie es in


Weiterlesen auf Spiegel Online...

Fußball-WM in Brasilien: DFB baut sich eigenes Quartier

Local Files

Current Folder: /opt/WebSphere/wp_profile/ConfigEngine

- ..
- config
- log
- properties
- uninstall
- base_dynamic.xml (75159 bytes)
- ConfigEngine.bat (1161 bytes)
- ConfigEngine.sh (978 bytes)
- registry.xml (170057 bytes)

BBC News - Business 

The latest stories from the Business section of the BBC News web site.

RSA shares fall 16% as chief quits
13 Dec 2013
Shares in RSA Insurance Group fall 16% after the firm's chief executive Lee, resigns amid deepening problems at its Irish unit.

Expensive calls to helplines to end
13 Dec 2013
Customers who call companies to complain about faulty goods will no have to pay premium rates, the government has announced.

Construction industry rose by 2.2% in October, fuelled by housing, the Office for National Statistics says.

Oil prices fall on GM share sale

Oil prices fell more than 11% after General Motors announced it had sold its carmaker that it bought last year.

China raises \$25m funding

China's largest private internet company, Alibaba Group, has raised \$25m (£15m) from investors that lets people trade Bitcoins, raises \$25m (£15m) from investors.

1 | 2 | 3 | ...

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CNN Radio News

CNN Radio brings you an in-depth update on the news every Monday-Friday evening. Posted at 4:30pm eastern, this podcast gives you personal stories you won't get anywhere else, as well as catching you up on some of the headlines of the day. (15-20 minutes)

CNN Radio News Day: June 25, 2013
26 Jun 2013 | Category: News & Politics | duration: 25:01



CNN Radio News Day: June 24, 2013
24 Jun 2013 | Category: News & Politics | duration: 21:10



CNN Radio News Day: June 21, 2013
21 Jun 2013 | Category: News & Politics | duration: 25:51



CNN Radio News Day: June 20, 2013
20 Jun 2013 | Category: News & Politics | duration: 29:22



CNN Radio News Day: June 19, 2013
19 Jun 2013 | Category: News & Politics | duration: 31:00



1 - 5 of ... 1 | 2 | 3 Previous Next

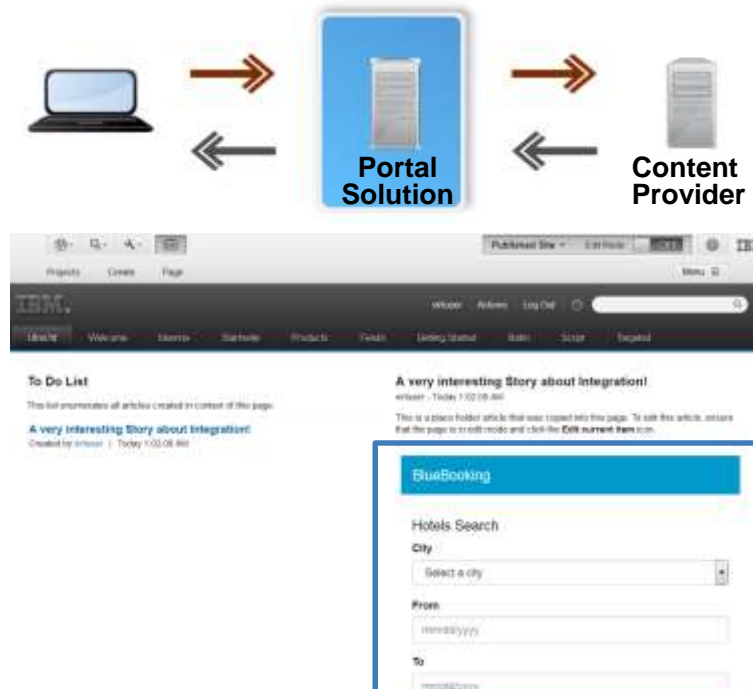
2013 Cable News Network LP, LLLP, A Time Warner Company. All Rights Reserved.

Digital Data Connector (DDC): Benefits

- WCM Designers have full control over list presentation
 - Resulting Lists can fit nicely into the visual design of customer site
- No coding skills required for consuming & rendering external data
- Easy re-branding due to clean separation of concerns
 - UI generation using WCM separate from back-end code
 - Site designers can provide consistent presentation components to the page editors
- List presentations and designs support workflow, projects, preview, versioning, syndication
- No code deployment on the application server in many cases
 - DDC solutions often consist only of WCM artifacts (HTML/CSS/JS, WCM tags...)
 - Deployment can be done using WCM syndication
- Generic and shared caching and data retrieval infrastructure

Integration: Web Application Bridge

- Reverse proxy to integrate web-based content providers within WebSphere Portal solutions
- A virtual Web application (Webdock portlet) is an abstract representation of existing Web content provided by an existing back-end service



Web Applications Bridge

Advantage: Easy and fast integration of existing web applications “as-is” (with no change to the app itself)

Web Application Bridge (WAB): Benefits

Use WAB to display markup provided by a Bluemix application

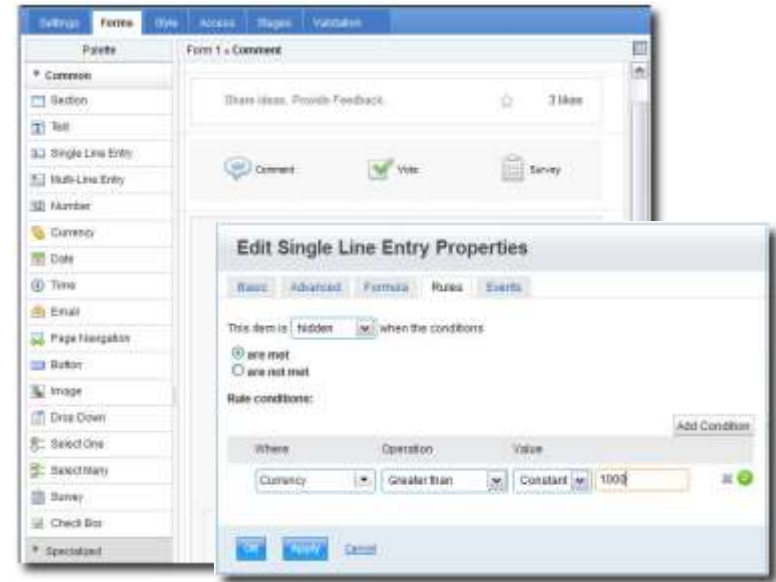
- WAB is based on iframes and a reverse proxy
- Supports authentication, auto mapping of cookies, and authorizations, either provided by application or by use of the Credential Vault, for loading credentials.
- Provides ability to transform the markup on each interaction
 - Plugin framework, to provide custom logic per target, for example, stripping banner, navigation, etc..
 - Ability to rewrite, clip, transform the markup
- Provides auto identification of all html input types, and makes them available for eventing to/from other applications without touching the application

Web Application Bridge: Rules of Thumb

- Just because a browser can get there doesn't mean that WAB can get there
 - Use server based browser, telnet or wget to determine if the portal server has access to the content provider
 - Plan to use SSO
 - Is Portal and the content providers in the same domain and sharing a user registry?
- Use Caution when
 - Network latency becomes relevant
 - Ping latency should be < 10 ms preferably < 1 ms
 - Content Provider content is too large
 - Redundant or unwanted navigation, header, footer, sidebars, etc.
 - Conflicting styles
- Consider delivering static content (CSS, Javascript and Images) via HTTP server
- Apply Filters when needed

Forms Experience Builder

- Easy-to-use web based design tooling delivers powerful fill and submit experiences.
- Full set of web data capture items
- Flexible layout using grids & sections
- Graphical rules & formula editor
- Routing editor
- Rapid development
- Preassembled items with default values
- Automatic binding to data records
- Apply advance features quickly
- Familiar techniques
- Drag & drop design experience
- Easy discovery of item properties



Forms Experience Builder

Advantage: Full data capture solution – simple to construct, easy to change, and quick to deploy.

Client-Side Integration Patterns

Leverage the existing Active Site Analytics capability to inject code

e.g. include client side libraries to run Maxymizer, Optimizely, or Xtify

The screenshot shows a web analytics tool interface with a 'Page Properties' panel. The 'Metadata' section is active, showing a table with 'Key' and 'Value' columns. Two entries are visible: 'asa_dependency' and 'http://service.maxymiser.net/cdn/libm/gree'. A red box highlights these two entries. Below the screenshot, a red arrow points to a 'Mobile' section on a website, and a notification banner at the bottom reads: 'You have successfully delivered a push notification to your website. This message is shown in the Segment: First Time Visitors and is triggered on: PAGE_VIEW. Use the Campaign Manager notification content, adjust the target segment and trigger rules.'

Key	Value
asa_dependency	http://service.maxymiser.net/cdn/libm/gree



Federation

Federation

- Federated Navigation
 - Setup: Add external URL pages into page hierarchy & Navigation which point to other web sites
- Web Application Integrator (WAI)
 - Share a common theme and navigation with other web sites
 - Setup: Add navigation jsp to other web sites

Web Application Integrator (WAI) Example

```
HTML <script> tag used to integrate external web application for page = collaboration
<!-- BEGIN PORTAL NAVIGATION INTEGRATION -->
<!-- END PORTAL NAVIGATION INTEGRATION -->
```



Portal Navigation

IBM Connections gets the Portal navigation on top

Connections UI

Security considerations

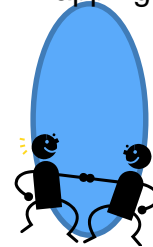
Security Considerations

- Outbound Connection
 - AJAX Proxy / Http Outbound
- Single Sign On
 - SAML
 - Credential Vault
- Identity Management (and Mapping)
 - TFIM

Outbound
Proxy



Identity
Mapping



HTTP Outbound

- Central control for outbound HTTP connections
- Functions for authentication and cookie handling
- Administration via model APIs or configuration tasks
- Custom outbound service filter possible
- Since 8.5

Http Outbound Configuration for WAB

- Define a policy to allow for outbound connections through WAB
- Admin Portlet

Portlet Management
Web Modules
Applications
Portlets
Web Services
• Virtual Web Application Manager

The screenshot shows the 'General' tab of a configuration window. At the top, there are tabs for 'General', 'Connection', 'Request', 'Response', and 'Single Sign-On'. Below the tabs, a text box explains: 'A policy controls what site visitors can access. You can allow or block content based on URL patterns.' The main form contains the following fields and options:

- * Unique policy title:** A text input field containing 'Blue Hotel Policy'.
- URL pattern:** A text input field with a placeholder that reads: 'URL pattern can be a java regular expression. Add multiple URL patterns as comma-separated list. Example: /js-a-z/, /test1'.
- Allow/Block options:** Two radio buttons. The first is 'Allow all, except.' and is selected. The second is 'Block all, except.'.
- Add button:** A button labeled 'Add' next to the 'Allow all, except.' radio button.
- Description:** A large empty text area.
- * Required:** A small asterisk indicating a required field.

At the bottom of the window, there are two buttons: 'Save' and 'Cancel'.

Http Outbound Configuration for DDC

- Define a WAS Resource Environment Provider variable to allow for outbound connections through DDC
- WAS Admin Console
- [Resource environment providers](#) > [WP ConfigService](#) > Custom properties

<input type="checkbox"/>	wp.proxy.config.urreplacement.digital_data_connector_policy.rss_cnn_general	http://rss.cnn.com/*	
<input type="checkbox"/>	wp.proxy.config.urreplacement.digital_data_connector_policy.rss_cnn_edition	http://edition.cnn.com/*	
<input type="checkbox"/>	wp.proxy.config.urreplacement.digital_data_connector_policy.rss_cnn_turner	http://i.cdn.turner.com/cnn/*	
<input type="checkbox"/>	wp.proxy.config.urreplacement.digital_data_connector_policy.rss_cnn_podcast	http://podcasts.cnn.net/*	
<input type="checkbox"/>	wp.proxy.config.urreplacement.digital_data_connector_policy.mit	http://newsoffice.mit.edu/*	
<input type="checkbox"/>	wp.proxy.config.urreplacement.digital_data_connector_policy.devworks	http://www.ibm.com/developerworks/*	
<input type="checkbox"/>	wp.proxy.config.urreplacement.digital_data_connector_policy.rss_nytimes	http://rss.nytimes.com/*	

IBM Connections

Seamless Integration of IBM Connections

The image displays several overlapping screenshots of the IBM Connections web application. The top-left screenshot shows the main navigation bar with the IBM logo and a search bar. Below it is a banner with the text "A SMARTER WORKFORCE MAKES SMARTER BUSINESS" and a graphic of a rainbow and gears. A discussion thread titled "Has anyone found an effective way to collect basic data and apply?" is visible, with a reply from Betty Zechman. The top-right screenshot shows a user profile for Betty Zechman, including her name, title, profile picture, and contact information. Below the profile is a section for "Recent Blog Posts by Betty Zechman" with two entries. The bottom-left screenshot shows a discussion thread with a reply from Anna Bauer. The bottom-right screenshot shows a "List of Community Members" with a list of names and email addresses, including Anna Bauer, Samantha Daryn, Heather Reeds, Betty Zechman, and Paul Clemmons. The overall layout is clean and professional, typical of a corporate social network.

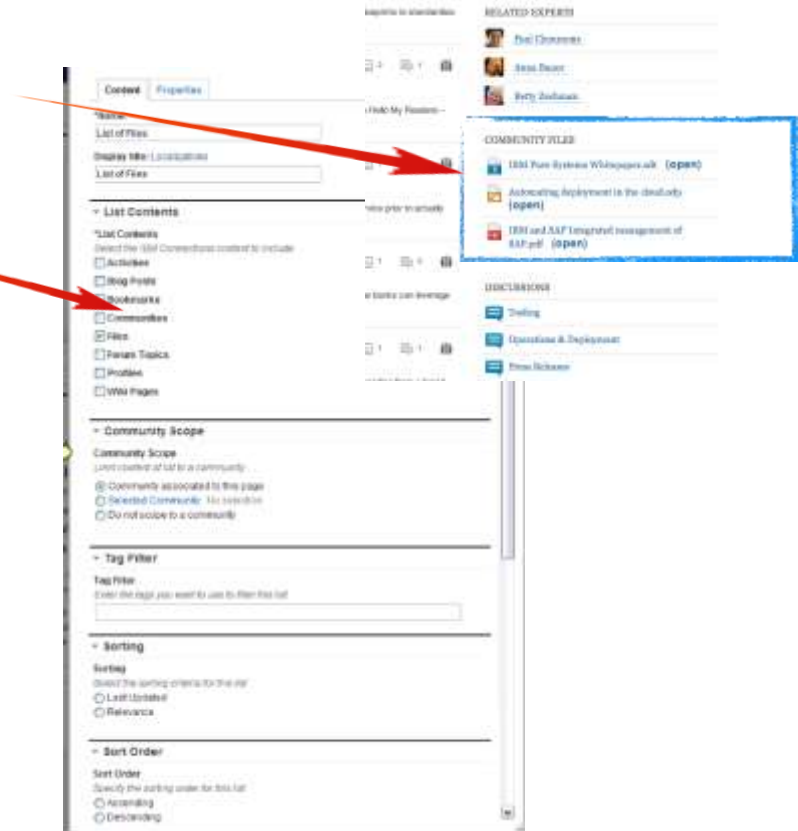
Seamless integration of IBM Connections

- Allow users to discuss web content items:
 - The discussion itself is hosted on a remote IBM Connections server
 - Display of social information from IBM Connections via Social Rendering techniques
 - Posting of new information (e.g. replies) from WCM to IBM Connections
 - Automatic linking between WCM content items and discussion topics in IBM Connections
- Visual appearance can be fully controlled using WCM design components
 - Out of the box presentation templates include responsive design patterns supporting tablets and smart phones



Seamless integration of IBM Connections

- Uses IBM WCM to query and render IBM Connections Content
- High flexibility, ease of use and ease of development for delivering exceptional web experiences:
 - Easy to customize queries, including ability to mix IBM Connections services like blogs, wikis, files and bookmarks
 - Easy to customize look and feel – with limited IBM WCM skills you can easily change markup and customize and extend the WCM social rendering capability.
 - Basic/Common Customization does not require deep development skills
 - Out of the box samples support Multi-channel capabilities



Seamless Integration of IBM Connections



Scenarios: IBM Connections and Digital Experience

Full User Interface of IBM Connections with all features and capabilities.

Only few options to customize the experience and single focus on the apps provided by IBM Connections

Federated Navigation using external URL pages. Combined Navigation gives access to IBM Connections apps plus other sites and apps.

Coherent look and feel.

Flexible customization of user experience, embedded into context of a Web site/Web content and community.

Reduced set of IBM Connections features.

Connections Front-End

IBM
Connections

Side-by-Side (Simple Aggregation)

SSO
Federation

DX Front-End (Unique User Experience)

Community
Web
Content
DDC
Script

Integrated Social Media Publishing

The screenshot shows the Greenwell website homepage. At the top is a navigation bar with links for Home, Products, Services, Distributors/Resellers, Customer Service, Careers, and Renovation Info. Below the navigation is a large banner image of a beach. Underneath the banner is a 'Latest Press Releases' section with a search bar and two news items: 'Greenwell to Acquire Renovations' and 'Greenwell Launches New Scholarships in Ghana'. A 'Connect' sidebar on the right offers options to connect via Facebook, Twitter, LinkedIn, and YouTube.

This screenshot shows the Twitter profile for Greenwell (@GreenwellCo). The profile includes the company name, a bio stating 'Greenwell is a large, multinational national healthcare manufacturing company', and a list of tweets. One tweet is visible, dated 2/13/10, mentioning 'Greenwell to Acquire Renovations'.

This screenshot shows a Facebook page for 'Greenwell IBM Demo'. The page features a cover photo of a hand holding soil with a small plant growing from it. The main content area has the heading 'Innovative Solutions for Health' and a sub-heading 'Learn how we are spreading hope worldwide'. Below this is a video player for 'Greenwell IBM Demo'. The page also shows engagement metrics like 146 likes and a list of users who liked the page.

This screenshot shows a 'Social Network Information' dashboard. It provides a summary of activity across various social media platforms. The 'Total Activity' row shows 0 tweets, 5 comments, and 2 likes. Below this, there are rows for 'Connections', 'Facebook', 'LinkedIn', and 'Twitter', each with its respective activity counts. A 'Refresh Statistics' button is visible next to the Facebook row.

Platform	Tweets	Comments	Likes
Total Activity	0	5	2
Connections	0	2	1
Facebook	0	3	1
LinkedIn	0	0	0
Twitter	0	0	0



Business Process Management

Scenarios: Business Process Mgmt and Digital Experience

Process Worker

- Main Focus on process interaction and productivity
- Many complex processes and human tasks
- Internal Facing
- Pre-built or generated User Interfaces

Consumer/Employee

- Main Focus on attractive user experience and excitement
- Context and interaction with other kinds of applications
- For selected processes and human tasks
- Secure Web Site
- Customized/uniquely designed User Interfaces

BPM Front-End

BPM Front-End
Coaches

DX Front-End (Simple Aggregation)

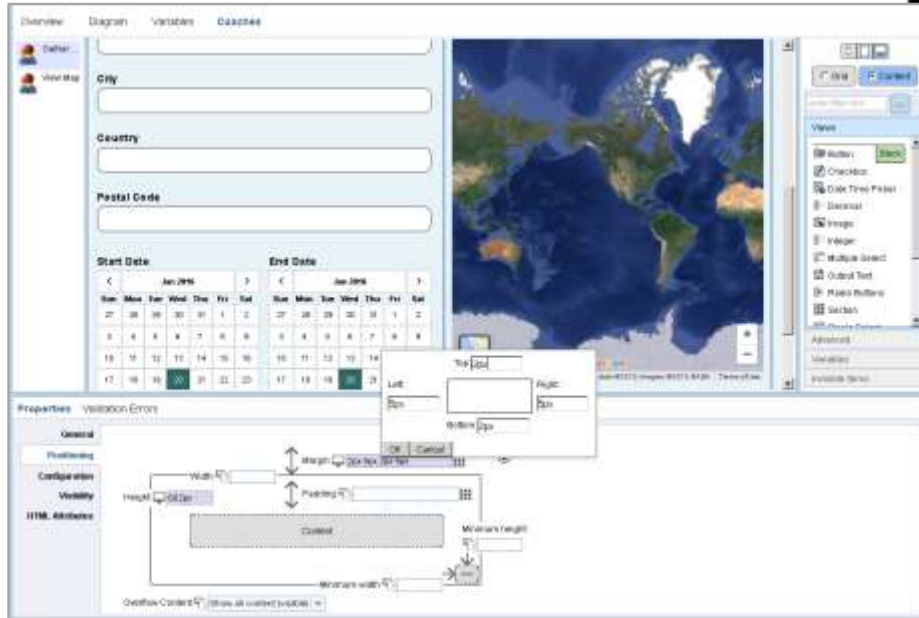
UTL
Coach
Viewer

DX Front-End (Unique User Experience)

Web Page
Web Content
DDC
Script

BPM Front-End: “Coach”-UI

- Build UIs from coach views and human service flows
- As task UIs and “dashboards”



Simple Aggregation – Lists and Dialogs

The screenshot displays a WebSphere Portal interface. At the top, there is a navigation bar with 'WebSphere Portal' and 'Home'. Below this, a secondary bar contains 'Features' and 'BPM Portlets'. The main content area is divided into two sections. On the left, a 'Portal Unified Task List' is shown, featuring a table of tasks with columns for Source, Title, State, Owner, Originator, and Escalated. A callout bubble points to this section. On the right, a 'Human Task User Interface' is displayed, showing a multi-step process with steps 1, 2, and 3. Step 1, 'Enter Order Details', is active and contains a form with fields for Customer (Target), Sales Division (South), Quote Deadline (11/5/2012), Priority (High), Material Number (123313), Order Number (2003), and Issue Date (11/5/2012). A callout bubble points to this section.

WebSphere Portal Home

Features BPM Portlets

Portal Unified Task List

Human Task User Interface

Order Details

Customer: Target

Sales Division: South

Quote Deadline: 11/5/2012

Priority: High

Material Number: 123313

Order Number: 2003

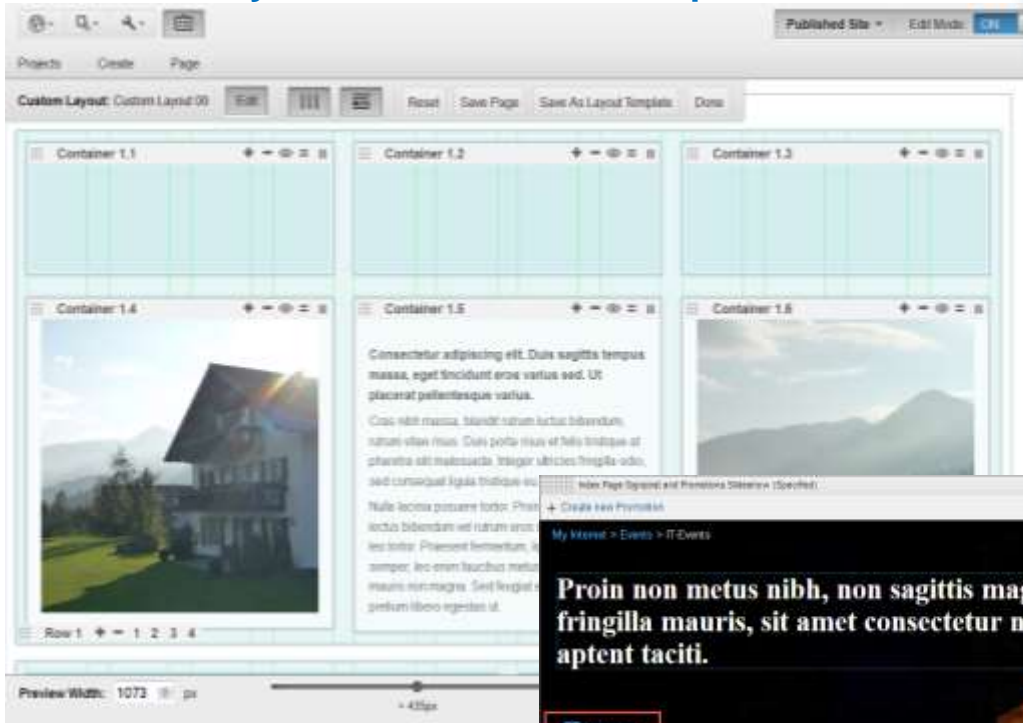
Material Description:

Issue Date: 11/5/2012

UTL sends the selected TaskID to a Coach (or a Dynamic Coach) portlet. This portlet is an iframe that displays in a Portal page a BPM coach as it has been designed

Unique Digital User Experience

Theme Layout Presentation template



DDC

Script

Banking Transactions Table

Select account: My Checking

Show 10 entries

Type	Date	Amount	Memo
ATM	1/31/2014	-300.00	ATM Withdrawal
ATM	1/8/2014	-300.00	ATM Withdrawal
BRANCH	12/18/2013	465.10	Opening balance
DEPOSIT	3/14/2014	1234.00	Demo
DEPOSIT	3/14/2014	321.00	Demo
DEPOSIT	3/14/2014	153.00	
DEPOSIT	3/13/2014	300.00	
DEPOSIT	3/13/2014	150.00	
DEPOSIT	3/13/2014	333.00	Demo
DEPOSIT	2/23/2014	1950.00	Direct Deposit Semi Monthly Payrol

1 to 10 of 41 entries

Web Content

Digital Data Connector – Task List Portlet

The screenshot displays a CRM dashboard for Greenwheel. At the top, there are navigation tabs: MAILING DASHBOARD, AGENT DASHBOARD (selected), MARKETING, and COMMERCE. The main content area is divided into two sections. On the left is a 'MY CUSTOMER TASKS LIST' with a list of agents and their names. On the right is a 'QUICK CUSTOMER FORMS' section with three form options. In the center, there is a search bar and a line chart titled 'Customer propensity to close by product line'.

MY CUSTOMER TASKS LIST

Agent Name	Agent Name
Samantha Daryn	Samantha
Frank Adams	Frank
Katie Hopkins	Katie
Ling Shin	Ling
Ted Amado	Ted
Jasmine Haj	Jasmine
Glenn Cloud	Glenn
Heather Reeds	Heather
Dan Missawa	Dan
Katie Greenwell	Katie

QUICK CUSTOMER FORMS

- Opportunity form 4924**
Form type 4924 used to refer customers to business partner.
- Direct Debit Mandate Form 349**
Use Form type 349 to get a DD mandate posted to customer.
- Address Change form 1999**
Use Form 1999 to perform address change requests.

Customer propensity to close by product line
Source: IBM Watson CRM Client Data

Month	Sports Clothing	Accessories	Cycling (Child)	Cycling (Adult)
Jan	45	40	40	35
Feb	45	45	45	40
Mar	50	50	50	45
Apr	60	55	55	50
May	70	65	65	60
Jun	75	70	70	65
Jul	75	70	70	65
Aug	75	70	70	65
Sep	75	70	70	65
Oct	75	70	70	65
Nov	75	70	70	65
Dec	85	80	80	75

Digital Data Connector – BPM interaction

The screenshot shows a CRM interface for Greenhills. The top navigation bar includes 'MAILING DASHBOARD', 'AGENT DASHBOARD', 'MARKETING', and 'COMMERCE'. The main content area is divided into several sections:

- Profile:** Features a photo of Katie Hopkins, her name, and contact details: Preferred Name (Katie), Email (khopkins@greps.com), Telephone (+44178445000), Address (13 Wintonaven Way, London, SE11AB), and Last Update (5/12/2014). It also includes a 'Level' indicator (5 stars) and 'First seen'/'Last seen' dates.
- Call Notes:** A list of recent interactions: 'Update - Regular client update meeting' (5/12/2014), 'Call - Call Kaitie O'Hara at 8.11am on 01.12.2014', and 'Opportunities' such as 'Child's training wheels, 2015-06-25, 155.0', 'Slee storage dual and rain covers, 2015-06-24, 80.0', and 'Towing service for child's bike, 2015-08-24, 95.0'.
- Customer Action Plan:** A section titled 'Create moments of serendipity for the customer' with a 'Customer Level: VIP'. It contains three steps: 1) Select promotional item (dropdown), 2) Customer's expected improvement (slider from Negative to Positive), and 3) Additional comments (text area). A note below states: 'Note: Please verify mailing address and contact information. Please also note our information about data protection.' Buttons for 'Submit' and 'Cancel' are at the bottom.
- Post Orders:** A table listing recent orders:

Item	Description	Date	Amount
	Rid Road Cruiser	2015-10-13	85.00
	Iron Road Helmet	2015-06-26	190.00
	Adult 700c 25speed	2015-06-25	680.00
- Engagement:** At the bottom left, there are buttons for 'Follow' (237), 'View Profile' (24), and 'Like' (43). Below these are two tweets from Katie Hopkins.

Digital Data Connector – Sample Process Interaction

- Apply DDC to visualize BPM data, e.g. task lists (accessed via REST)
 - Formatting is done by a editable WCM presentation template
 - Turns BPM data into versatile “web content”
- Demo available [here](#):
 - <http://openntf.org/main.nsf/project.xsp?r=project/Business%20Process%20Manager%20Sample%20for%20IBM%20Digital%20Data%20Connector%20in%20WebSphere%20Portal>

The screenshot displays a web application interface with a dark header bar. The header includes navigation links for 'Hiring Tasks', 'Customer Tasks', 'Laptop Orders', and 'WCM content'. A search bar and user information 'testAdmin' are also visible. Below the header, there are two main sections: 'Customer Management Task List' and 'Exposed Processes'.

Customer Management Task List

Task name	Task id	Due Date	Owner	State
Analyze Complaint Task	204	14.7.2015	testadmin	Unclaim
Analyze Complaint Task	217	15.7.2015	testadmin	Unclaim
Analyze Complaint Task	219	17.7.2015	testadmin	Unclaim
Analyze Complaint Task	261	6.8.2015	unassigned	Claim
Analyze Complaint Task	266	6.8.2015	unassigned	Claim

Navigation: First Previous 1 Next Last

Exposed Processes

Filter By: All

- Business Travel Approval
Business Travel Approval
[Start this process](#)
- CustomerManagementAirLine
ComplaintAnalysis_BPD
[Start this process](#)

Digital Data Connector – Authoring Experience

Adjust desired “look and feel” by modifying the Presentation Template

The image displays two overlapping screenshots of the Digital Data Connector authoring interface. The background screenshot shows the 'Open Edit Form' configuration panel with sections for 'Data Source', 'List Appearance', 'Transformation Profile', and 'Plugin'. The foreground screenshot shows the 'Open Edit Form' dialog box, which contains HTML code for defining the form's structure and appearance.

Open Edit Form

Use HTML to define how list results are presented at your site, including a header, footer, and separator.

Header:

Export

```
[Component name="tpm/style"]
<div class="tpm_taskList">
  <header class="listHeader" role="banner" aria-label="Task List"><h1 class="tpm_heading listHeader">[[Property
context="current" type="context" key="title"></h1></header>

[[Plugin:Empty value="[[Element context="header" type="header" key="processApp]]"
<div class="tpm_file" id="tpm_filterTasks">
  <label for="[[Plugin:Portal key="namespace" compute="base"]tpm_fileTasksByApp">Filter by Process Application - <label>
<select id="[[Plugin:Portal key="namespace" compute="once"]tpm_filterTasksByApp" onchange="[[FilterTasks]]"></select>
</div>
[[Plugin:Empty]
</div>
</div>
[Component name="formListAppearances/my tasks header"]
```

Digital Data Connector – Authoring Experience

Open Edit Form

Data Source

Component:
Select Component +
BPM / DataSources / my tasks 🔍

List Appearance

Component:
Select Component +
BPM / List Appearances / my tasks 🔍

Transformation Profile

Transformation Profile
ibm.portal.bpmintegration

Plugin

Plugin
ibm.portal.ddc.xml

Process application name (only show tasks from this app)

Process application name (only show tasks from this app)
BPMBAL Samples

Script Portlet Applications

Angular/Bootstrap Script Portlet calling BPM services

Travel Requests | List Travel Requests | About

Create New Travel Request

Manager Review

Employee: Samantha Daryn
Traveling to: Germany
Date: 06/05/2015
id: 249
process: Business Travel Approval 09
owner: Suzanne
state: STATE_CLAIMED
status: Received

Submit Travel Request

Employee: Samantha Daryn
Traveling to: Atlanta
Date: 05/27/2015
id: 267
process: Business Travel Approval 09
role: Employee
state: STATE_READY
status: Received

Claim

Travel Requests

ID:

Name:

Business Location:

Run

Script Portlet calling Bluemix Business Rules

Vacation Calculator

Enter "Employee ID" and "Years of Service". Then click "Run" to invoke a sample rules service on Bluemix and populate the "Extra Vacation Days" and "Raw Response" fields from the JSON response.

Employee ID:

Years of Service:

Run

Extra Vacation:

Raw Response:

```
[{"employee": {"id": "EMP001", "seniority": 15}, "nb0ExtraVacationDaysBasedOnSeniority": 51, "DecisionID": "19b97aa7b-5794-4558-97af-a9682a35c60fb"}
```

Script Portlet calling Bluemix Workflow

Workflow Configuration

Stock Forecast Workflow

Enter one to three stock symbols separated by whitespace. Then click "Run" to invoke the sample workflow service on Bluemix. If successful, then the stock forecast table will be populated. This demonstrates how you can use the Bluemix service to create workflows that orchestrate and coordinate REST-based services used in your Script Portlet applications. In this sample the workflow coordinates calls to the IQ: stock service.

Symbols:

Run

Stock Forecast

Symbol	Ask	Bid	One Year Target	EPS (FY)	EPS (Next Year)
AAPL	131.84	131.81	148.75	5.06	6.89
HP	112.49	111.22	122.36	3.27	6.83
IBM	171.06	171.75	208.74	15.87	18.28

Showing 1 to 3 of 3 entries

Samples running at

<https://developer.ibm.com/digexp/docs/docs/script-portlet/business-process-manager-sample-ibm-script-portlet-websphere-portal/>

IBM Bluemix

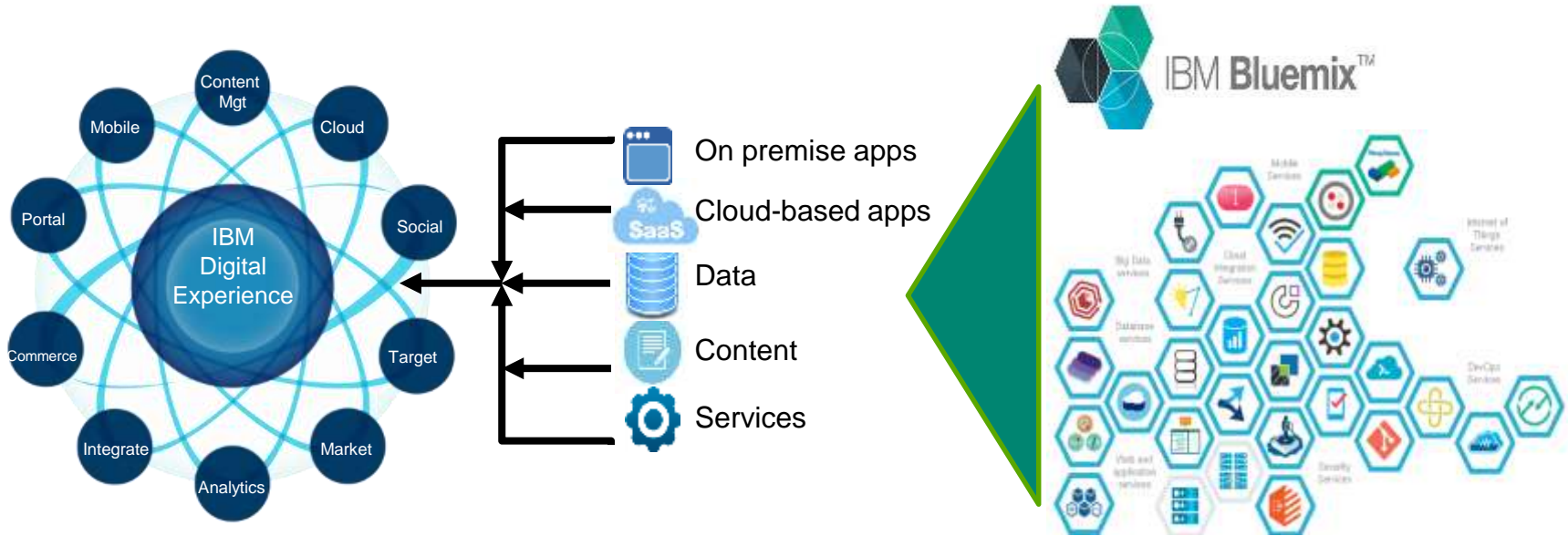
IBM Bluemix

- BlueMix is a Platform as a Service offering
- A cloud-based platform for rapidly building, managing and running applications of all types (web, mobile, big data, social, ...).
- Allows developers to use capabilities (services) from IBM or ecosystem partners in a pay-as-you-go model in the cloud.
 - Running on IBM SoftLayer infrastructure (IaaS)
 - Based on open-standards (OpenStack, CloudFoundry)



Digital Experience is a natural extension of IBM Bluemix

The Bluemix ecosystem contains both headless and visual services – which form a subset of an overall experience “on the glass”



IBM DX and Bluemix Value Proposition

- IBM Digital Experience (DX) focuses on building personalized user experiences by aggregating applications, services, data, and persuasive content
- IBM Bluemix is a platform for “born on the cloud” solutions with a set of runtimes and services provided by IBM and partners that enable developers to quickly build and operate new services and applications
- Our value proposition with Bluemix is three-fold:
 - Enable line of business users to integrate and consume Bluemix services and apps into a personalized user experience through prescribed patterns
 - Opportunistically produce discrete services of the IBM DX platform via Bluemix that can be discovered and consumed by new applications (e.g. adaptive web content)
 - Natively run DX components within Bluemix , i.e. Portlets (based on Liberty Runtime)

Topologies

- Combining IBM Bluemix and IBM Digital Experience
- Digital Experience can
 - consume from IBM Bluemix
 - can run within IBM Bluemix
 - can produce into IBM Bluemix

Produce

Why would I combine Bluemix and MACM?

IBM Bluemix

- Many cool services can be easily combined to cool applications (e.g. Translation, datastore, mobile push, ...)
- Different programming languages are possible (e.g. NodeJS)
- Application is nicely isolated within a cloud-based runtime



IBM Digital Experience / MACM

- Powerful web content management system (authoring user experience)
- Governance based on a review and publishing workflow
- Content can be easily embedded in any kind of application
- Clean separation of code/development and content/authoring



Run

Why would I run Portlets within Bluemix?

IBM Bluemix

- Application is nicely isolated within a cloud-based runtime
- Quickly accessible development environment - No install necessary
- Flexible licensing model for developers (pay as you go)
- Developed deliverables can
 - either be consumed directly by other systems
 - or be exported to a production environment



Portlet Programming Model

- Best practice to develop re-usable UI components
- Standardized „Contract“ defined component behavior (life-cycle, packaging, cross-component eventing, customization, ...)



Consume

Why would I use Bluemix Apps in a Portal?

IBM Bluemix

- Application/Component is nicely isolated within a cloud-based runtime
- Application can be developed independetly of other applications and of ist consuming web sites

IBM Digital Experience

- Powerful framework to aggregate re-usable UI components, data sources and web content
- Strong integration capabilities
- Personalized web UI
- Secure front-end
- Business user facing tooling for visual web page assembly and inline editing of content of other application artifacts



Retrieving JSON Data from a Bluemix Service

```
{ "parks_data":  
  [  
    {  
      "POSTALCODE": "95120-6099",  
      "PHONE": "408-927-1080",  
      "CITY": "San Jose",  
      "LONGITUDE": "-121.805421",  
      "PARKNAME": "San Jose Park",  
      "DESCRIPTION": "Down by the bay you will find plenty to do at the Bayside Park,  
featuring multiple sports related fields,  
sailing and fishing, along with barbeque and restroom facilities.",  
      "COUNTRY": "US",  
      "IMGFILENAME": "/parks/images/MB1BeachMarshHiking.jpg",  
      "ID": "1336143856675",  
      "STATE": "CA",  
      "ADDRESS2": "",  
      "LATITUDE": "37.212379",  
      "ADDRESS1": "650 Harry Road",  
      "RECREATIONFACILITIES": "bbq,restrooms,hiking,biking,running"  
    },  
  
    {  
      .....  
    }  
  ]  
}
```

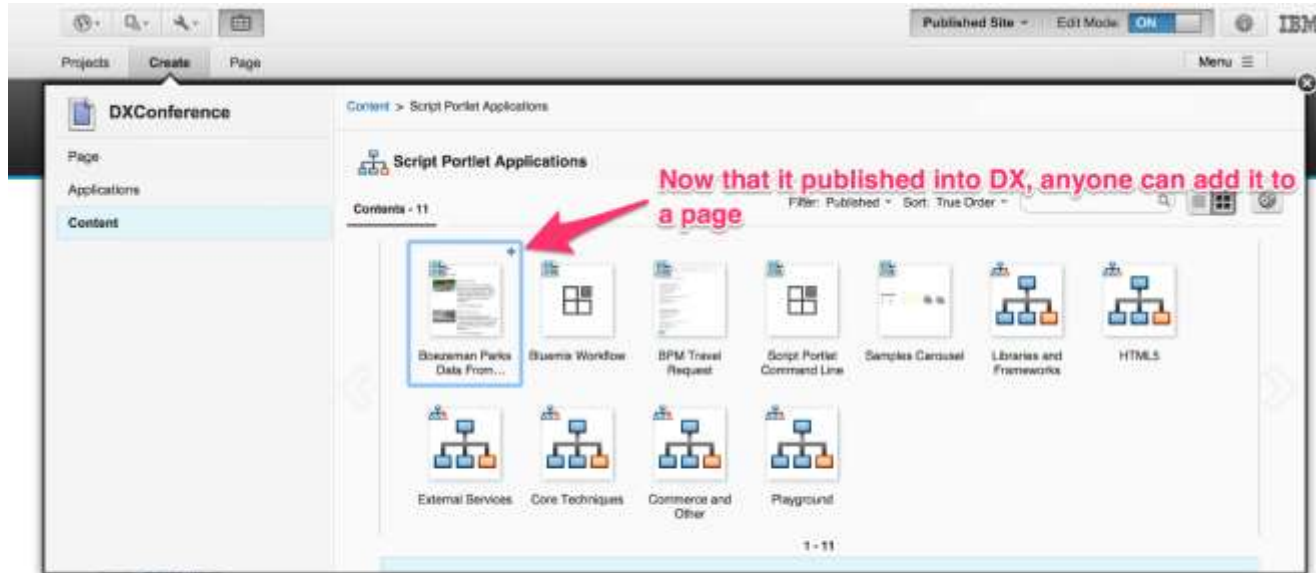
Sample Script to access a Bluemix Service

```
1 function showPictures() {
2 //the below is an example of using our ajax proxy
3 // var baseUrl = "/wps/myproxy/http/boezemanparks.mybluemix.net";
4 //the below is an example of using CORS
5 var baseUrl = "http://boezemanparks.mybluemix.net";
6 var url = baseUrl + "/getParks";
7 $.getJSON(url, function(json) {
8   var entries = []; // This is the HTML we'll build
9   $(json.parks_data).each(
10     function(index, item) {
11       var name = item.PARKNAME;
12       var picUrl = baseUrl + item.IMGFILENAME;
13       entries.push("" + "<div class='list_Item'>"
14         + "<div class='itemImage'><img src='" + picUrl
15         + "'></img></div>"
16         + "<div class='itemDetails'>"
17         + "<h3 class='itemTitle'>" + name + "</h3>"
18         + "<span class='itemSubTitle'>" + item.DESCRIP
19         + "<br></span>"
20         + "<div class='itemSummary'><p dir='ltr'>"
21         + "</p></div>"
22         + "<div class='itemLink'><span>" + item.RECRE/
23         + "</span></div>"
24         + "</div><div class='contentClear'></div>"
25         + "</div>");
26     }
27   );
28 }
29 }
30 }
31 }
32 }
```

Command was successful. See the log for details: (/Users/boezeman/Documents/coding/samples/parks_from_bluemix/sp
[Finished in 13.5s]

Line 5, Column 1 Tab Size: 4 JavaScript

Using a Script Portlet (I)



ember_reading_list
react_todo
react_directory
hdelgado
nshanku

Using a Script Portlet (II)

The screenshot shows the IBM WebSphere DX console interface. At the top, there are navigation tabs for 'Projects', 'Create', and 'Page'. The user is logged in as 'John Bozeman' and has options for 'Actions' and 'Log Out'. The breadcrumb trail indicates the current location: 'Playground > bozeman > DXConference'. A sidebar on the left lists various portlets and projects, including 'bozeman', 'hybris', 'Polaris', 'DXConference', and 'wagstone'. The main content area displays a portlet titled 'Bozeman Parks Data From Bluemix (Contextual)'. The portlet has an 'Edit' button and an 'Actions' dropdown menu. Below the portlet title, there is a section titled 'Parks Sample' with the subtitle 'Sample using data from Bluemix'. The sample displays three park entries: 'San Jose Park', 'Windy City Park', and 'Great Lake North Park'. A red arrow points to the 'Edit' button. A text box on the right contains the following text: 'Now that it is added to page, you have that SPA application running in DX, talking to Bluemix service. Any updates to the application that are pushed into DX, will automatically update this instance of that application across all pages.'

Consuming Bluemix Service via DDC

Identifies name we use to pick which data source

Identifies type of data, xml, JSON, database, etc... This handler knows how to parse that format.

What is the looping field in the source data



Simple mapping of the fields in the source and what to call them in WCM

Name	Value	Boolean
xml_parks.ItemProviderID	ItemProviderID.xml	false
xml_parks.Item	john.parks	false
xml_parks.ItemSelection	/ParksServiceRowSet/ParksServiceRow	false
xml_parks.ItemAttribute.id	/ID	false
xml_parks.ItemAttribute.title	/PARKNAME	false
xml_parks.ItemAttribute.description	/DESCRIPTION	false
xml_parks.ItemAttribute.image	/IMGFILENAME	false
xml_parks.ItemAttribute.latitude	/LATITUDE	false
xml_parks.ItemAttribute.longitude	/LONGITUDE	false
xml_parks.ItemAttribute.address1	/ADDRESS1	false
xml_parks.ItemAttribute.address2	/ADDRESS2	false
xml_parks.ItemAttribute.city	/CITY	false
xml_parks.ItemAttribute.state	/STATE	false
xml_parks.ItemAttribute.postalcode	/POSTALCODE	false
xml_parks.ItemAttribute.country	/COUNTRY	false
xml_parks.ItemAttribute.phone	/PHONE	false
xml_parks.ItemAttribute.facilities	/RECREATIONFACILITIES	false

Consuming Bluemix Service via DDC

Open Edit Form

Libraries > Portal Site > Content > Content Root > Playground > boezeman > parks > Parks for demo for Conference 2

 **Parks for demo for Conference 2** 

Status - Published | Last modified 4/30/15 1:30:22 PM CDT by [John Boezeman](#) | Created by [John Boezeman](#)

Save and Close - Read Preview Apply Authoring Template More - Close


Content Properties

***Name:**
digital data connector

Display title:
Parks for demo for Conference 2

Description:

List Appearance

Component:
[Select Component](#) -
DDC Lab / List Appearances / Parks displayed on a Map 

Data Source

Component:
[Select Component](#) -
None

Data Source URI

Identifies which WCM component will render this data

Consuming Bluemix Service via DDC

Open Edit Form

▾ List Appearance

Component:
Select Component ▾
DDC Lab / List Appearances / Parks displayed on a Map [x]

▾ Data Source

Component:
Select Component ▾
None

▾ Data Source URI

Data Source URI
 Specifies the Bluemix Service URL

▾ Transformation Profile

Transformation Profile
 Identifies which configuration that we did in the other step will parse that Data Source

▾ Plugin

Plugin

Save and Close ▾ Read Preview Apply Authoring Template More ▾ Close

* Required Fields

Consuming Bluemix Service via DDC

Home Samples DDC Samples **Playground** Administration Applications CFN Search Center Tag Center Site Builder

Published Site
Viewing published content

IBM John Bozeman Actions Log Out

parks

Sign Tabs
Stock Chart and Feed
Experience Samples
Icon Test
Style
Do
R
Script 1
Script 2
Art
Mail
Calculator
et

Parks Sample So same bluemix data as displayed on script portlet example, but now using WCM to format it demo for Conference 2

Sample using data from Bluemix

San Jose Park
Down by the bay you will find plenty to do at the Bayside Park, featuring multiple sports related fields, sailing and fishing, along with barbeque and restroom facilities.
10q,restrooms,hiking,biking,running

Windy City Park
Come on down and enjoy our tennis and basketball courts, catch a rugby game and let the children play on the playground while you barbeque.
restrooms,ngty,sailing,playground

Johannesburg Park

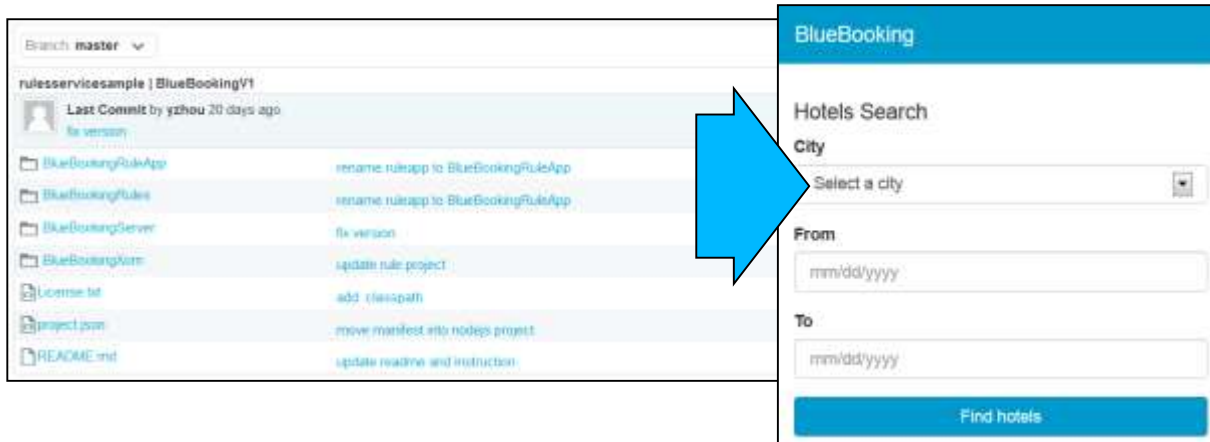
Google

Terms of Use

Consuming Bluemix Markup via WAB

<http://www.ibm.com/developerworks/cloud/library/cl-hotel-rules-app/index.html>

“This sample booking application shows the possibilities of integrating the Rules service with a Node.js application in the cloud, while also taking advantage of the ease of deployment and the scalability of the Bluemix platform.”



The image shows two side-by-side screenshots. The left screenshot is a GitHub repository page for 'ruleservicesample | BlueBookingV1' on the 'master' branch. It lists several files and their commit messages: 'BlueBookingRuleApp' (rename ruleapp to BlueBookingRuleApp), 'BlueBookingRules' (rename ruleapp to BlueBookingRuleApp), 'BlueBookingServer' (fix version), 'BlueBookingView' (update rule project), 'License.txt' (add file path), 'project.p2m' (move manifest into nodejs project), and 'README.md' (update readme and instruction). A large blue arrow points from the repository towards the right screenshot. The right screenshot is a web application interface titled 'BlueBooking'. It features a 'Hotels Search' section with a 'City' dropdown menu (labeled 'Select a city'), a 'From' date input field (placeholder 'mm/dd/yyyy'), and a 'To' date input field (placeholder 'mm/dd/yyyy'). A blue 'Find hotels' button is located at the bottom of the search form.

Use the Web Application Bridge to insert your Bluemix App into your Web Site (Step 1)

Configure a Content Provider Profile for the application which is exposed by Bluemix as `bluebookingv1.mybluemix.net`

The screenshot shows the WebSphere Portal interface for the Virtual Web Application Manager. The left sidebar contains a navigation menu with categories like 'Welcome', 'Portal User Interface', 'Portal Management', 'Web Services', 'Virtual Web Application Manager', 'Access', 'Portal Settings', and 'Portal Content'. The main content area is titled 'Virtual Web Application Manager' and includes a description of integrating web-based content. Below this, there are sections for 'Content Provider Profiles' and 'Web Dock Applications'. The 'Content Provider Profiles' section is active, showing a table with one entry: 'Blue Hotel' with the URL 'http://bluebookingv1.mybluemix.net'. The table includes columns for 'Name', 'URL', and 'Policy'. Below the table, there are pagination controls and a 'Show 2 of 1 items' indicator.

WebSphere Portal > Portal Management > Virtual Web Application Manager

Welcome

Portal User Interface

- Manage Pages
- Themes and Skins
- Page Templates

Portal Management

- Web Modules
- Applications
- Portals
- Web Services
- Virtual Web Application Manager

Access

- Users and Groups
- Resource Permissions
- User and Group Permissions
- Contentual Vault

Portal Settings

- Global Settings
- Custom Unique Names
- Supported Markups
- Supported Clients
- Input XML

Portal Content

- Web Content Libraries
- Syndicators
- Subscribers
- Feed Configurations

Virtual Web Application Manager

Integrate web-based content from different providers, such as Microsoft SharePoint, into your portal site. The applications are rendered through the Web Dock Portal using an iframe.

Content provider profiles store information that is needed to connect to the host. Policies store more information about what can and cannot be accessed from the host site. You can have multiple policies for each profile.
[Learn More...](#)

Content Provider Profiles

Web Dock Applications

- Content Provider Profiles

Create Content Provider Profile

Sort By Title

1 - 1 of 1

Name	URL	Policy
Blue Hotel	http://bluebookingv1.mybluemix.net	Blue Hotel Policy

Created By: ejpadm | Created On: 5/7/2014 14:45:30 | Modified On: 5/7/2014 14:43:30 | PolicyType: None

[Add Policy](#) [Clear Items](#) [Edit](#) [Delete](#)

Show 2 of 1 items

Jump to page 1 of 1

Use the Web Application Bridge to insert your Bluemix App into your Web Site (Step 2)

Configure a Web Dock Application, which exposes the Bluemix Hotel Application as a re-usable „Lego Brick“ inside the Portal world.

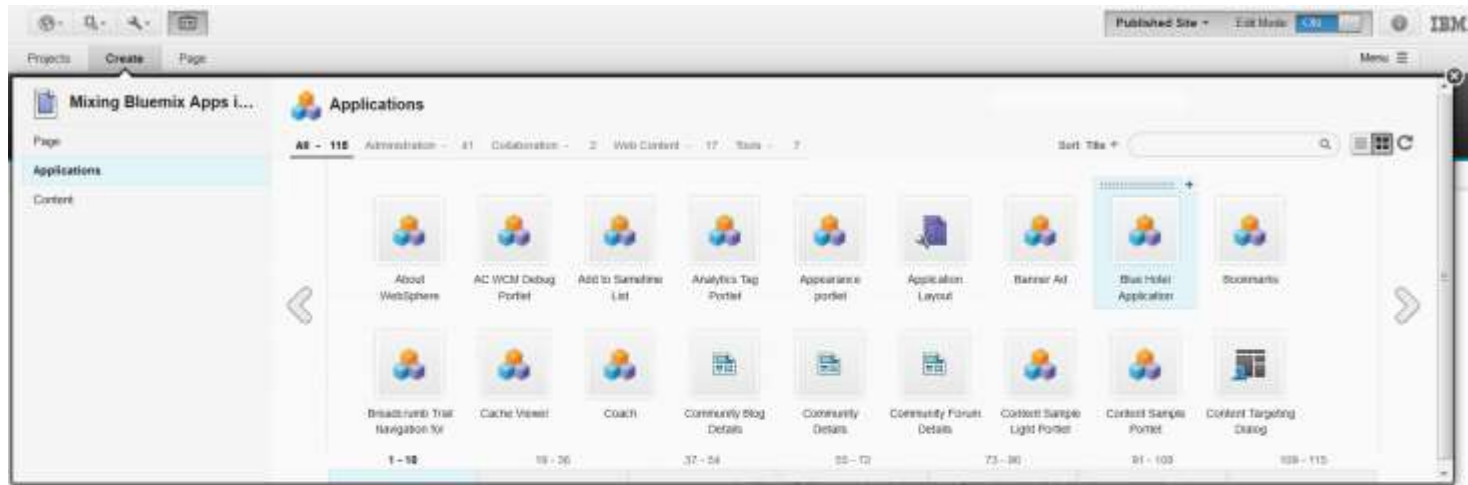
The screenshot displays the 'Virtual Web Application Manager' interface in a WebSphere Portal. The left sidebar contains a navigation menu with categories like 'Welcome', 'Portal User Interface', 'Portal Management', 'Access', 'Portal Settings', and 'Portal Content'. The main content area is titled 'Virtual Web Application Manager' and includes a 'Create Web Dock Application' button. Below this, there is a table listing the configured application:

Blue Hotel Application	Display	Client-side IPC	Server-side IPC	Plugins
http://bluebookingv1.mybluemix.net/				
Created By: apaschm Created On: 8/7/2014 14:48:45 Modified On: 8/7/2014 15:51:48				
Edit Create				

At the bottom of the table, there is a pagination control showing 'Show 2 of 1 items' and 'Apply to page 1 of 1'.

Use the Web Application Bridge to insert your Bluemix App into your Web Site (Step 3a)

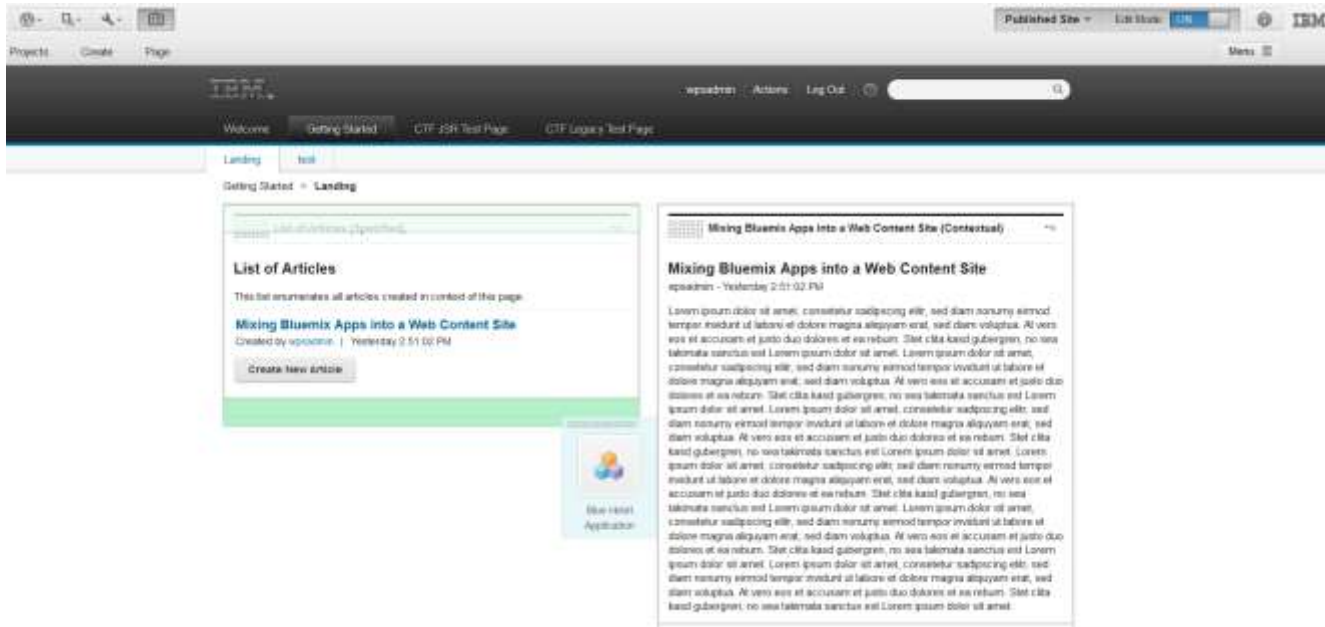
Drag and Drop the Bluemix Hotel Application from the Toolbar ...



kasd gubergren, no sea talemata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elit, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet citta kasd gubergren, no sea talemata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elit, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet citta kasd gubergren, no sea talemata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elit, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet citta kasd gubergren, no sea talemata sanctus est Lorem ipsum dolor sit amet.

Use the Web Application Bridge to insert your Bluemix App into your Web Site (Step 3b)

... to its place within the target Portal Page (along with any other application or web content, which the page author might like to add)



And we are: Ready to be published

The screenshot displays a web application interface. At the top, there is a navigation bar with 'Published Site', 'Edit Mode' (set to OFF), and the IBM logo. Below this is a secondary navigation bar with 'Projects', 'Create', 'Page', and a 'Menu' icon. The main content area features the IBM logo on the left and a search bar on the right. A dark blue sidebar on the left contains 'Welcome', 'WAB', and 'Getting Started' links. The main content is divided into two columns. The left column has a heading 'Mixing Bluemix into a Web Page' with a timestamp 'wpsadmin - Today 9 11:46 AM' and a paragraph of Lorem Ipsum text. The right column has a blue header 'BlueBooking' and a 'Hotels Search' section. This section includes a 'City' dropdown menu with 'Paris' selected, 'From' and 'To' date input fields with values '08/08/2014' and '08/22/2014' respectively, and a blue 'Find hotels' button.

Mixing Bluemix into a Web Page

wpsadmin - Today 9 11:46 AM

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet citta kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet citta kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet citta kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet citta kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet citta kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet.

BlueBooking

Hotels Search

City

Paris

From

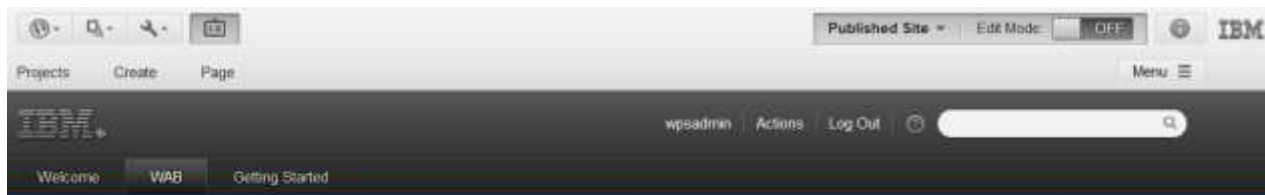
08/08/2014

To

08/22/2014

Find hotels

.... And ready to be used



Mixing Bluemix into a Web Page

wpsadmin - Today 9:11:46 AM

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BlueBooking

Paris from 08/08/2014 to 08/22/2014

\$80 \$160	Paris Bastille
\$70 \$140	Paris La defense
\$100 \$200	Paris Louvre
\$60 \$120	Paris Montparnasse
\$90 \$180	Paris Opera
\$75 \$150	Paris Gare de Lyon

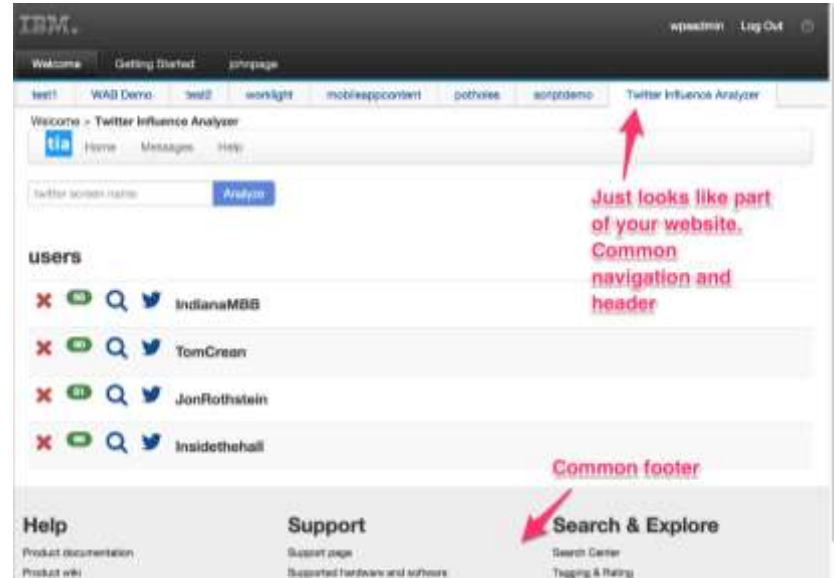
* Click to see price details

[← Back to Search](#)

Web Application Integrator (WAI)

Display portal navigation inside a Bluemix application

- Simplicity of iFrames without the drawbacks – No double header or dual navigation
- HTML <script> tag executes and can “inject” markup for portal navigation, launch menu, and page breadcrumbs into web app
- Clicking on any DX specific navigation tab will take you back into DX website. Clicking on any DX URL page tab will hit the underlying URL.



Web Application Integrator

Advantage: Federation of different web applications/sites with a common navigation/theme provided by IBM DX

A WebSite built within Bluemix

The screenshot shows a Twitter profile for Tom Crean. The header area has been customized with a navigation bar containing 'tia', 'Home', 'Messages', and 'Help'. Below this, the profile name 'Tom Crean' is visible. A red arrow points to a custom header link: 'My Twitter Analyzer bluemix application'. The page also displays sections for 'influenced by' and 'influences', each with a list of users and their follower counts. At the bottom, there is a 'recent tweets' section with two tweets.

tia Home Messages Help

Tom Crean

My Twitter Analyzer bluemix application

influenced by

- 87 DwyaneWade
- 63 JoyceMeyer
- 80 ManagersDiary
- 80 InTouchMin
- 80 MarkBatterson

influences

- 60 IndianaMBB
- 44 WmDillon
- 40 dgucken
- 40 coachmartin23
- 37 Coach_McVay

recent tweets

Wed Oct 29 18:50:53 +0000 2014
As you pray for young people like Avery Hariman #AveryStrong and others going through tough battles, pray 4 the families courage as well.

Tue Oct 28 11:22:35 +0000 2014
Standing Before God's Open Door. Powerful and Straight to the point!

Preparing access to the Portal Navigation

Select Page > Content Root > Home > Welcome

Pages in Welcome Add, Edit, Delete, and Reorder pages

+ New Page + New Label + New URL + New Page from...

Title	Unique name or Identifier	Status
test1	id_Z6_GP0IGH1KH1J80A9ACM8T2001	Active
WAB Demo	id_Z6_GP0IGH41KGVN80AM5C08FQ10G5	Active
test2	id_Z6_GP0IGH41KBAKF0A93LH1B00K0	Active
worklight	id_Z6_GP0IGH41KGN080AGM70Q21003	Active
mobileappcontent	id_Z6_GP0IGH41KGN080AGM70Q21042	Active
potholes	id_Z6_GP0IGH41KGN080AGM70Q21053	Active
scriptand	id_Z6_GP0IGH41KGN080AGM70Q21054	Active
Twitter Influenza Analyzer	id_Z6_GP0IGH41KGVK80AM52HGFMF3084	Active

Create a URL page in portal with value to the Bluemix web

This portal will generate the HTML <script> tag used to integrate an external web application with Portal.

Enter Portal page's unique name (obtained from Manage Pages portal): Generate HTML <script>

```
HTML <script> tag used to integrate external web application for page = Z6_GP0IGH41KGVK80AM52HGFMF3084
<!-- BEGIN PORTAL NAVIGATION INTEGRATION -->
<script type="text/javascript"
src="http://92.168.0.24:10029/wps/wcm/myportal/home/Welcome/ta/ta/ui/p/z/1/JYg9DaiwEJCfoG1VxUNk4UQnI3pVzMG
w7hY-He7f0qaaqt7hWwDum3m1PV7rebyKEDwvaT53GINHkk6GLNHPz8qa8MhuIy7Y7sdKfoQWgdlyDndM-ME
">
</script>
<!-- END PORTAL NAVIGATION INTEGRATION -->
```

Now copy the script tag to the Bluemix webapp

Integrating Bluemix Application seamlessly with Portal

The screenshot displays the IBM Bluemix Portal interface. At the top, the IBM logo is on the left, and the user 'wpsadmin' with a 'Log Out' button is on the right. Below this is a navigation bar with tabs: 'Welcome', 'Getting Started', and 'johnpage'. A secondary navigation bar contains various application tabs: 'test1', 'WAB Demo', 'test2', 'worklight', 'mobileappcontent', 'potholes', 'scriptdemo', and 'Twitter Influence Analyzer'. The 'Twitter Influence Analyzer' tab is highlighted with a red arrow pointing to it.

Below the navigation, the page content for 'Twitter Influence Analyzer' is shown. It includes a 'Welcome > Twitter Influence Analyzer' header with a 'tia' logo and links for 'Home', 'Messages', and 'Help'. There is a search input field labeled 'twitter screen name' and an 'Analyze' button. Below this is a section titled 'users' with a list of four users: IndianaMBB, TomCrean, JonRothstein, and Insidethehall. Each user entry includes a status indicator (a red 'X' and a green circle with a number), a search icon, and a Twitter icon.

At the bottom of the page is a 'Common footer' section with three columns: 'Help' (with links to 'Product documentation' and 'Product wiki'), 'Support' (with links to 'Support page' and 'Supported hardware and software'), and 'Search & Explore' (with links to 'Search Center' and 'Tagging & Rating'). A red arrow points to the 'Search & Explore' section.

Annotations in red text with arrows highlight the integration points:

- Just looks like part of your website. Common navigation and header.** (Points to the 'Twitter Influence Analyzer' tab in the navigation bar)
- Common footer** (Points to the footer section)

Single-Sign-On: Using CORS on Bluemix

- Cross-origin resource sharing (CORS), allows resources to be requested from another domain outside the domain of the main page request. See for more info: http://en.wikipedia.org/wiki/Cross-origin_resource_sharing
- Supported only by modern browsers
- Works against any of the Bluemix backends (Ruby, Node.js, PHP, Python, Liberty)
- The whitelist controls what hostnames your Bluemix service will allow to access your service. You can specify wildcard, if you want your service to be accessed from any host
- For the Node.js demo, we will use the CORS module

Single Sign On

Advantage: Single Sign-On for users across multiple sites/web applications

Single-Sign-On: Using Ajax Proxy with Bluemix

- DX provides an Ajax Proxy out of box
 - Provides a server side proxy, to tunnel ajax requests to other domains through the current domain
 - No requirement on the browser, like CORS As a result this works across all browsers and versions
 - Admin control of policies(urls) that are allowed to passthru. Any combination of wildcard, sub-domain, and specific url are supported.
 - Admin control of http methods that are allowed, like get, post, etc..
 - Support for service mapping to credential vault slot. This allows auto-authentication from stored credential to a service.
 - Requires admin rights to update configuration
 - Does add load on server to proxy the go-between the browser and Bluemix service

Single-Sign-On: Using Ajax Proxy with Bluemix

- Create `bluemix_proxy.xml`

```
<?xml version="1.0" encoding="UTF-8"?>
<proxy-rules xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="http://www.ibm.com/xmlns/prod/sw/http/outbound/proxy-config/2.0">
<policy url="http://mt-nodejs-boezeman.mybluemix.net/*" name="bluemix">
<actions>
<method>POST</method>
</actions>
</policy>
</proxy-rules>
```

- Update configuration in the server by calling `ConfigEngine` command
 - `ConfigEngine.sh create-outbound-http-connection-config - DConfigFileName=bluemix_proxy.xml`

Digital Experience on Cloud



Reduce time to market and delivery risk

We set up and configure IBM Digital Experience, so your project can deliver sooner.



Lower your costs

Eliminate the need to procure servers, hire an operations team or purchase supporting software.



Focus on your customers

Robust IBM SaaS capability frees you from day-to-day operations and lets you focus on your customers



Taking Advantage of a Digital Experience on Cloud Offering

Lightweight Web Front-End Programming Model

Theme/Styles/Layout

Create/publish Sites

WCM / PZN

DDC

Script

WAB

WAI

http Outbound

Cloud / SaaS

- Digital Data Connector (DDC)
 - CRUD-operations on XML based services, rendered via WCM rendering portlet (and formatted via WCM presentation templates)
- Script Portlet
 - Author script code artifacts within a WCM based scripting portlet (managed by WCM)
- Web Application Bridge (WAB)
 - Display 3rd party markup within a reverse proxy portlet („webdock portlet“)
- Web Application Integrator (WAI)
 - Display remotely executed portlets within a WSRP consumer portlet
- WSRP consumer
 - Display remotely executed portlets within a WSRP consumer portlet

Advantage: IBM Hosted SaaS solution to build entire web sites, including web content and integration patterns

Summary

Summary: Programming and Integration



Web Application Bridge

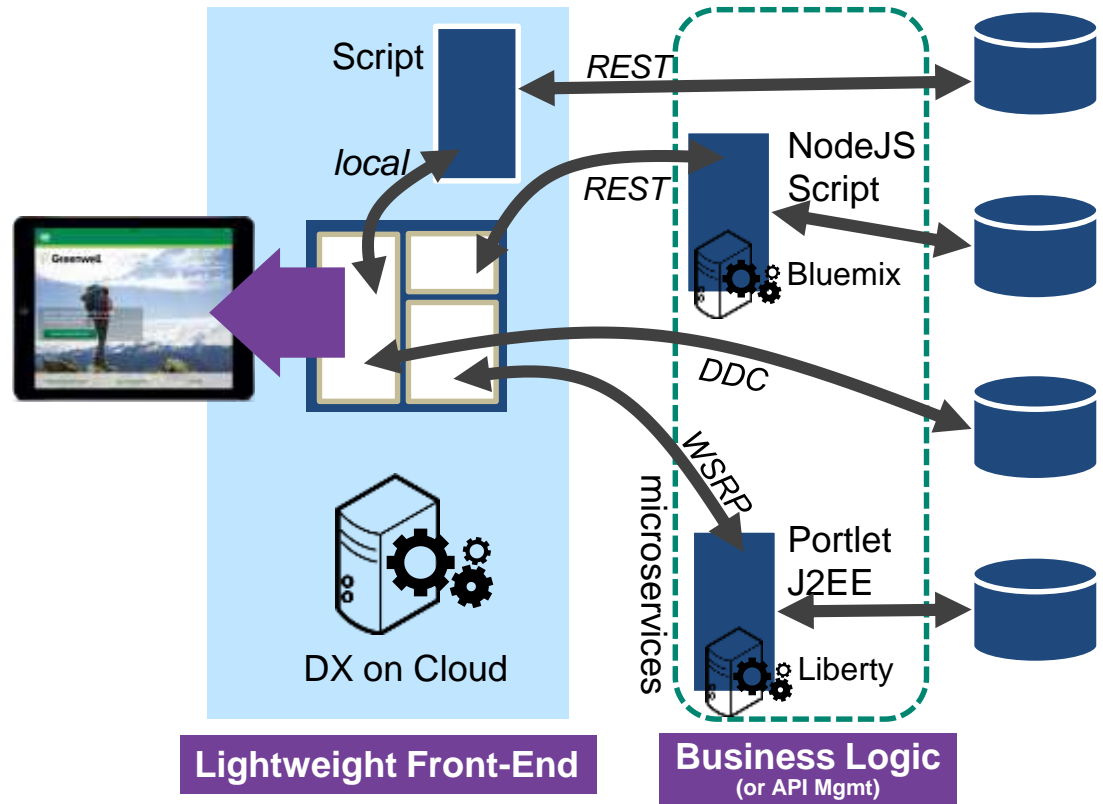
*Line of Business Driven
Integration Options*



Programming Options

Trend: Distributed hybrid systems

- Mix and match Runtimes
- Node, J2EE,
- Connect cloud and on-premises deployments to a modern hybrid topology
- Microservices architecture
- Takes advantage of DX integration capabilities
- DDC, Script, WAB, WSRP, ...



Good Reading ...

Draft Document for Review: October 5, 2015 9:45 am - SG24-8313-00



Creating an Exceptional Web Site using IBM Digital Experience

Bernd Beilke
Darren Cacy
Dmitri Nevedrov
Dineshbabu Ramakrishnan
Jayaprasad Thambuganipalle
Basem Zaben



WebSphere

Vielen Dank



For Additional Information

IBM Digital Experience Solutions

<http://www-01.ibm.com/software/collaboration/digitalexperience>

WebSphere Portal and IBM Web Content Manager Information Center Wiki

<http://www-10.lotus.com/ldd/portalwiki.nsf/>

IBM Digital Experience Demonstrations:

<http://www.youtube.com/user/IBMXWebX>

IBM Digital Experience Developer

<http://developer.ibm.com/digexp>

IBM Software Business Solutions Catalog

<https://greenhouse.lotus.com/catalog/>



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