



IBM Systems and Technology Group

Shaping the Future 'JCL Samples for Beginners'

Mainframe Simplification Initiative

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NaSPA
NY Metro Chapter
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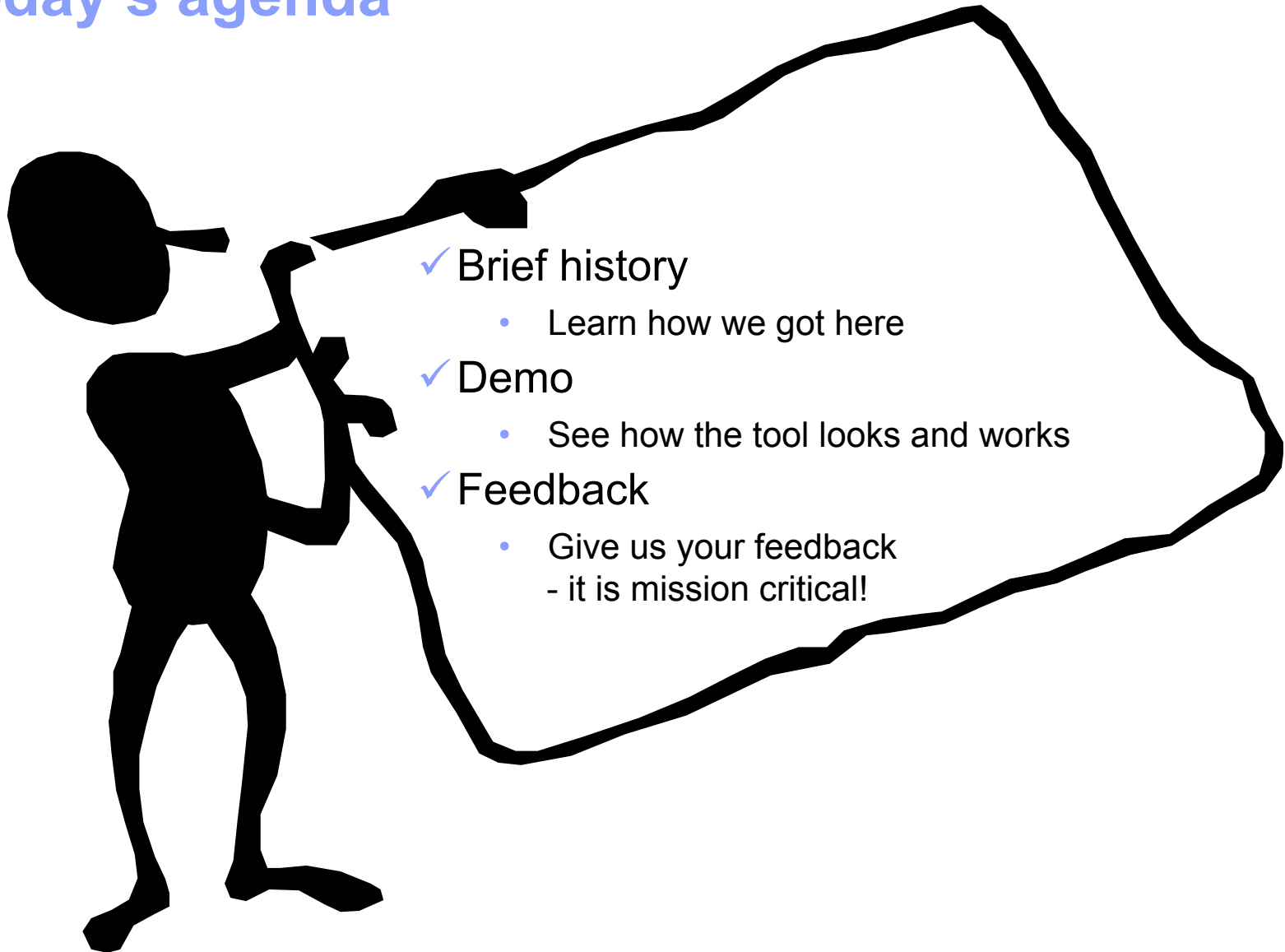
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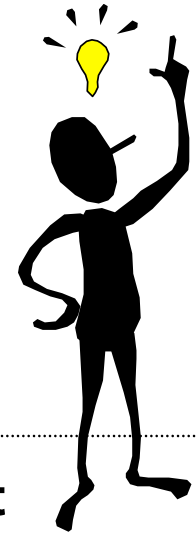
Today's agenda



How we got started. . .

■ What is the Mainframe Simplification effort?

- A major design initiative to improve the total user experience of z/OS
 - Includes information, education, user interfaces, and tools to make it easier to learn a new task on z/OS and to simplify managing z/OS.



■ The *z/OS basic skills information center* is a key component of this initiative

- Intended to provide on-the-job training for staff new to z/OS
- Based on the IBM Redbooks, Introduction to the New Mainframe (“z/OS Basics” and “Networking Basics”)
- Includes articles, short courses, and. . .

the reusable JCL collection!

The challenge

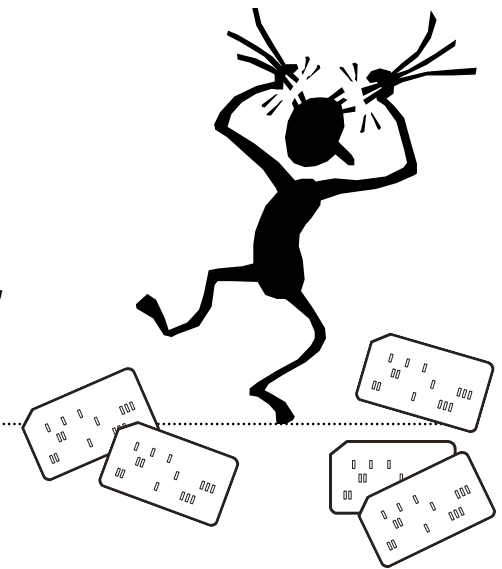
New and existing users of z/OS are frustrated by the complexity of job control language (JCL), which is a set of statements that z/OS professionals use to define work to be done by the operating system.

In our work with customers we have heard . . . eliminating JCL or reducing its complexity is a recurrent, high-priority request.

Our response

To create an educational tool that teaches JCL as novice z/OS users accomplish real work.

JCL Samples for Beginners will be a free-of-charge, Web-based tool.



Our speed team: Summer 2008



Christopher Baran

SUNY Potsdam / BA in Computer and Information Sciences



Tammy Greene

University of Michigan / MS in HCI and Incentive-Centered Design



Chelsea Shorte

University of Virginia / BS in Computer Engineering

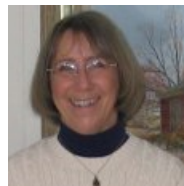


Mentors from the *z/OS Basic Skills Information Center* project:



Geoff Smith

UT strategist and
project lead



Linda Jorgensen

UCD/UX lead



Amy Lander

Information developer

Key features of the design

The *JCL Samples for Beginners*:

- ✓ Provides JCL samples for common tasks that system programmers or application developers are expected to do in their first months on the job
- ✓ Uses “interview” style, using everyday language, to help users modify the JCL samples
- ✓ Equates z/OS-specific terms with Windows / UNIX equivalents, when possible
- ✓ Teaches by showing JCL as it is generated in response to user input
- ✓ Enables users to submit jobs directly to z/OS, and to store generated JCL
- ✓ Provides links to additional information related to the task

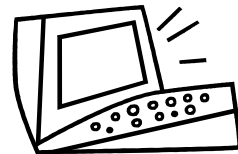
Key implementation & delivery features

Required software on user's workstation:

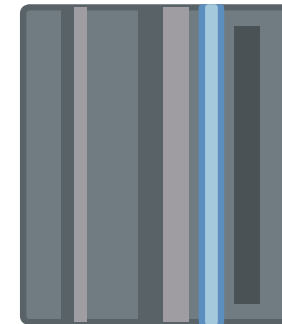
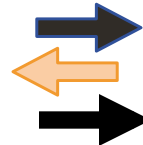
- ✓ Internet browser

Required software on z/OS:

- ✓ PHP for z/OS feature
- ✓ Apache or IBM HTTP server



Runs on z/OS!



z/OS server

The flow:

1. User completes questions that are presented through browser
2. App server responds to request with JCL syntax
3. User submits JCL to z/OS through FTP

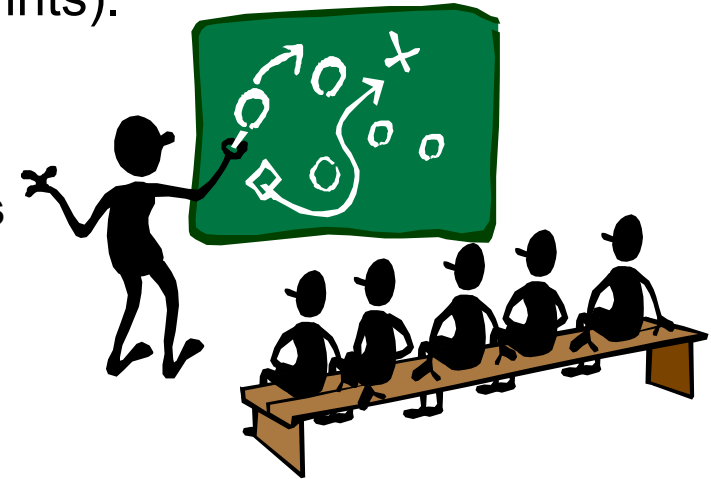
Our approach: Lean and Agile

What is **Agile** Software Development?

Agile is the use of **continuous stakeholder feedback** to produce high quality consumable code through use cases (or user stories) and a series of short, time-boxed iterations (or sprints).

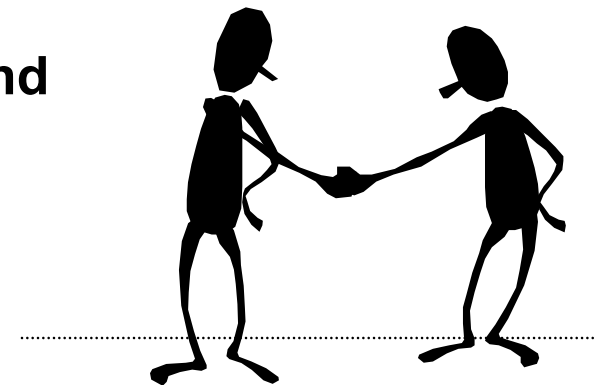
We used Agile methodologies to:

- ✓ Develop a **product vision** and **user stories** to keep the focus on the users' perspective
- ✓ Conduct daily **scrum meetings** to ensure communication / progress
- ✓ Review **sprint** progress
 - We held planning sessions and reviews for each sprint, as well as Web conferences to review results with our clients.



Our approach: Collaboration with clients

- **Our core stakeholders team consists of**
 - ✓ 5 customers from 5 companies
 - ✓ 3 IBM z/OS novices (less than 5 years experience)
- **This collaboration is critical to ensure that the iterative process works well**
- **Results in a tool that meets users' needs and expectations**



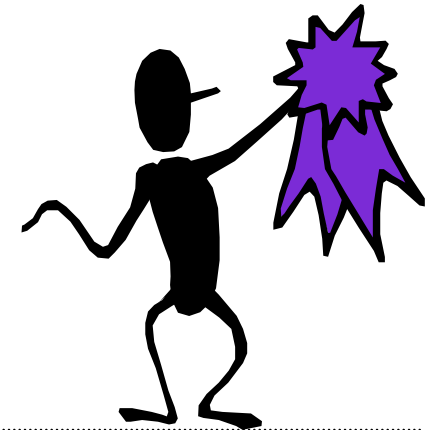
Thank you!

Speed team 2008: Client meetings and results

- **We held 8 meetings with stakeholders from June - August, 2008**

Results:

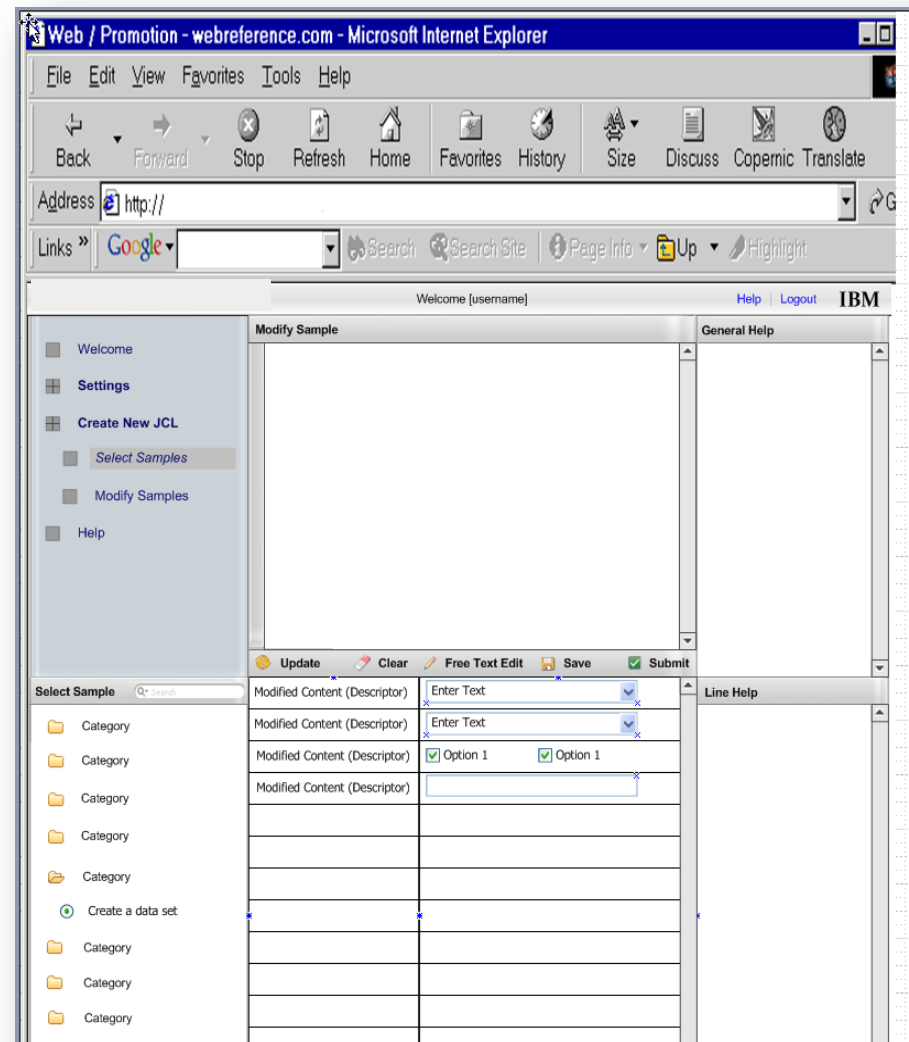
- ✓ Outlined the development and deployment strategy
 - ✓ Brainstormed initial prototype ideas, features and functionality
 - ✓ Confirmed the direction for the prototype design
 - ✓ Produced a feature wish list
 - ✓ Finalized the design of the tool
- Additional communication via email
 - ✓ Design updates and related feedback
 - Resumed our post-Speed Team sprints in September
 - ✓ Held Sprint Review 4 in November
 - ✓ Focused on design and security issues



Good job!

How collaboration influenced our UI design...

- JCL search and selection
- JCL/Form frame placement
- Toolbar placement
- JCL sample categories



Where are we today?_

- The interns returned to their studies in August
- Members of the *z/OS basic skills information center* team have stepped in to fill the gaps

- Ron Van Buskirk and Toshiba Burns-Johnson are completing our code

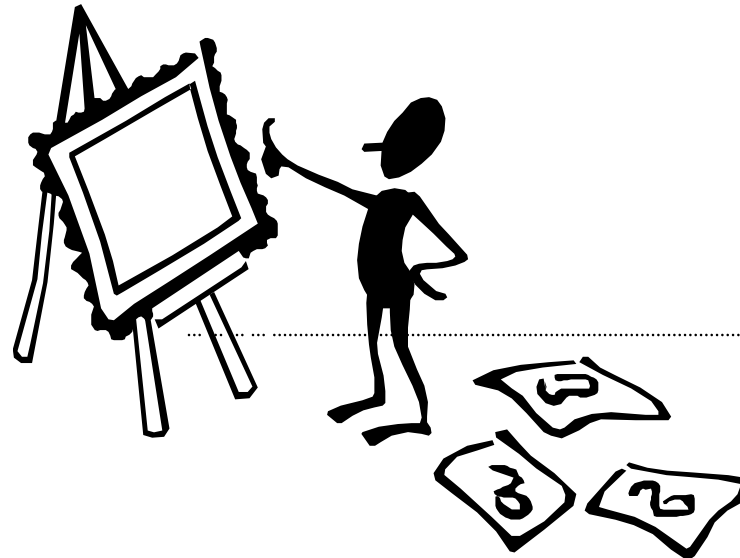


- Chris Hastings is writing the Help material and Jim Guilianelli is editing our content



- We've recruited technical experts to help with security issues, and to identify common errors/fixes for each JCL sample
- We have continued using the Agile process. . . that means "a usable deliverable" at the end of each sprint (iteration)
- We're now working on sprint 10

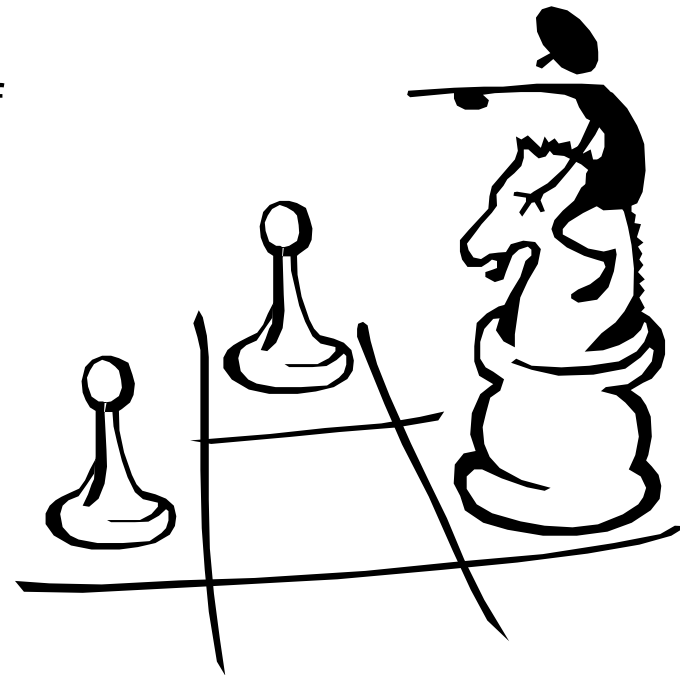
What have we accomplished?_



Let's take a look. . .

How can you help?_

- We need your feedback TODAY... Questions to start the discussion:
 - What type of JCL education does your company for new people?
 - Would you use the JCL Samples tool if it was installed at your company?
- We're also looking for a few more **stakeholders** (this person **must** attend sprint reviews)
 - ✓ Give your contact info to Geoff



Thank you and stay in touch. . .

Linda Jorgensen, z/OS Basic Skills Information Center usability lead:

ljorgen@us.ibm.com

Geoff Smith, z/OS Basic Skills Information Center project manager:

gksmith@us.ibm.com

Amy Lander, z/OS Basic Skills Information Center developer:

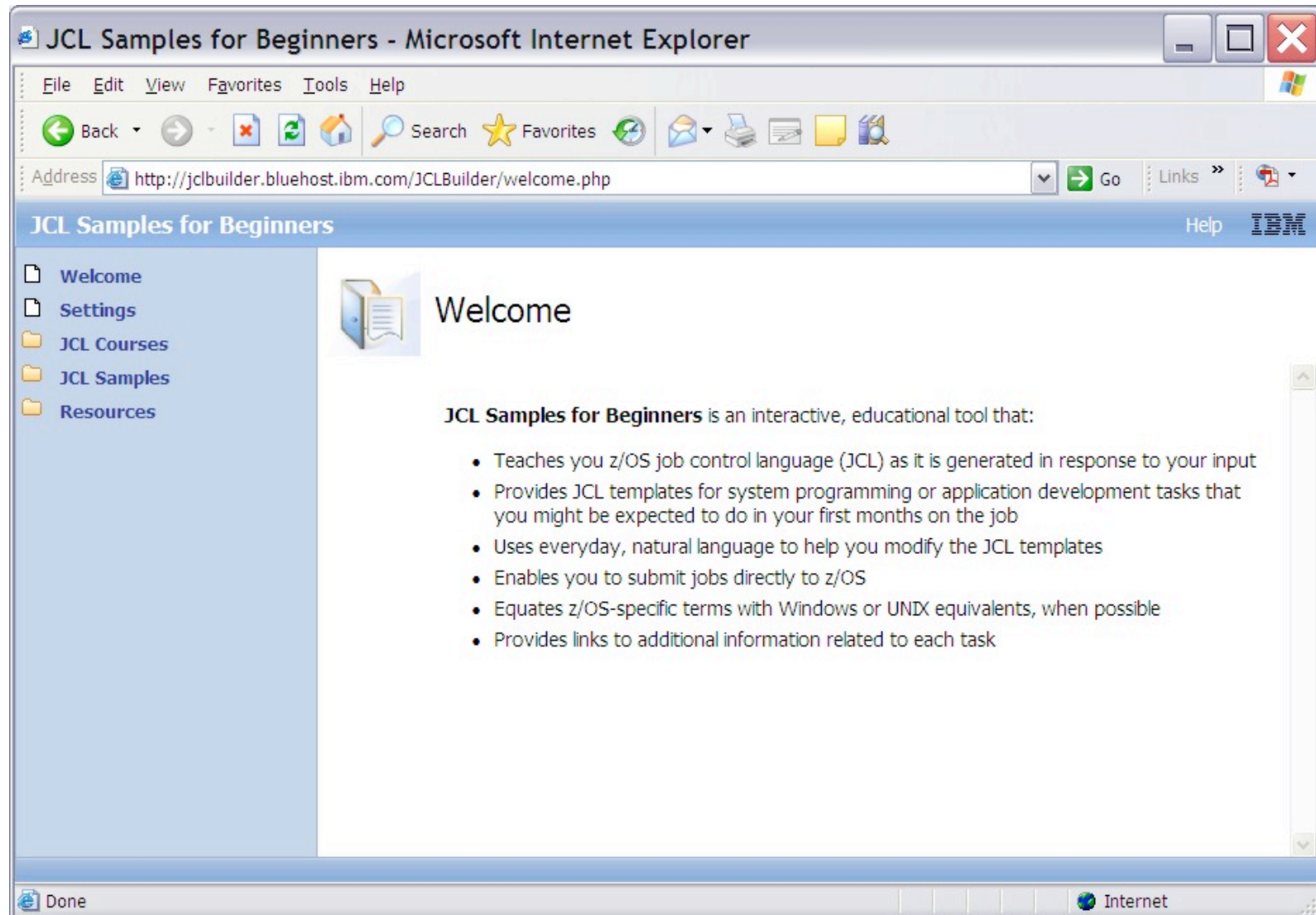
lander@us.ibm.com

And don't forget the Contact z/OS button on the *z/OS basic skills information center's* left navigation bar:

<http://publib.boulder.ibm.com/infocenter/zos/basics/index.jsp>



Current build: Welcome page



Current build: JCL Courses

The screenshot displays a web browser window titled "z/OS Basic Skills - JCL Overview and Syntax - Microsoft Internet Explorer". The browser's address bar shows "http://jclb...". The page content includes the IBM logo and the text "z/OS Basic Skills Information Center". A navigation outline on the left lists 19 items, with "1. JCL Overview and Syntax" selected. The main content area features a large blue graphic and the text "z/OS Basic Skills JCL Overview and Syntax". Below this, a message reads: "Use the navigation outline to the left or the player controls below to adjust the pacing of this course." The browser's status bar at the bottom shows "Done" and "Internet".

z/OS Basic Skills - JCL Overview and Syntax - Microsoft Internet Explorer

z/OS Basic Skills - JCL Overview and Syntax

IBM

z/OS Basic Skills
JCL Overview and Syntax

Use the navigation outline to the left or the player controls below to adjust the pacing of this course.

articulate
POWERED PRESENTATION

Done Internet

Current build: Settings page

The screenshot shows a Mozilla Firefox browser window titled "JCL Samples for Beginners - Mozilla Firefox". The address bar displays the URL "http://jclbuilder.bluehost.ibm.com/JCLBuilder/settings.php". The page content includes a navigation menu on the left with items: Welcome, Settings, JCL Courses, JCL Samples, and Resources. The main content area is titled "Settings" and is divided into two sections: "System Settings" and "Job Settings".

System Settings

- *z/OS host name or IP address: 1.44.33.123
- *z/OS user ID: ZUSER

Job Settings

- Account number: H6M
- Accounting information: 123
- * Programmer name: AMY
- CLASS: A
- MSGCLASS: A
- MSGLEVEL: (1,1)

* Required field.

Buttons: OK, Apply, Cancel

Help

Type a value depending on your company's guidelines. This value is usually a billing number for a specific department, project, or person.

Syntax: Limited to 143 characters for combined account number and accounting information.

Done

Current build: Modify Sample page

The screenshot shows a web browser window titled "JCL Samples for Beginners: Create New JCL - Mozilla Firefox: IBM Edition". The address bar shows the URL "http://localhost/JCLBuilder/createjcltest1.php". The page content includes a sidebar with navigation links (Welcome, Settings, JCL Courses, JCL Samples, Resources), a main content area with JCL code and a form, and a right-hand sidebar with a "Line Help" section.

JCL Samples for Beginners

Modify Sample - Create a data set

```
//jobname JOB
//stepname EXEC PGM=IEFB14
//ddname DD DSN=permdsname,
// DISP=(NEW,CATLG,DELETE),
// UNIT=SYSALLDA,
// RECFM=rcformat,
// LRECL=80,
// SPACE=(spaceunit,(spaceprim,spacesec,spacedir),spacerlse)
/*
```

Clear Free Text Edit Submit Job

Question	Response
What label do you want to use for this job?	* Job name: <input type="text"/>
What settings do you want to use for this job?	* Job settings: <input type="text"/>
What label do you want to use for this job step?	* Step name: <input type="text"/>
What label do you want to use for this data definition?	* ddname: <input type="text"/>
What is the name of this data set?	* Data set name: <input type="text"/>
What is the status of this data set?	* Status: <input type="text" value="NEW"/>

Line Help

Job name

The variable jobname appears in the name field of the JOB statement. The JOB statement marks the beginning of a job and tells z/OS how to process the job. A job represents a unit of work for the operating system to complete. A job consists of one or more job steps, which identify the program to be run and any files or input/output devices that are required for processing. On a basic level, writing JCL to define a job with job steps is similar to writing a UNIX Windows script that combines several commands or other operations into one processing unit.

Replace jobname with a unique name to identify this job. A common convention is to use your z/OS user ID followed by a number; for example: ZUSER031

The name field begins in column 3 and can extend through column 10 in any JOB, EXEC, or DD statement. Because a unique label in the name field is useful for identifying, referring to, and diagnosing problems with specific JCL statements, the JCL Samples tool requires you to provide a value even though z/OS does not require name-field values.

Current build: Submit modified JCL sample to z/OS

The screenshot displays two overlapping browser windows. The background window, titled "JCL Samples for Beginners: Create New JCL - Mozilla Firefox", shows a web page with a navigation menu on the left and a JCL sample in the main content area. The JCL sample is as follows:

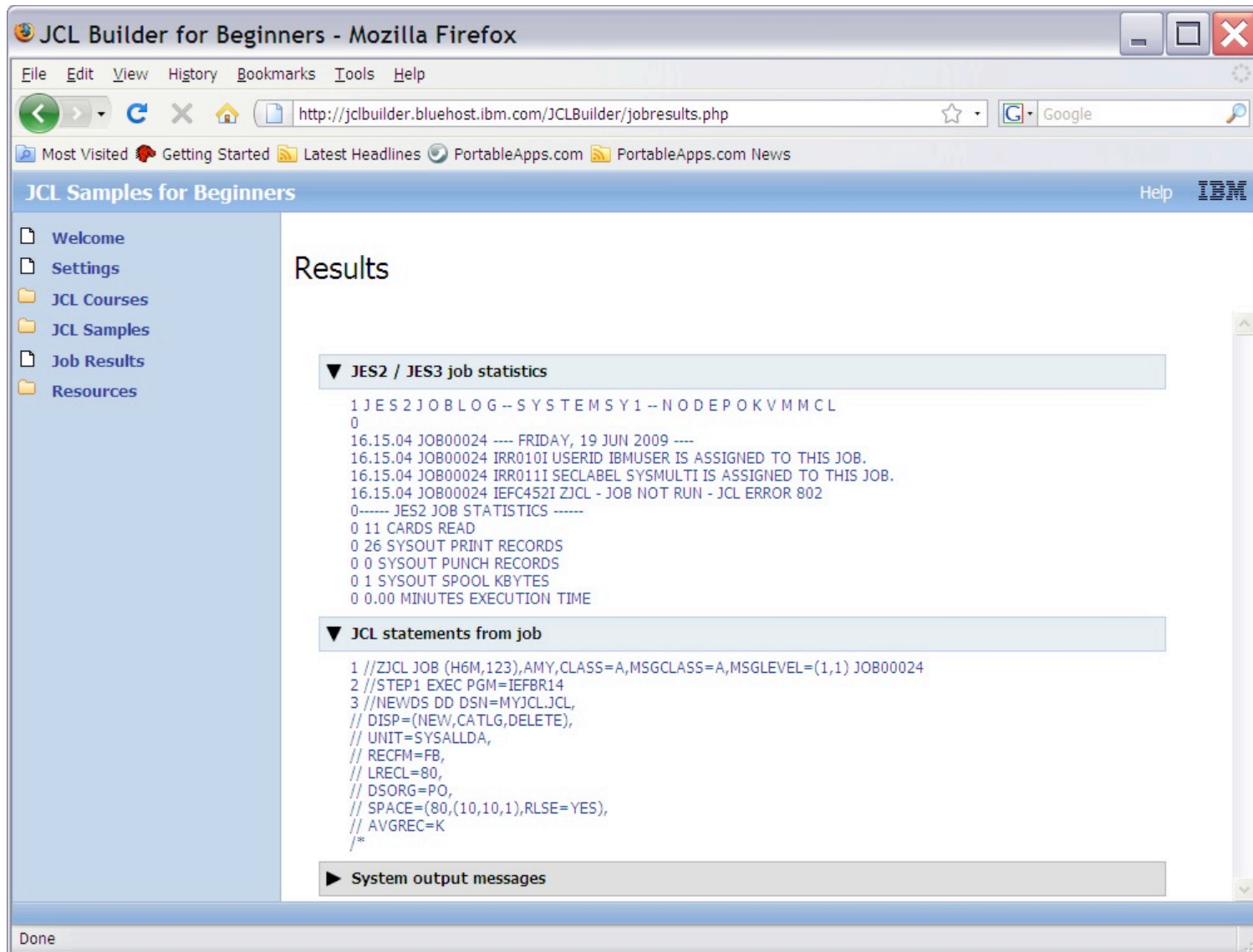
```
//ZJCL1 JOB (H6M,123),AMY,CLASS=
//STEP1 EXEC PGM=IEFBR14
//NEWDS DD DSN=MYJCL.JCL,
// DISP=(NEW,CATLG,DELETE),
// UNIT=SYSALLDA,
// RECFM=FB,
// LRECL=80,
// DSORG=PO,
// SPACE=(80,(10,10,1),RLSE=YES),
// AVGREC=K
/*
```

The foreground window, titled "Submit - Mozilla Firefox", displays a form titled "Submit your JCL to z/OS." with the following fields and controls:

- * z/OS host name or IP address:
- * z/OS user ID:
- * z/OS password:
- * Required field.
- Buttons:

The status bar at the bottom of the foreground window shows "Done".

Current build: Submitted job results



The screenshot shows a Mozilla Firefox browser window titled "JCL Builder for Beginners - Mozilla Firefox". The address bar displays the URL `http://jclbuilder.bluehost.ibm.com/JCLBuilder/jobresults.php`. The page content is titled "JCL Samples for Beginners" and includes a navigation menu on the left with items: Welcome, Settings, JCL Courses, JCL Samples, Job Results, and Resources. The main content area is titled "Results" and contains two expandable sections:

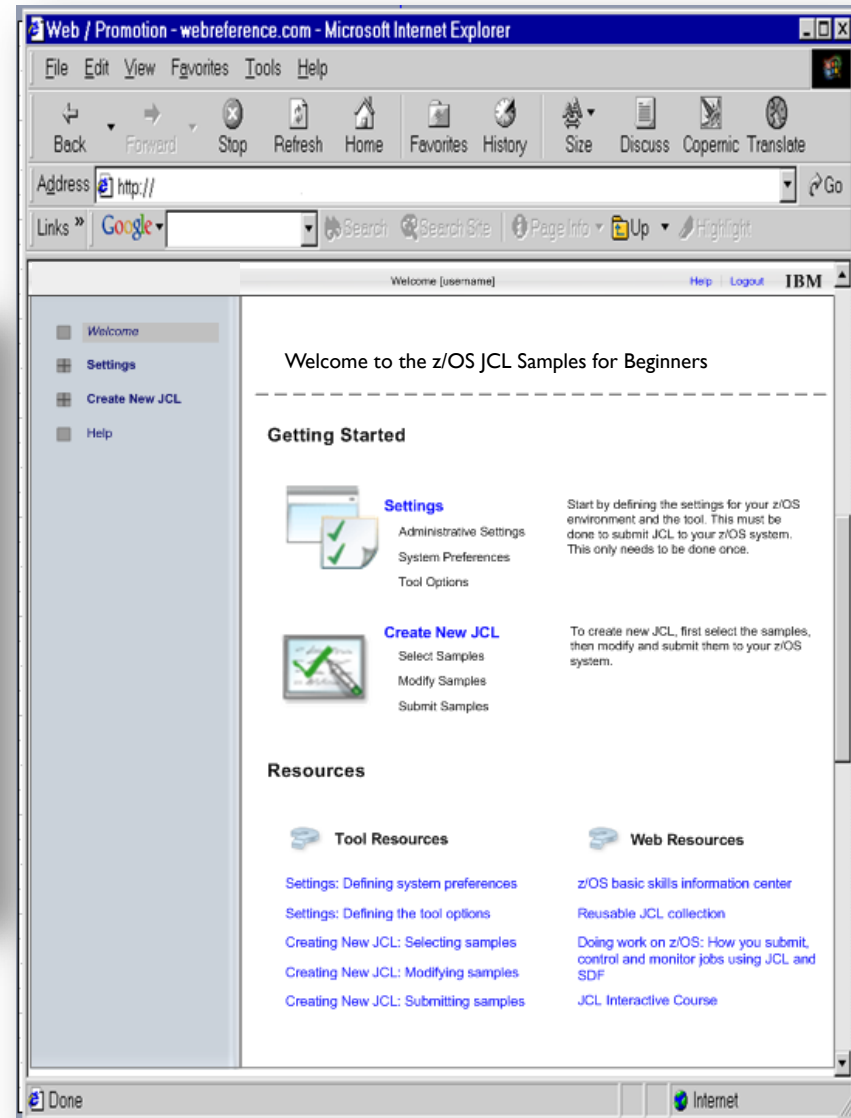
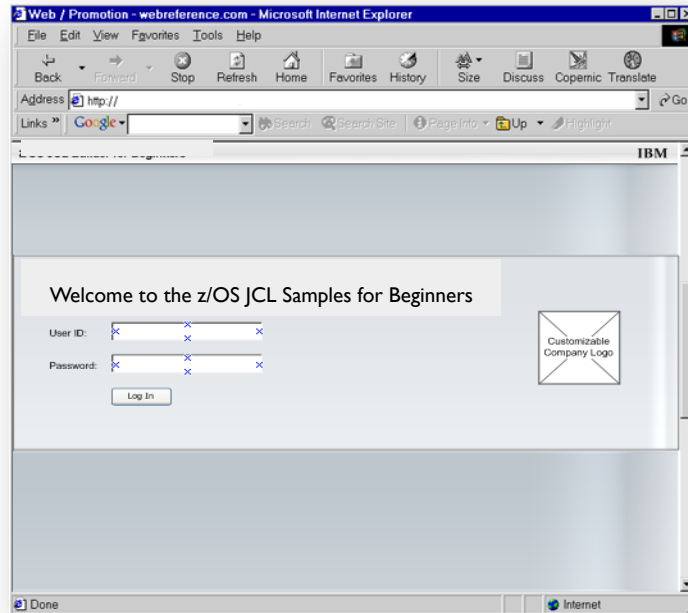
- JES2 / JES3 job statistics**:

```
1 JES2JOBLOG--SYSTEMSY1--NODEPOKVMML
0
16.15.04 JOB00024 ---- FRIDAY, 19 JUN 2009 ----
16.15.04 JOB00024 IRR010I USERID IBMUSER IS ASSIGNED TO THIS JOB.
16.15.04 JOB00024 IRR011I SECLABEL SYSMULTI IS ASSIGNED TO THIS JOB.
16.15.04 JOB00024 IEF452I ZJCL - JOB NOT RUN - JCL ERROR 802
0----- JES2 JOB STATISTICS -----
0 11 CARDS READ
0 26 SYSOUT PRINT RECORDS
0 0 SYSOUT PUNCH RECORDS
0 1 SYSOUT SPOOL KBYTES
0 0.00 MINUTES EXECUTION TIME
```
- JCL statements from job**:

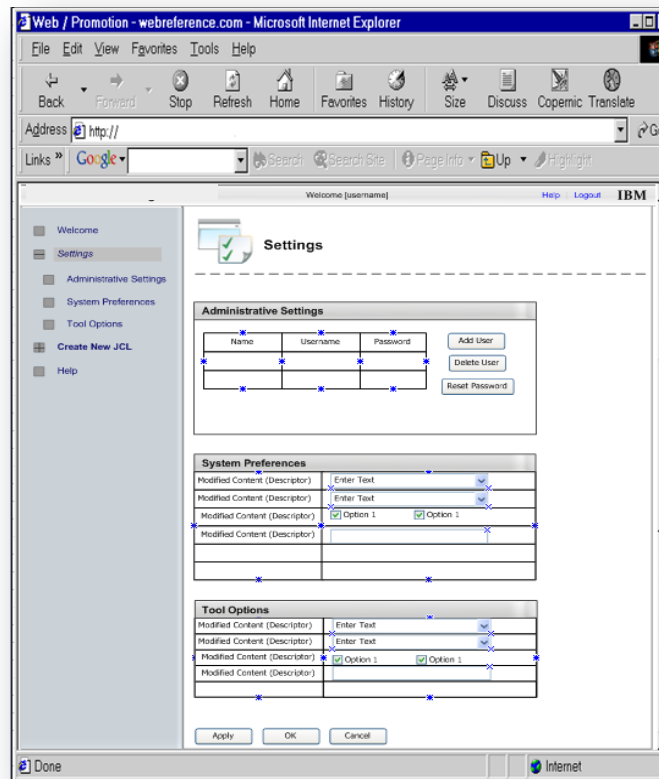
```
1 //ZJCL JOB (H6M,123),AMY,CLASS=A,MSGCLASS=A,MSGLEVEL=(1,1) JOB00024
2 //STEP1 EXEC PGM=IEFBR14
3 //NEWDS DD DSN=MYJCL.JCL,
// DISP=(NEW,CATLG,DELETE),
// UNIT=SYSALLDA,
// RECFM=FB,
// LRECL=80,
// DSORG=PO,
// SPACE=(80,(10,10,1),RLSE=YES),
// AVGREC=K
/*
```

At the bottom of the results area, there is a section for "System output messages" which is currently collapsed. The browser status bar at the bottom left shows "Done".

Prototype UI: Log-in and landing pages



Prototype UI: Tool and z/OS system settings



Prototype UI: Main page

