Leveraging IBM JazzHub for Development & testing on the Cloud

Sreenivasan (Raj) Rajagopal

Senior Product Manager, IBM Rational

rajagops@us.ibm.com

Twitter : @SreenivasanRaj/@JazzHub

Agenda

- **What** is JazzHub?

- **Why** Develop in the cloud?

- **How** to leverage JazzHub for Dev & Test on the cloud?

JazzHub.com

Click. Code. Create.
Everything you need to build great software.

JazzHub Beta 3
Make your next project easy.

Explore projects

Create a project

Working with classroom and research projects?
Visit the Academic JazzHub

Public or private
Share your genius in free public projects, or keep it confidential with private projects. *

*Private projects free for beta!

Find your rhythm
Simple bug tracking or serious agile team development. Integrat
tracking, pla

Develop with free
Code in the cloud with
you love... Eclipse, Vis
Studio, the built-in Jazz
editor. You can even lin
your GitHub repo.

3

JazzHub: IBM Rational's Premier SaaS offering

• What is JazzHub?

–JazzHub is a fully hosted software development tool in the cloud, complete with task tracking, agile planning, and integrated source control

•Key capabilities and value

–JazzHub allows users to develop and collaborate on software projects in the cloud. Projects can be public– and exposed to the rest of the web– or private, and only seen by their team.

–Easy to use and extremely quick time to value

- No downloads required, users can register and create their first project in under a minute
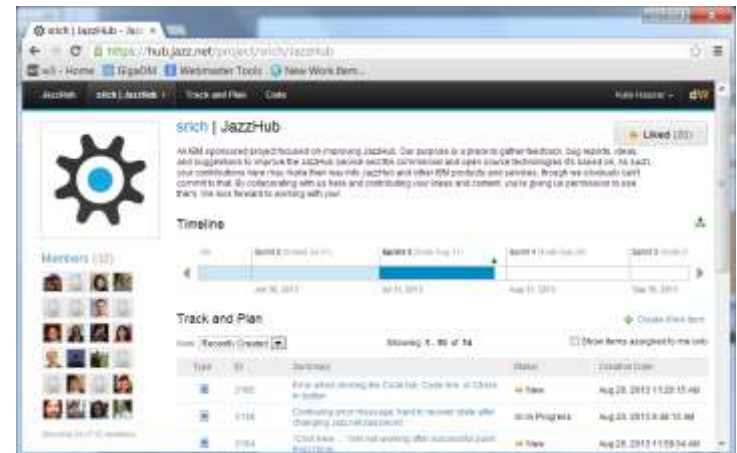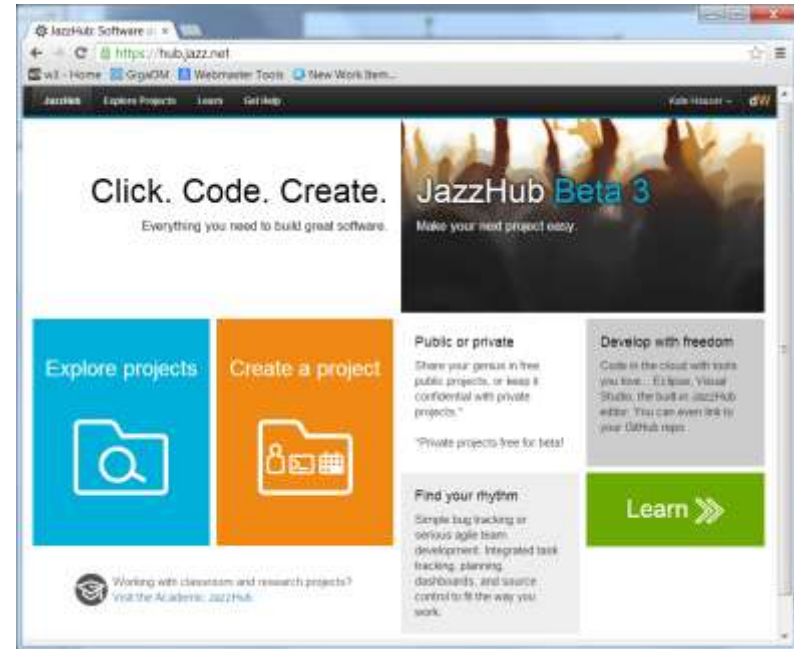
–Flexible code management options: use JazzHub's browser based IDE, code locally with an Eclipse client, or integrate with an existing GitHub project.

–IBM's premiere hosted environment for Cloud application development, with built-in DevOps capabilities

•Call to action

–Explore **JazzHub.com** and register to create your own project

–Come, build great software !

4

JazzHub: A Self Evident, Self-Serve Software as a Service

Value	Capability
Simplicity and Ease of Use. Get Started on real work in less than a minute	Start an Agile Project in less than a minute Create as many as you like
	Manage all your Projects in one view. Easily Invite Members to join your projects
	Search Public Projects to find interesting info that you can reuse Project Details, Read Me, Links – Better Searchability/Visibility (Community Improvements), Seamless Code Re-use – Tag, Discover , Share
	Create Private or Public Projects – For Free
Enterprise Class Collaborative Development Capabilities that increase productivity for individuals, team and team of teams.	Agile Planning & Tracking and Industry Leading Change Management
	Source Code Control – Jazz SCM
	ORION based IDE on the WEB
	Full Eclipse Client Support
	*GitHub Integration
	A First Class Project Dashboard that provides a single version of the truth
Personal Task Management (find a better value)	Manage all your Projects in one view. Easily Invite Members to join your projects. Control your Project
Online Community Support – Engineering Direct Access	Via Online Help, Forums – Our engineers monitor and respond to issues directly
Team Organization	(Post October Capability)
High Reliability & Trust	SoftLayer based Infrastructure

Software as a Service

WHY DEVELOP IN THE CLOUD?

Context : Systems of Engagement

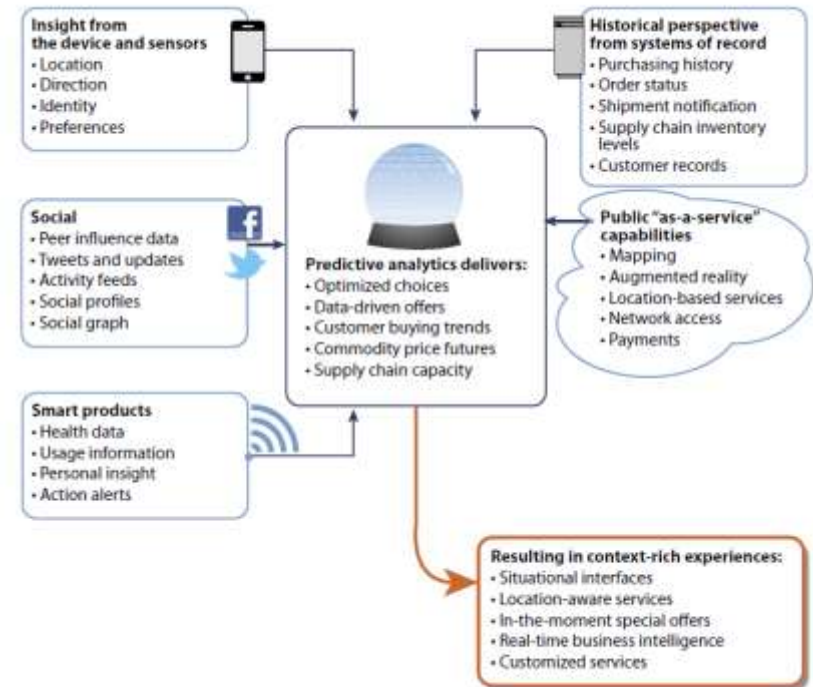Figure 3 Systems Of Engagement Are The Future Of Technology-Led Business Innovation

Systems of engagement touch people
- Serving customer, partners, and employees
- Enabled by smartphones, tablets, and smart products
- Focused on in-the-moment tasks and decisions
- Delivering in an individual's personalized context
- Providing analytics-driven experiences
- Leveraging social and cloud technologies
- Short, rapid, iterative release cycles

Systems of record host processes
- Targeting employees
- Supported by ERP packages and large databases
- Recording transactions and accounting data as part of core business processes
- Maintain state, status, and history
- Long development and deployment cycles

Customers — Partners — Employees — Smart products

60544 — Source: Forrester Research, Inc.

Engagement goal	What makes it possible	Enabling technologies	Examples
Empowering people	Harnessing social and mobile collaboration tools to connect people to each other and to you	• Social networks • Mobile collaboration • Wireless networks • SaaS solutions	• Activity feed apps that keep mobile pros in touch • Social apps that capture status, complaints, and ideas
Projecting value	Providing task-specific apps to reach customers in their context and moments of decision	• Task-oriented apps • Business app stores • Links to systems of record • Predictive analytics	• B2B catalog app with pricing and availability • Order management mobile app linked to the web app
Accelerating decisions	Putting information, data, and analytics into the hands of decision-makers at the moment of determination	• Data dashboards • Predictive analytics • Search • Information access	• Data dashboard with operations or financial data • Mobile access to the portal, search, and files
Developing smart products	Using mobile apps as the control interface and to extend products' value and differentiation	• CPUs and sensors • Wireless connections • Smart app APIs • App store	• Smart dishwasher that tracks energy use • Smart scale with weight management app ecosystem

60544 — Source: Forrester Research, Inc.

Figure 4 Systems Of Engagement Use Context To Deliver A Great Mobile Experience

Insight from the device and sensors
- Location
- Direction
- Identity
- Preferences

Social
- Peer influence data
- Tweets and updates
- Activity feeds
- Social profiles
- Social graph

Smart products
- Health data
- Usage information
- Personal insight
- Action alerts

Historical perspective from systems of record
- Purchasing history
- Order status
- Shipment notification
- Supply chain inventory levels
- Customer records

Predictive analytics delivers:
- Optimized choices
- Data-driven offers
- Customer buying trends
- Commodity price futures
- Supply chain capacity

Public "as-a-service" capabilities
- Mapping
- Augmented reality
- Location-based services
- Network access
- Payments

Resulting in context-rich experiences:
- Situational interfaces
- Location-aware services
- In-the-moment special offers
- Real-time business intelligence
- Customized services

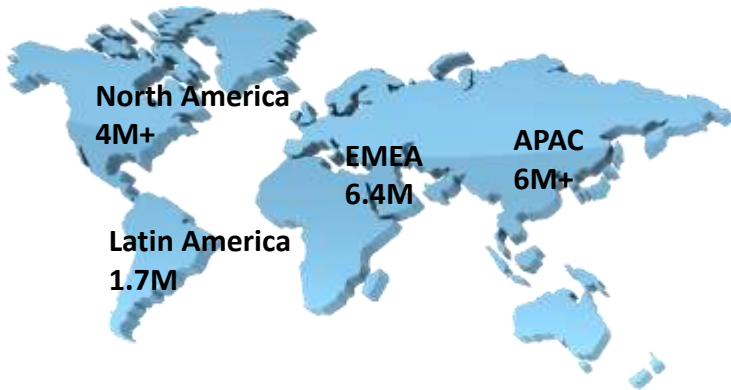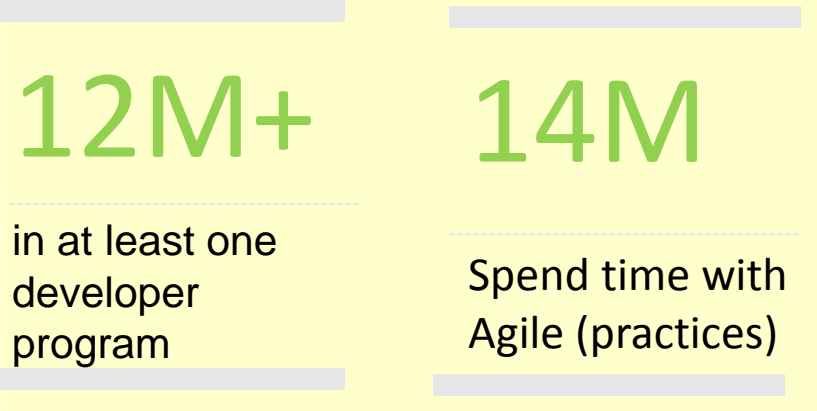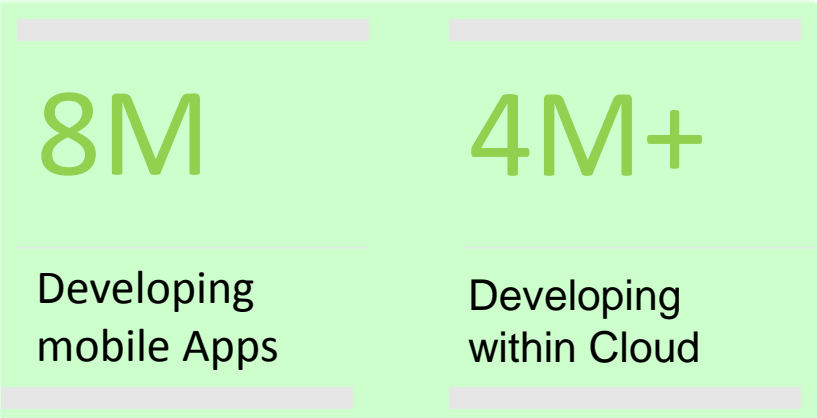60544 — Source: Forrester Research, Inc.

Terminology :

• **Systems of Engagement**: new types of application development that harnesses mobile, social, cloud, and big data to deliver contextual, user-focused apps and smart products

• **Systems of Interaction**: applications that integrate back-end/SoR systems with SoE

• **Systems of Record**: traditional back-office business applications

Source: Mobile is the New Face of Engagement, 2012 © Forrester Research, 2012

A Shift under way
Global Developer Population 2013

2013 Global Developer Population:

18M+

8M Developing mobile Apps	**4M+** Developing within Cloud
12M+ in at least one developer program	**14M** Spend time with Agile (practices)

North America
4M+

Latin America
1.7M

EMEA
6.4M

APAC
6M+

Targeted audience

Strong affinity with targeted audience

Growth Estimates:
- Estimated Global Dev Population by 2017: 23M+
- **Estimated Mobile/Cloud Dev: over 70% of all new dev**

Source : Developer Population and Demographic Study, 2013 © Evans Data Corp, 2013

The new development reality:

Consumerization of technology

Cloud & Mobile Revolution

Systems of engagement

Developers making more decisions

Changing the types of software that gets built

Line of Business and marketing driving

New Development Reality

IBM

Systems of Engagement – A Typical Development Scenario

Mobile Dev, Test & Deploy

- Identify Mobile Platform to target (iOS,Android)
- Write Code (xCode,Eclipse, other)
- Use **jQueryMobile** (if targeting multiple devices)
- Test using Simulators
- Include **BugSense** to monitor quality
- (Optionally) use uTest Services for test coverage
- **Lean Start Up** Process
- Development Collaboration using **GitHub, Atlassian, BaseCamp, Adobe / Balsamiq / MockingBird (wireframe)**
- Deploy to Apple / Android Stores
- (optionally) Build/host a WebSite(HTML5) on Heroku to download Apps
- Dev collaboration using **GitHub**..pick any off the shelf issue mgt sln

Cloud App Dev, Test & Deploy

- Identify web-stack to use (eg: **node.js** for real-time applications like online games, collaboration tools, chats etc., mongo dB for storing/operating on unstructured data, Expressjs for UI)
- Use **IDEs like codenvy, c9, orion**
  - Desktop IDEs : Eclipse , Visual Studio
- Write code
- Use **jQuery** as needed
- Deploy to a PaaS (**AWS, Google App Engine, Heroku, Azure**) to Scale
- Use **MemCache, NewRelic** and other services as needed to manage memory, monitor performance etc
- Use **Google Chrome Dev tools** (eg: node inspector) to debug
- **Lean Start up** Process
- Dev collaboration using **GitHub**..pick any issue mgt : **Atlassian**, **Trello,omega**.

The Case for Developing in the Cloud

- More and more applications have moved to the Web, to mobile devices, and are being run in Cloud environments

- Rational's Application lifecycle tools offer lifecycle capabilities in the Web

- But Development tasks are largely still done on the desktop in environment like Eclipse or Visual Studio

- Could we offer this experience in the Web, and integrate it into the software lifecycle?

- This is what we're delivering with JazzHub.

The new development reality:

Consumerization of technology

Cloud & Mobile Revolution

Systems of engagement

Developers making more decisions

Changing the types of software that gets built

Line of Business and marketing driving

New Development Reality

Who is this New Developer? What do they need to develop applications in this new environment ?

- ## Who are they?
  - Trust open source model to deliver high quality free software
  - Use tools like Heroku, GitHub, and AWS
- ## What do they want? How do they work?
  - Tool preference heavily influenced by tool popularity and what mentors use
  - Seek answers for technical problems online via search, forum interactions, communities, etc.
  - Value simple getting started, ease of use and core functions
  - Comfortable with cloud / SaaS model – may already be paying for multiple cloud offerings in personal life (Amazon storage, Spotify, Dropbox, etc.)
  - Prefer straight forward pricing.
  - Instant gratification– greatly reduced development cycles

40% of developers are 30 or younger.

Average age worldwide is 39, North America avg. age is 49

Agile techniques are used by 11.2 million+

1 in 3 use cloud/ virtualization

Source: Global Developer Populations and Demographics Report 2010 (Evans Data)

IBM Offers :

Cloud products and services

Private Cloud

Transform your business by reducing IT complexity and empowering innovation.

Infrastructure as a service (IaaS)

Scale new business models with easily customized enterprise-class virtual resources.

Platform as a service (PaaS)

Develop cloud apps fast with a collaborative, cloud-based, automated platform.

Software as a service (SaaS)

Respond to market trends faster than ever with new applications.

Consulting and implementation

Move to cloud confidently with IBM expert consultants and proven services.

IBM's Cloud Delivery Model

Leveraging IBM JazzHub for Development & testing on the Cloud

API Economy	External Ecosystem	DevOps
	API	API API API •••• API API
	Marketplace	App
	API API	Solutions
Cloud Operating Environment	Services & Composition Patterns	API & Integration Services
	datastore mobile middleware services ops dev	Traditional Middleware-based Workloads

Software as a Service

Platform as a Service

Infrastructure as a Service

Software Defined Environment

Workload Definition, Optimization, & Orchestration

Resource Abstraction & Optimization

Software Defined Compute   Software Defined Storage   Software Defined Networking

The Cloud Delivery Model – Public and OnPremise

- **Fundamentals :**

  –IaaS - SoftLayer

  –PaaS – Smart Cloud Application Services (SCAS) , Cloud OE /BlueMix (future)

  –SaaS – Smarter Commerce SaaS, JazzHub

- **Delivery Models :**

  Public Cloud :

  –Single Tenant/ Shared Resources (eg : CLMS)

  –Single Tenant / Dedicated Resources

  –Multi Tenant (eg : JazzHub)

  On Premise :

  –A Cloud on premise

IBM's Premier Solution for the new development reality

Resources tools and community to help developers build applications for mobile, cloud, big data

The New DeveloperWorks Network : Expansion of developerWorks into a federation of interconnected web resources

–Enable developers to "connect", "learn", and actually develop through the developerWorks site

BlueMix : PaaS technology stack and website that enables developers to rapidly build, deploy, and manage applications – preview coming soon.

JazzHub: JazzHub is a fully hosted, cloud based CLM installation tailored to enable quicker startup and time to value –

IBM JazzHub and BlueMix:
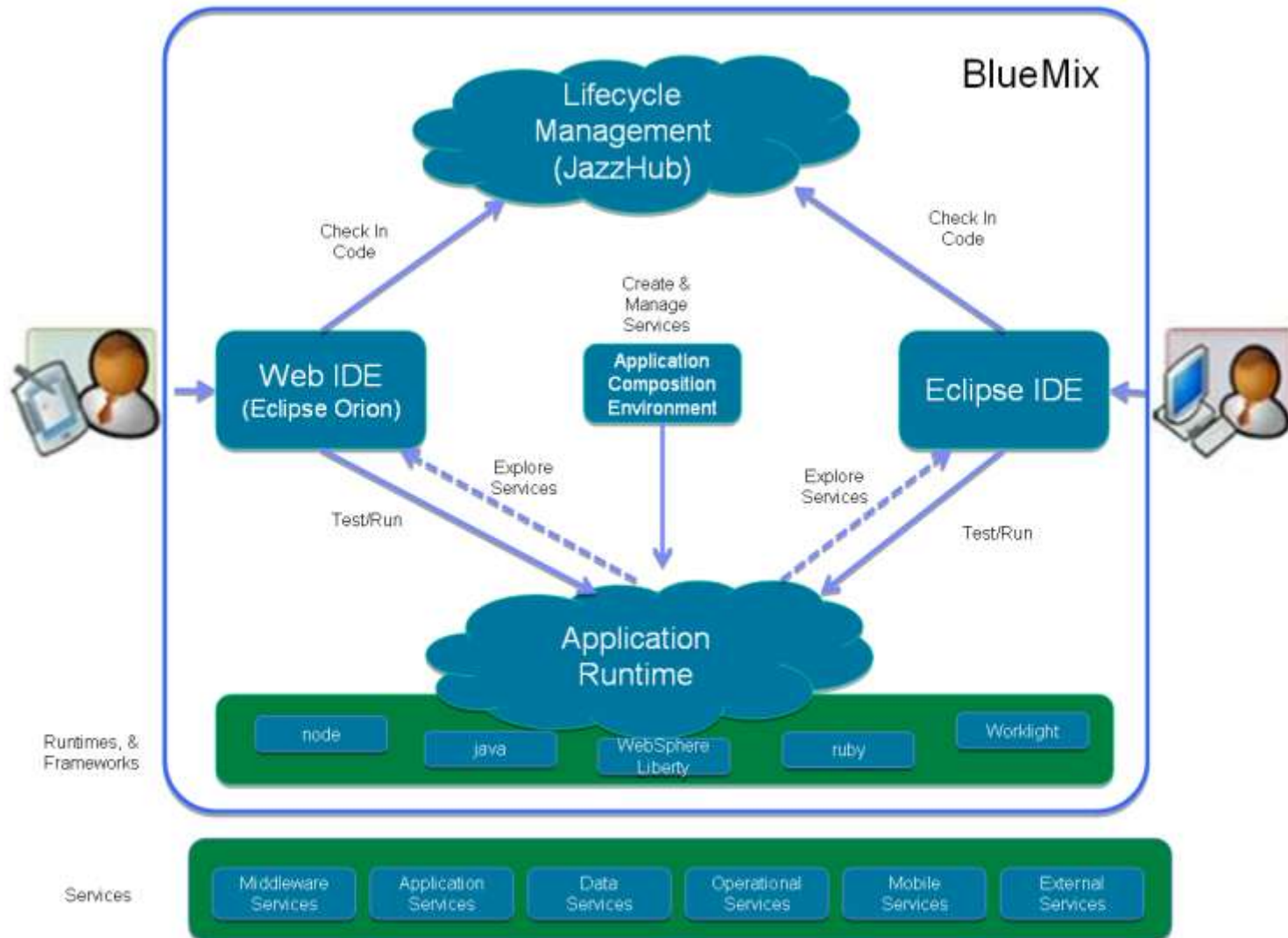
Software as a Service

HOW TO DEVELOP IN THE CLOUD USING JAZZHUB CAPABILITIES

JazzHub's cloud deployment makes getting started simple and fast.

•We take care of the cloud so you can take care of the code. With no servers to install, configure or maintain, you have more time (and money) for the fun stuff.
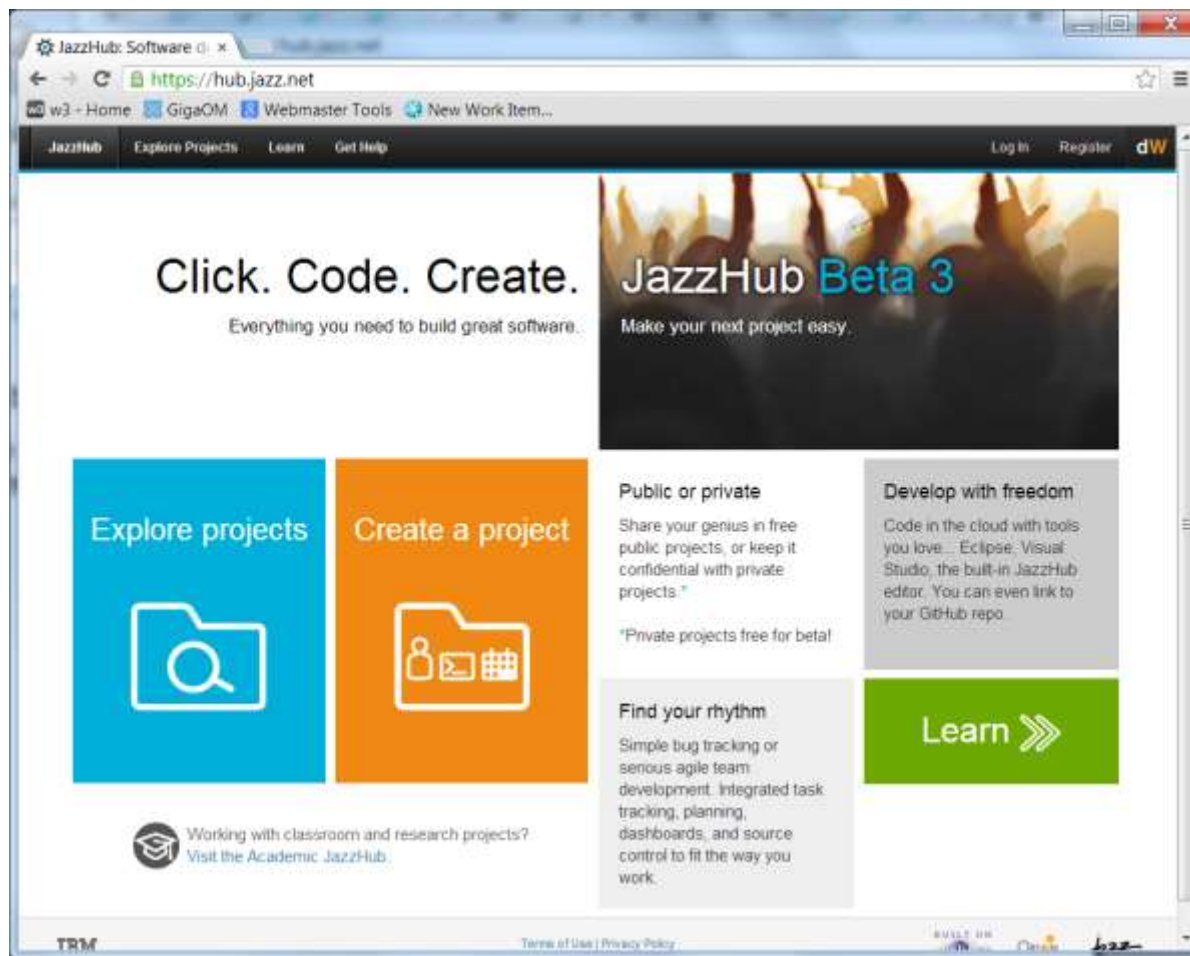
Collaborate seamlessly on public or private projects

- Inviting team members to a project is easy, all you need is an email address

- No matter where you are in the world, what time zone… all you need is your web browser to access all that JazzHub has to offer

- JazzHub "projects" are built for collaboration. Team members can chat, add comments, and subscribe each other to stay aware of what other project members are doing.

- With public and private projects, you can easily choose who sees your project and how you engage broader communities
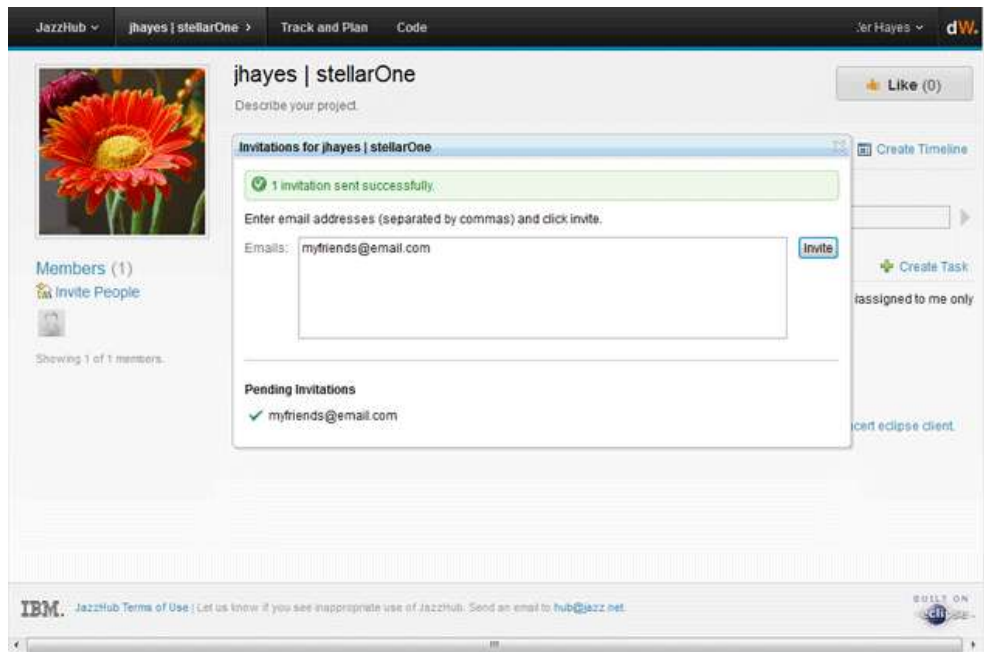
With powerful task tracking, planning, and source code management, JazzHub has everything you need to build great software.

- Track and plan in context. Plans and code are smartly linked, so things stay in sync with development team progress.

- Create stories, tasks, and defects to describe and track project work.

- With a built in process template for agile development, immediately start using agile planning tools for the product backlog, releases, and sprints.

- Choose how you code:

  – Easily edit any text file or script from within your browser. If your project contains JavaScript, HTML, CSS, Ruby or PHP code, the JazzHub editor is likely all you need to make changes.

  – Eclipse and .NET developers -- connect your projects to source code in Rational Team Concert client for Eclipse or Visual Studio.

JazzHub Features and Capabilities
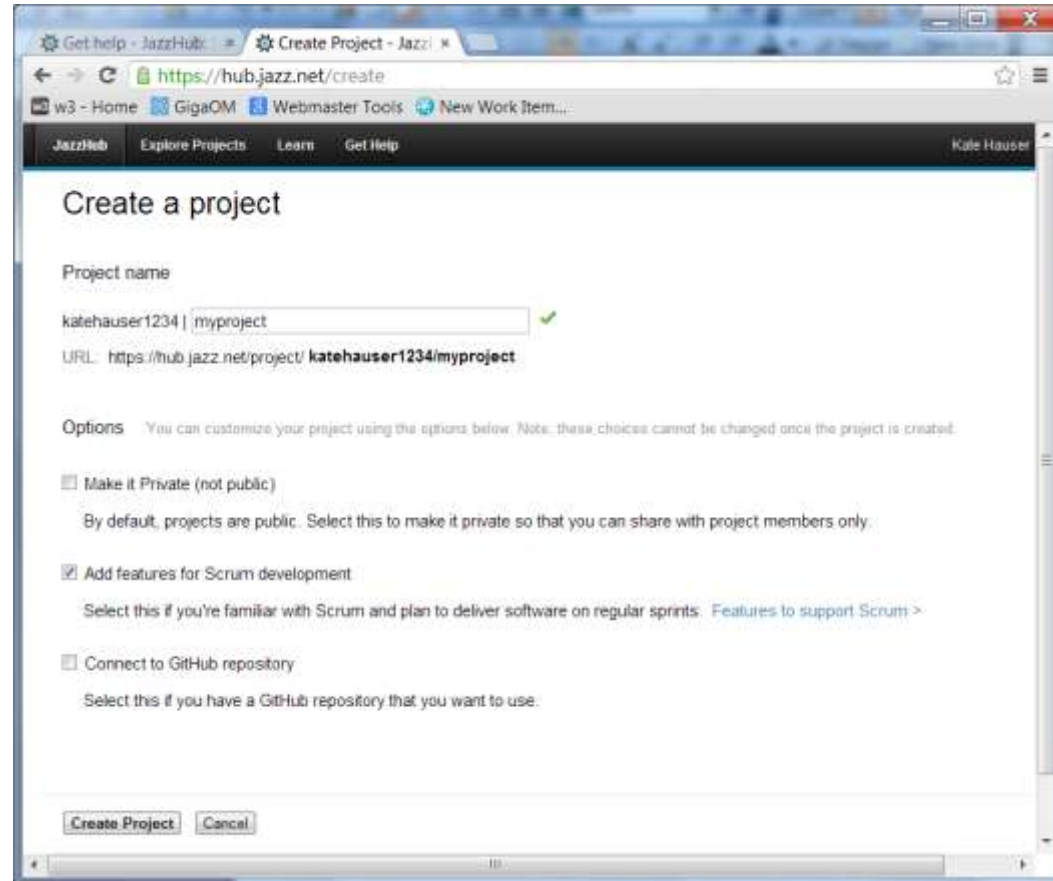
Feature	Value and explanation
Hosted on the cloud	Instant access, no need to worry about downloading software or managing upgrades– we take care of the cloud so you can take care of the code.
Collaborative, project-based software development	Built-in capabilities that make collaboration easier. Teammates can chat, add comments, and subscribe each other to stay aware of what other project members are doing.
Flexible coding and source code management	Use our built-in browser-based IDE or the Rational team concert client to connect to eclipse or visual studio.
Enterprise-quality planning and tracking	Based on the enterprise-quality capabilities of Rational Team Concert, you can customize your timelines and tasks to
Agile process support	Choose our agile process template to help your team practice agile development.
GitHub integration	Already working on code in GitHub? Use our GitHub integration to manage your code in JazzHub
Harness community power	Search for projects that are of interest to you, and likewise tag your public project to make it easier for the broader community to find your project.
Organization and individual accounts	Use our individual account to work on personal projects and/or create a presence for your organization on JazzHub and use our tailored Organization account to see and manage all of your company's projects in one place.

Coming soon
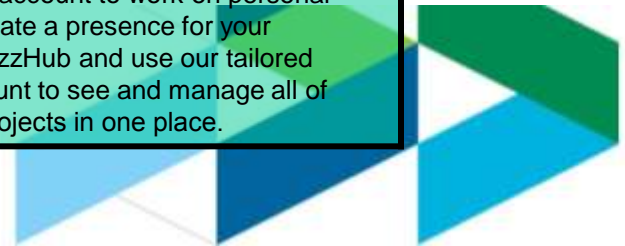
Register and create a project in minutes

•Just make a couple decisions first:

—Do you want your project to be public or private?

—Do you want to do agile software development?

•And you're done!

What is JazzHub?   **What's in a project?**   How much does it cost?

$0

Public projects

Simply said, public projects are free – create as many as you like. Likewise, contribute to any project you're invited to, at no cost. We may introduce practical limits, such as on storage, as part of future JazzHub price plans.

$0 during beta

Private projects

We anticipate monthly fees for private projects in the future. We're not ready to share price plans yet, but we promise to give you advance notice and to help you understand your options before the pricing takes effect.

Try for free!   **Explore projects**   **Create a project**

Get started with a simple project, or use our Scrum template to practice agile development

•With a Scrum project, you get built-in features that support the planning and tracking of epics, stories, and retrospectives; and the creation of defects and impediments.
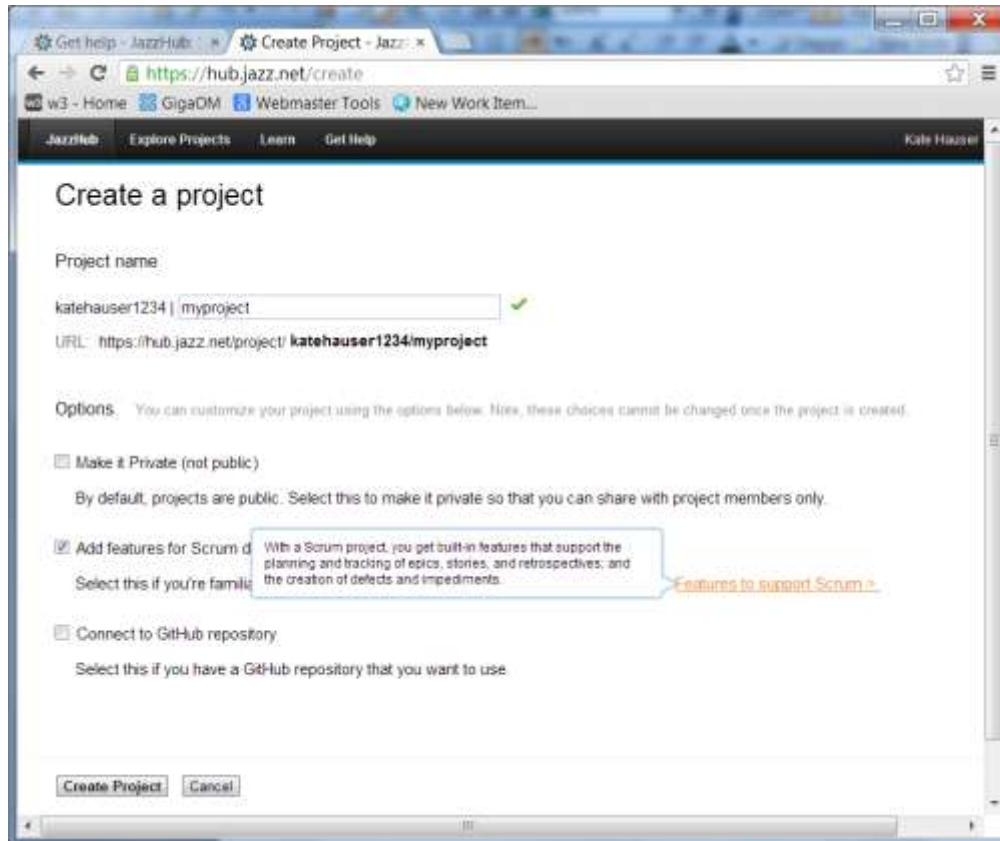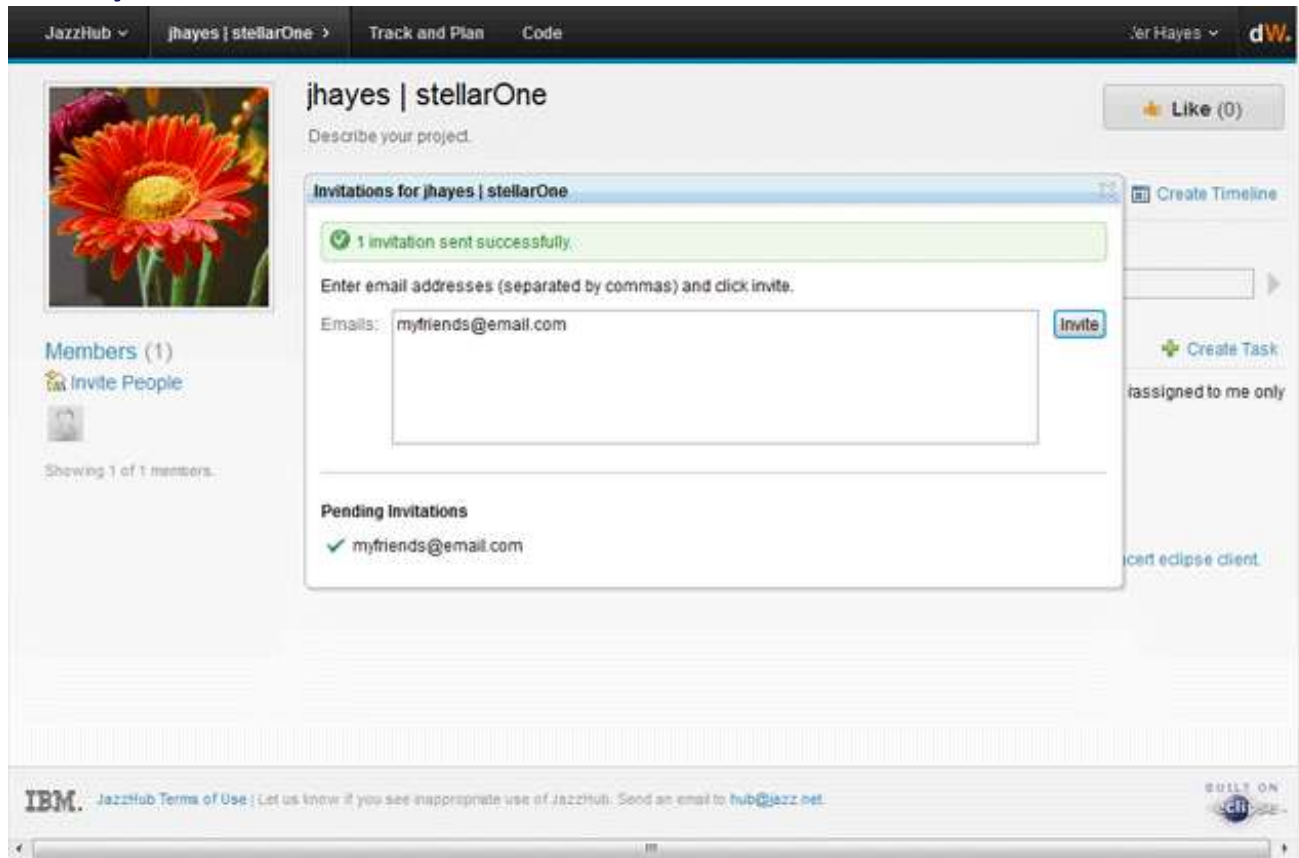
Got GitHub? Use our GitHub integration to track and plan with

•With our GitHub integration you can track and plan with JazzHub using the code you've stored in your GitHub repository

•You can even edit the code stored in your GitHub repository using the JazzHub web editor
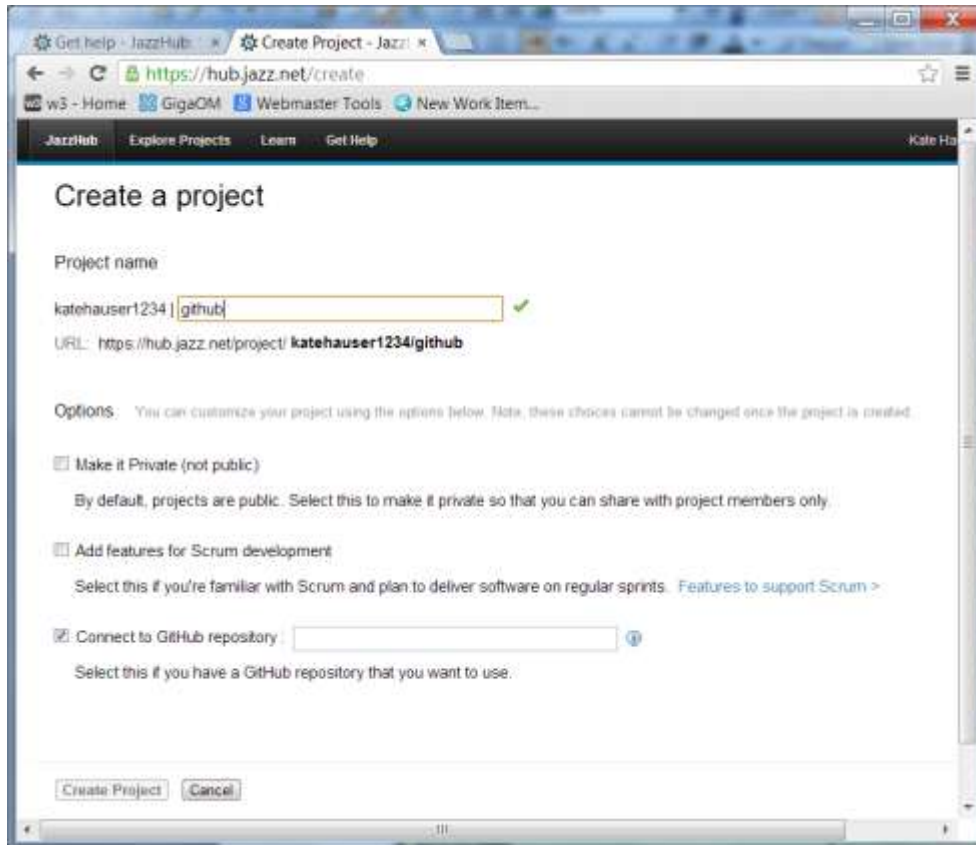
Easily invite team members to your project

•All you need is an email address!

Start creating tasks and planning out work that needs to be done

Get coding! With our built-in browser based source code manager, you can get started immediately, or use an alternative downloadable client and link to our Jazz SCM
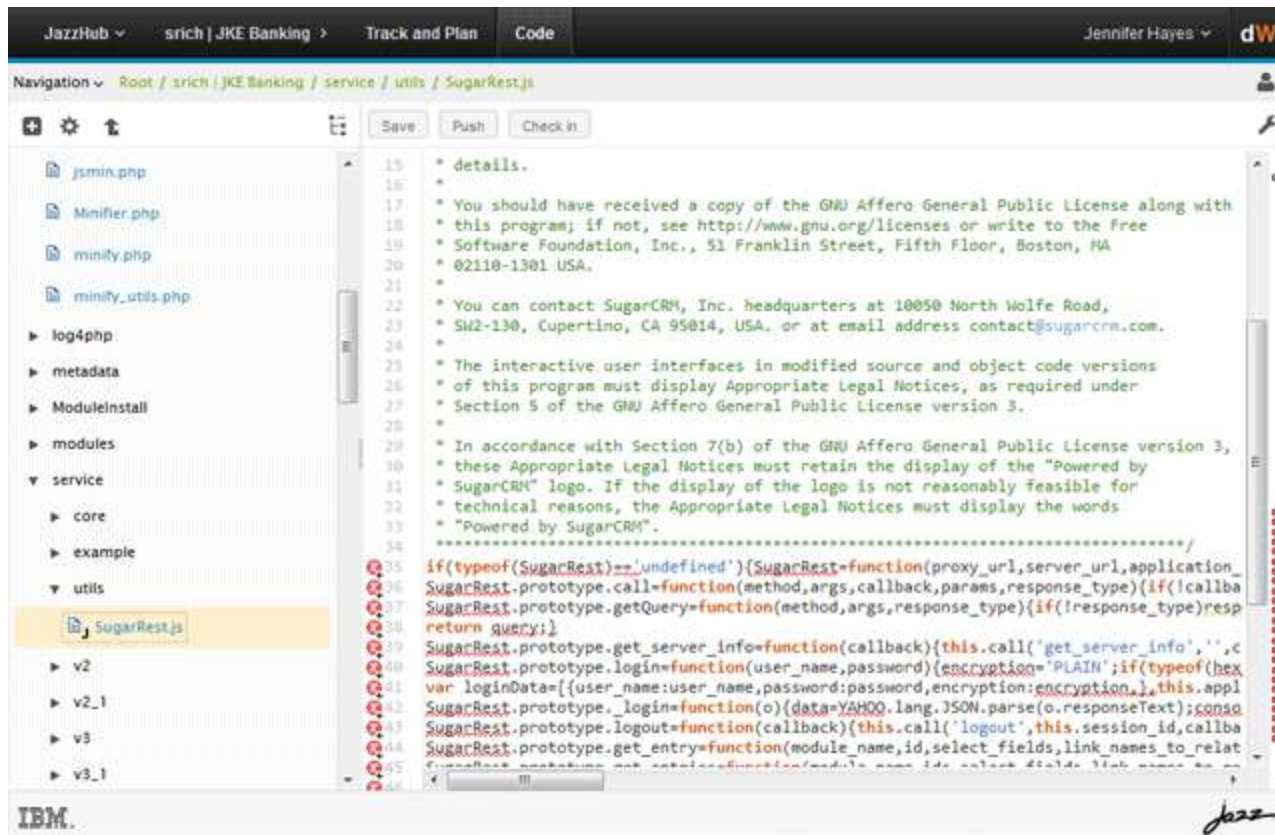
Using Eclipse Client to Develop & Test with JazzHub

1. Explore a Project and go the Project's Landing Page

sltrunzo | PSWhiteboard

Try out this Worklight-based whiteboard free in the Apple App Store: http://pswhiteboard.com Because design is integral to everything we do at PointSource, we need the ability to sketch our ideas and concepts while on the go or from anywhere, sitting in an airport, huddled around a shared desk, or over a cup of coffee. The PS Whiteboard app allows you to capture your ideas elegantly in a free solution without the nuisance of ads getting in your way. Import or capture a photo or document and sketch on top of that to mockup drawings or wireframes and designs. PS Whiteboard allows you to write in 6 different colors and 5 different marker sizes, and you can erase without removing the background image. After you have captured your ideas and simple collaborations, you can save and share them for continued collaboration. The PS Whiteboard app was created using IBM Worklight.

Timeline

2. Under the Code Section, follow set up instructions for Eclipse :

Eclipse user? Connect to this project locally using Rational Team Concert. **Here's how to get setup.**

1. Download the Rational Team Concert Eclipse client.
2. In your client, click **File > Accept Team Invitation**.
3. Paste the text below into the Accept Invitation text field:

```
teamRepository=https://hub.jazz.net/ccm01
userId=srajagop
userName=Sreenivasan Rajagopal
projectAreaName=sltrunzo | PSWhiteboard
```

All Set, Get Coding: Dev & Test with JazzHub

Leverage the power of public projects. With JazzHub, you can easily share the work you're doing with a broader audience.

Software as a Service

A QUICK CASE STUDY

Point Source uses JazzHub to develop & test solutions in the cloud

Point Source – A Key IBM Business Partner

Point Source : WHY Develop in the Cloud?

- **Speed of time to market critical in mobility**

–Get projects running in hours, not weeks

- **IT budgets often overspent, or mobile strategy owned by non-IT org (CMO office for example)**

–Direct cost savings over traditional local systems

–Indirect cost savings to us and client through better project management, lifecycle support

- **Supporting the full development lifecycle often not a priority… until it is**

–SaaS tools enable us to deliver higher quality, and better ongoing support environments

- **Consulting/services with clients requires collaboration and hand-offs**

–Collaboration improves when technology is frictionless

–Solve distributed connectivity issues

–Runs efficiently multi-tenant for different businesses or business units

–Onboarding and handing off solutions far more efficient

Point Source : Why we Love JazzHub

- Transparent development and planning
- Up and running in 5 minutes
- Immediate collaboration
- Enable example code; point customers to see value
- Simple on-ramp to get clients started with development tools

PointSource projects in JazzHub:
- PS Whiteboard
- Major retail B2C storefront
- Major insurance sales center B2B
- Internal development and design work
- PS.SDK

JazzHub partner for mobile development lifecycle
www.PSWhiteboard.com

PS Whiteboard

Capabilities:
- Capture your ideas **elegantly in a free solution**
- Import or capture a photo or document and sketch on top of that to mockup drawings or wireframes and designs
- Save and share for continued collaboration

Industry applications:
- Insurance claims adjusters may take photos of damage and take notes about the damage
- Doctors can make notes on x-rays
- Product engineers can quickly sketch on existing schematics
- Kids can even draw funny faces on their pets, or they can let their imagination go wild with freeform drawing

Worklight:
- Created to aid in our own creative processes by a **small team of our talent using IBM Worklight**
- **Within 2 weeks from PoC we had a production-ready, cross device solution**
- Built in Worklight using jQuery, Backbone, and Bootstrap. Apache Cordova was used to integrate with the native device camera and photo album

Software as a Service

JAZZHUB-CALL TO ACTION
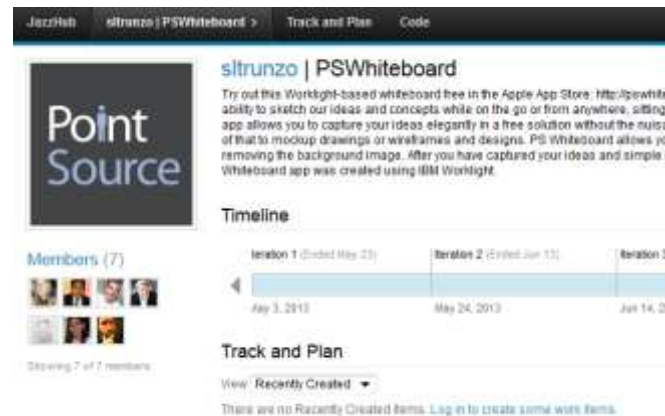
Come, Build Great Software!

• Register at https://hub.jazz.net/

• Start creating **meaningful** projects to collaborate on personal or work projects. Add a picture to your project, create a detailed description, and collaborate with others.

   – Examples of projects on JazzHub:

• Invite friends, coworkers, and clients!

JazzHub FAQ's

•What is JazzHub?

JazzHub is a hosted software development tool that makes is simple and easy for users to get started on their software development projects. JazzHub currently includes tracking, planning, and source control management (Jazz SCM, GitHub integration, or browser-based Orion).

•How is JazzHub different from our other offerings?

JazzHub is not a replacement for on-premise CLM. It has a more focused set of capabilities that uniquely position it within the context of this new development framework (i.e. cloud applications, mobile, devops). The public JazzHub has a shared multi-tenant cloud configuration and essentially no process or role customization.

•What offerings do we have planned?

Our public cloud JazzHub is currently in Beta at https://hub.jazz.net/, and we plan on monetizing it in 2014 via ecommerce. We're also working on an **on-premise** and private cloud **version** of JazzHub that we expect to have ready for Summer of 2014.

•Who are these offerings targeted towards?

Developers working on Systems of Engagement style applications! More specifically, we see the public JazzHub offering appealing to developers in small businesses, startups, nonprofits, and academia. Our on-premise JazzHub will appeal to teams working on SoE and SoI style application development within our existing enterprise customers.

•What can you do?

Familiarize yourself with JazzHub public and be part of our movement to engage practitioners with IBM tools. With the public JazzHub, we aim to increase mindshare and capture whitespace in order to solidify existing business and sell future versions of JazzHub.

@SreenivasanRaj :

https://twitter.com/sreenivasanraj

https://www.facebook.com/jazzhub

Thank You

www.ibm.com/software/rational