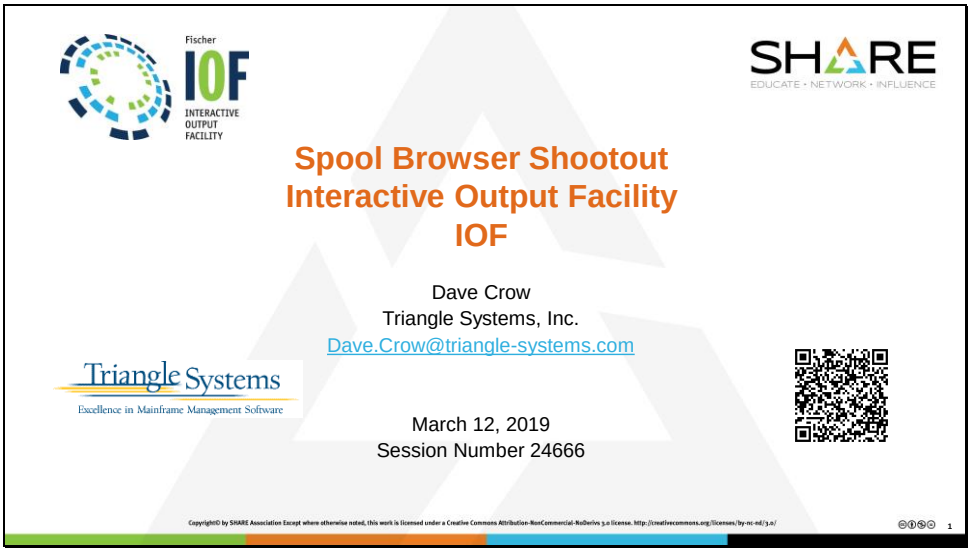
Slide 1

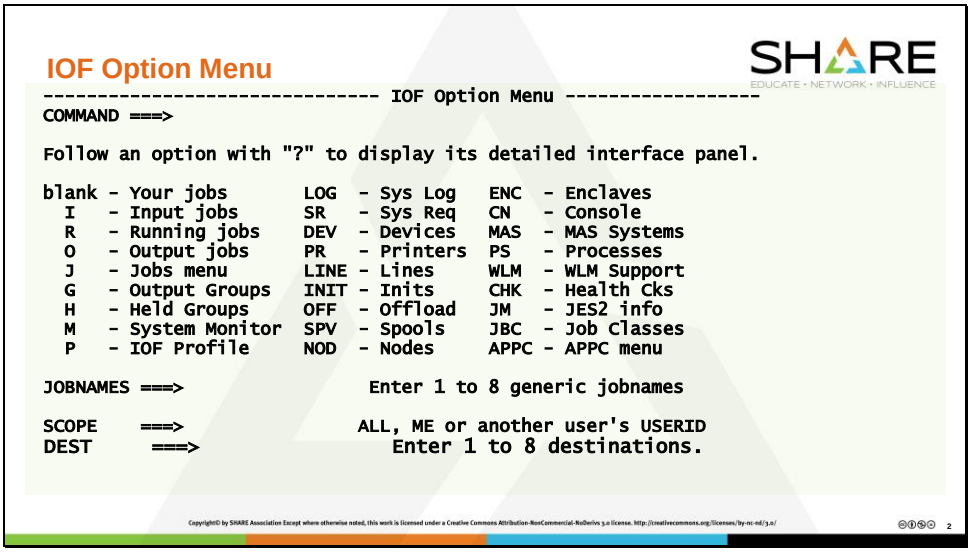


IOF is a full-function spool management system for JES2 that has been under continuous development and improvement for over 30 years. Some of its features are primarily of interest to System Programmers, but today the focus will be on the individual user, and especially on features that have been recently added to IOF. IOF's natural user interface for viewing and managing your own jobs is a big reason for IOF's continuing popularity -- whether you are skilled in all the intricacies of z/OS systems implementation, customization, and maintenance, or someone who just needs to run a few jobs every now and then.

In addition to the TSO environment that will be demonstrated today, IOF has an easy-to-learn REXX interface that provides powerful scripting facilities that can be used in BATCHTSO, or interactively in TSO. A CICS interface is also available that can provide access to z/OS batch facilities for users that do not normally use TSO.

Note: Screenshots have been edited to improve readability when viewed in a slide show presentation.

Slide 2

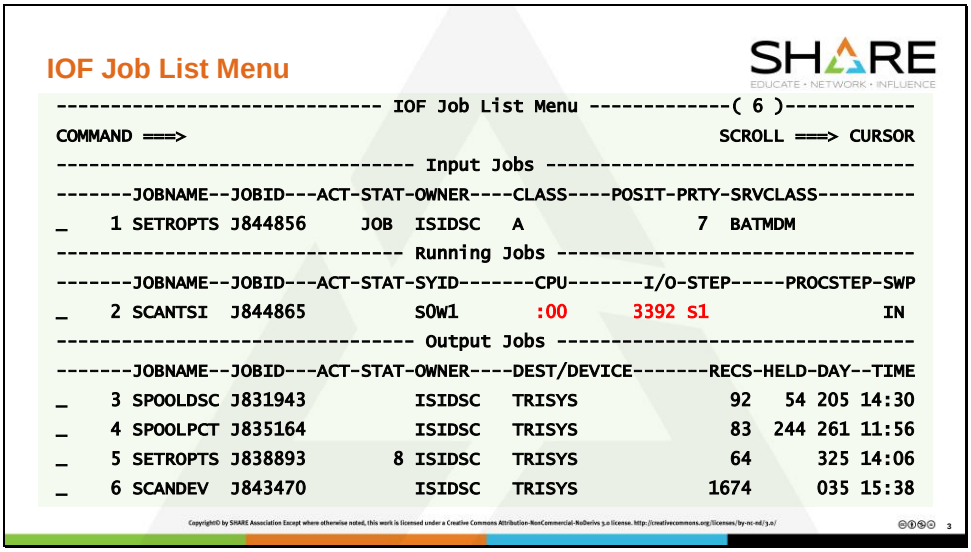


This slide omitted from the live presentation due to time constraints, but for actual use it is important to know how to access the IOF Option Menu. This panel allows you to:

- Select jobs base on attributes other than current USERID.
- Use the IOF PROFILE panel to specify personal preferences for IOF panels.
- Display other system-level information. Not all users have access to all these panels. The IOF Option Menu is customized so that a user only sees options they are authorized to use.

The IOF Option menu can be invoked from any IOF panel by entering “IOF *” on the command line.

Slide 3

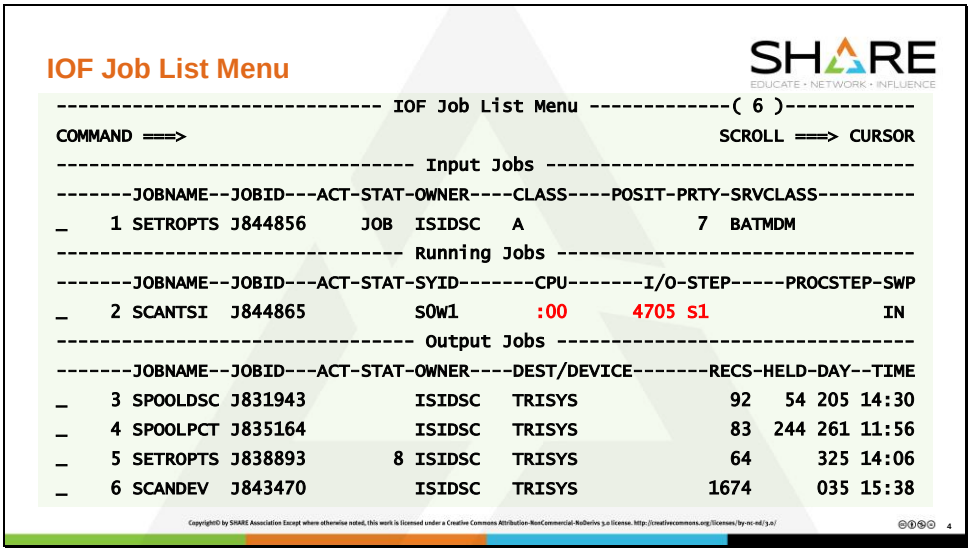


Normally, the first panel displayed by IOF is the Job List Menu. This display shows the jobs owned by my userid (ISIDSC). As you can see, there are separate sections for input jobs, running jobs, and output jobs. If you scroll right (PF11), you'll see a lot more detail about the jobs.

Line commands on this panel enable you to select an individual job for viewing, or to manage jobs as a unit (Cancel, Hold, Release)

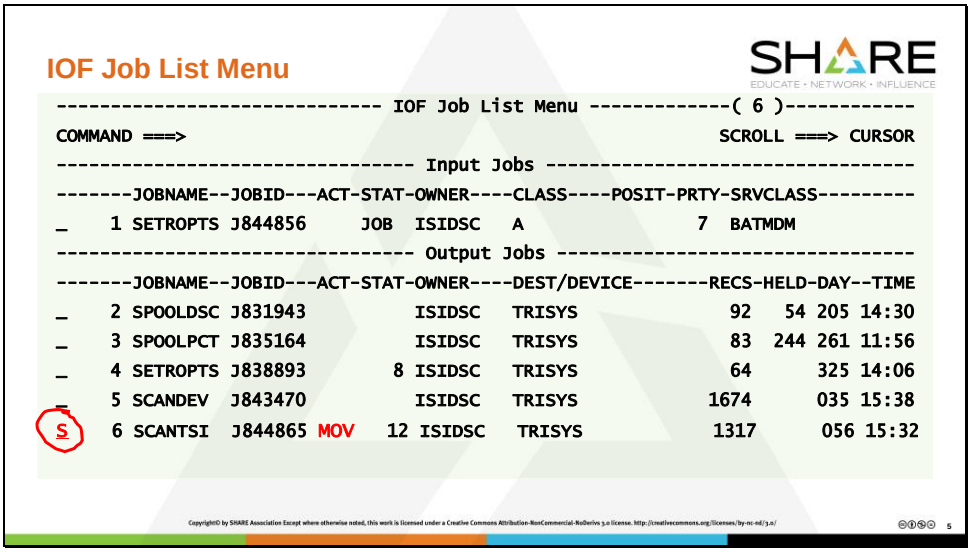
Here I've highlighted the CPU, I/O counts, and STEPNAME for a running job. If you press enter while the job is running, this information is updated.

Slide 4



While a job is running, you can select the job and view SYSOUT files, not only of files that have closed, but those that are currently being produced by the running job.

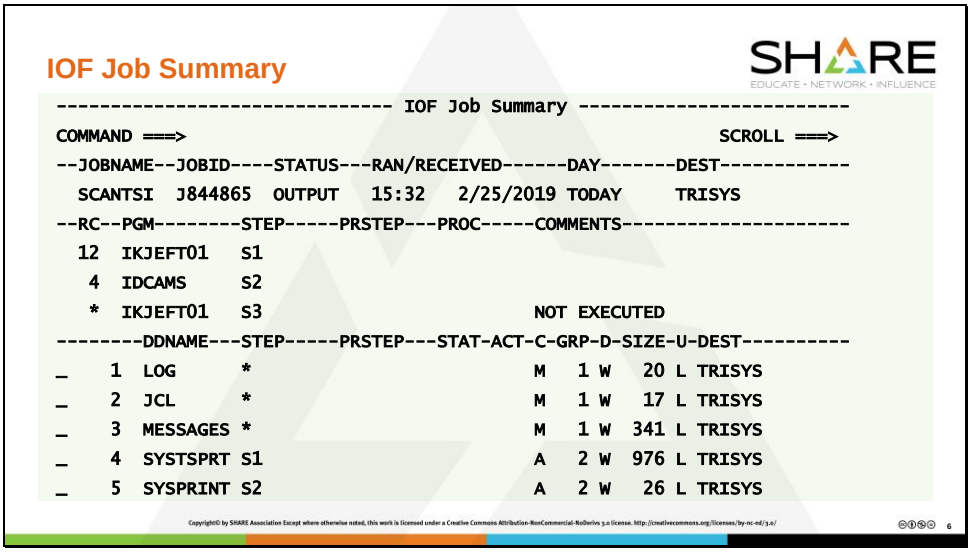
Slide 5



If you press “Enter” and the job has completed, it will be moved to the Output section, and the “Action” column will show a flag of “MOV” to highlight that the job moved from Running to Output.

Entering the “S” line command for the job takes you to the Job Summary Panel.

Slide 6



IOF has done an in-depth analysis of the job to display the programs that were run, and their return codes. (Bypassed Steps show "*"). This panel also shows the SYSOUT files, number of records, and DEST. In this case, MSGCLASS SYSOUT files are in one group, and other SYSOUT files are in a different SYSOUT group. There is even more information if you scroll right.

Remember this screen. We will come back to it several times in the presentation.

From this panel, you can manage the SYSOUT files in many different ways including:

- Browse different SYSOUT files
- Release or cancel individual SYSOUTs
- Copy a SYSOUT to a printer destination or to a disk dataset.
- Email individual SYSOUT files
- Edit and re-submit the job (as-is, or with changes)
- Cancel the entire output job.

Slide 7

Basic IOF functions: summary

In this segment, we have shown the basic IOF functions:

1. Invoke IOF with no parms to show your own jobs.
2. When you have a running job, simply hit enter to watch the job progress.
3. Enter the “S” line command to select the job. This panel:
   a) Shows a concise summary of the job: Step Status and SYSOUT files and their attributes.
   b) Provides a central location for all actions related to viewing and managing the job’s SYSOUT.

The simplicity of this interface makes it easy to remember for the occasional user, but still provides a full-function feature set for the power user.

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Slide 8

2. Recently added Features

The remainder of this presentation covers Recently added features:

a) IOF Send Mail
b) JAMS: User-directed Job Archive
c) ZF: PDS Scan facility
d) JF: Search for a string in a list of jobs.

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Slide 9

There are many ways to use the email interface. It can be used to email any file, either from TSO or batch, and you can even email output from a running job – the whole job, or a subset. You might want to send yourself the Job Summary as a notification that the job has finished and as a way to tell at a glance whether the job ran as expected.

In this example, I'm emailing the job I just ran to my email account. Kick it off from the IOF Job List Menu by entering the "SEND" line command. (you can also "send" from the Job Summary panel)

Slide 10

IOF Send Mail

SHARE
EDUCATE • NETWORK • INFLUENCE

```
 ------------------------------ IOF Job List Menu -------------( 5 )------------
 COMMAND ===>                                                SCROLL ===> CURSOR
---------------------------------- Output Jobs ---------------------------------
--------JOBNAME--JOBID---ACT-STAT-OWNER----DEST/DEVICE-------RECS-HELD-DAY--TIME
 _     1 SPOOLDSC J831943          ISIDSC   TRISYS              92   54 205 14:30
 _     2 SPOOLPCT J835164          ISIDSC   TRISYS              83  244 261 11:56
 _     3 SETROPTS J838893        8 ISIDSC   TRISYS              64      325 14:06
 _     4 SCANDEV  J843470          ISIDSC   TRISYS            1674      035 15:38
 send  5 SCANTSI  J844865 SEL   12 ISIDSC   TRISYS            1317      056 15:32
```

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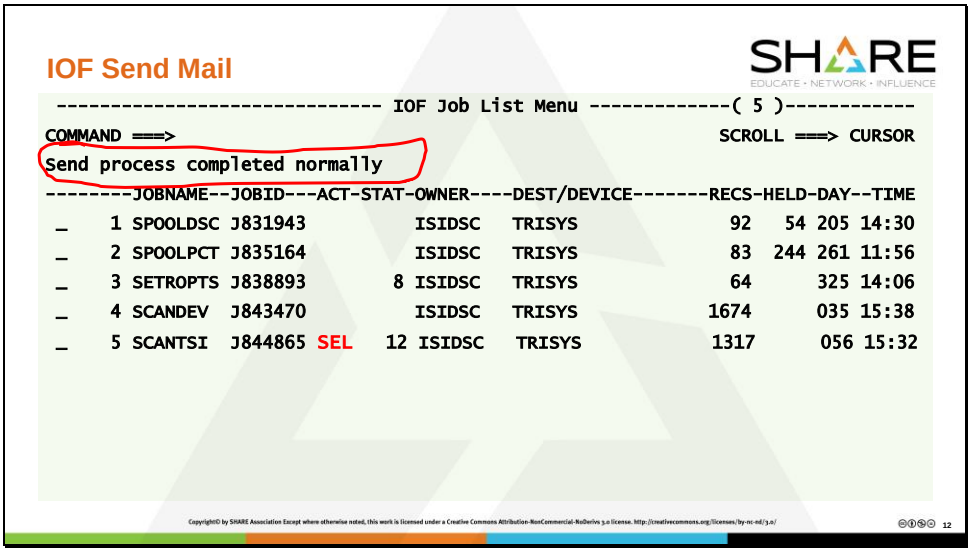
Slide 11

In the interest of time, this slide is omitted from the live presentation. In actual use, it is important because it:
1. Gives you a chance to customize where the email is sent.
2. Allows you to specify the default filename at the destination email. For example, for a text file, you can make the file name extension ".TXT"

If everything is correct, press "Enter"

Slide 12



That's it – from the send side. Next, let's look at what's in the email.

Slide 13

IOF Send Mail: Email Body

The Email Subject and body are the same. In this case:

Output job SCANTSI J844865 02/25/2019 15:32 max rc: 12, some steps were not executed

The email attachment(s) contain the files being sent. In this case there is just one attachment. Open this in a Browser:

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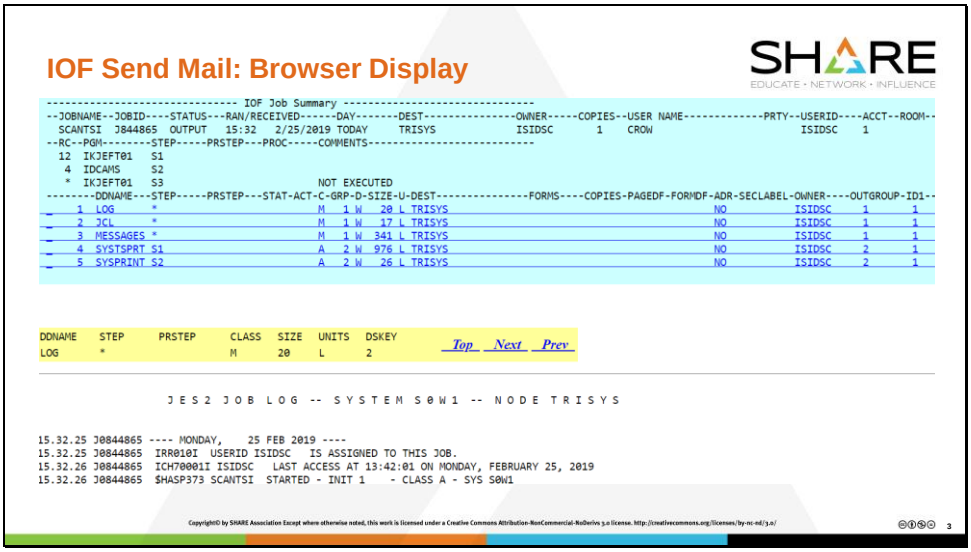
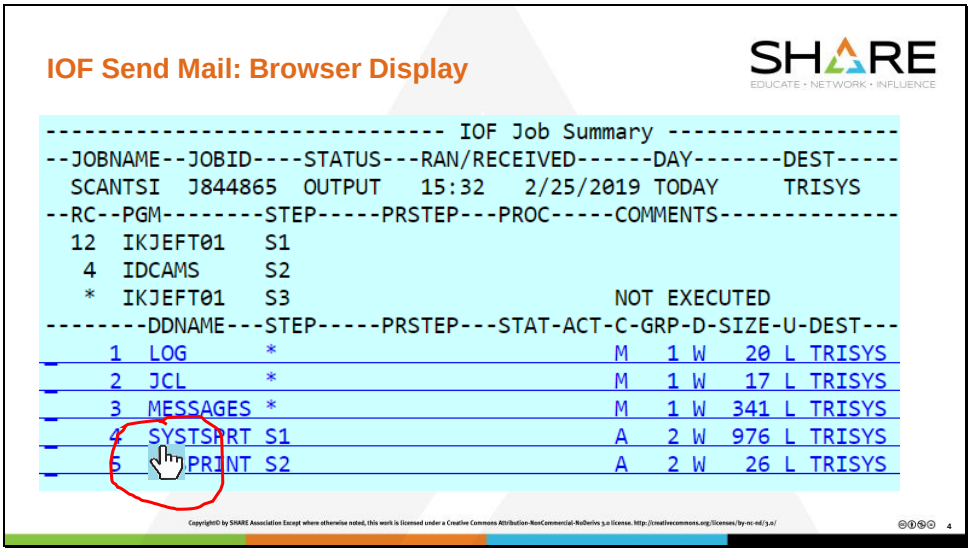
Slide 14



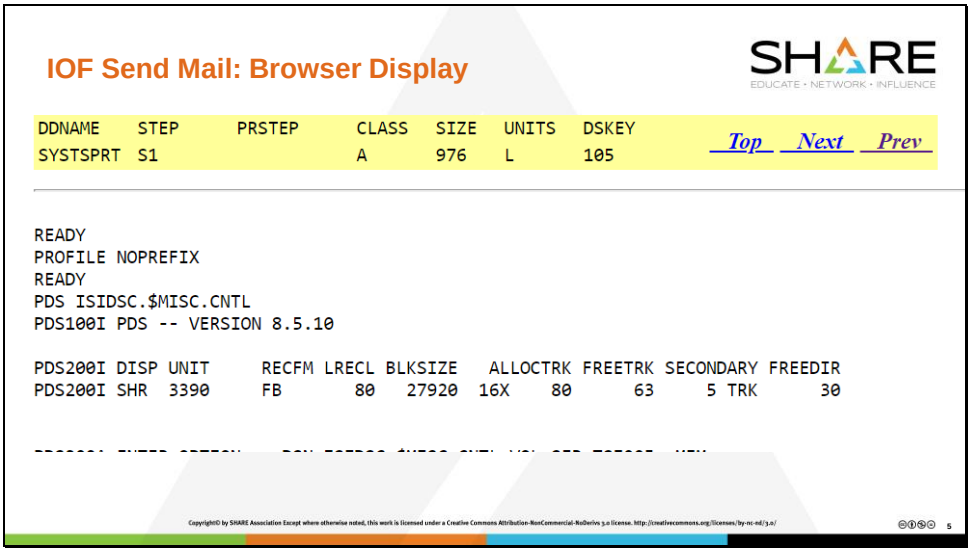
The email arrives with a single attachment: an HTML version of the IOF Job summary and all the SYSOUT files. Typically, there are both horizontal and vertical scroll bars. In a PC browser, this is quite useable, but it just won't show up in a PowerPoint slide. So I've copied the top left corner and enlarged it to get:

Slide 15



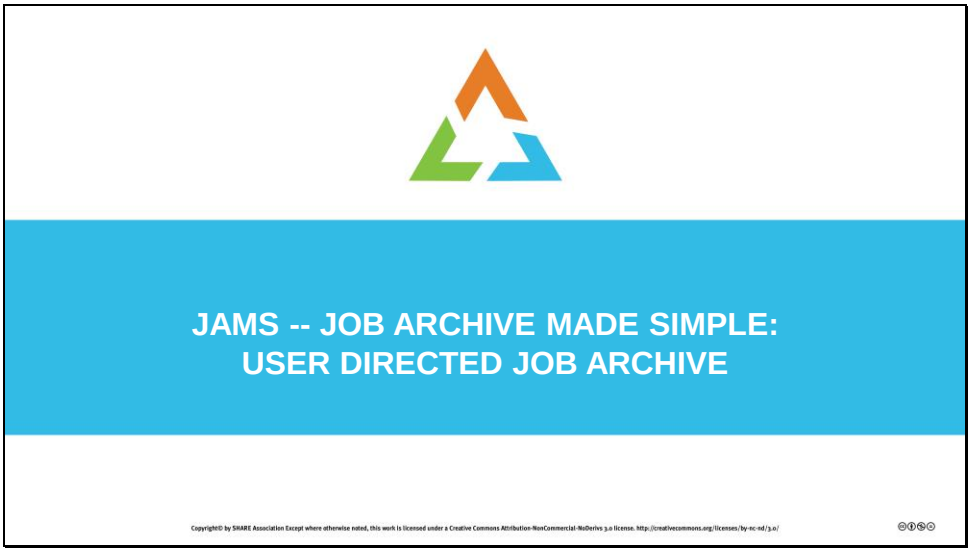
You can scroll through the job output using the scroll bars, or you can position to a given output file using the links in the DDNAME fields. Mouse hover and click to position to that SYSOUT.

Slide 16



We're now at the top of the SYSTSPRT file in Step S1. Note the navigation links: Top, Next, Prev.

Slide 17



Have you ever wanted to save one of your jobs just the way it is on the spool before it ages out? That's what JAMS is for.

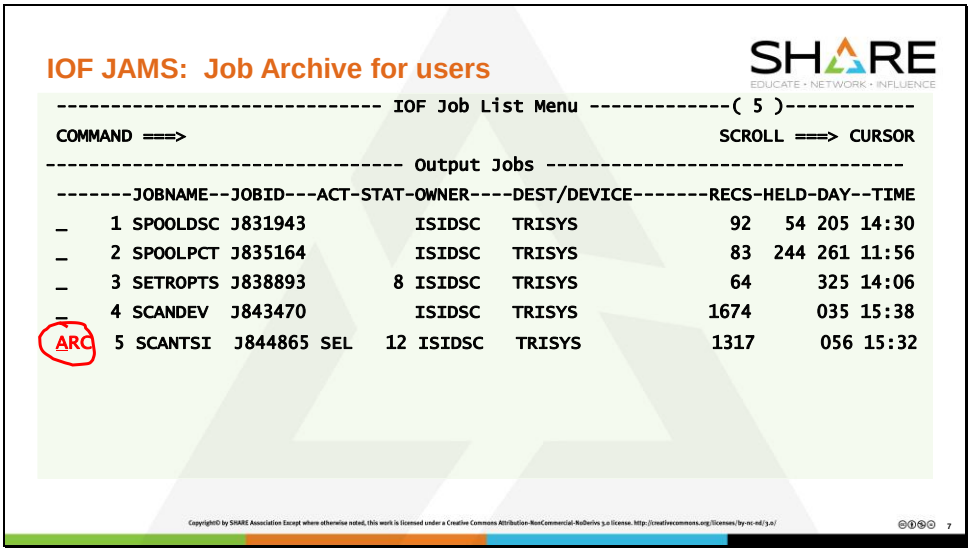
JAMS is a Job Archive facility for end users. It requires no central data base and can be used by individual users without requiring action by the data center staff. It's not what you would use for an installation's archival of production output, but it provides a powerful way for an individual user to archive important jobs.

You can archive a subset of the entire job, but the default is to archive the entire job including the JCL and other input files.

Each archived job is stored in its own PDS dataset which is then managed according to the installation's storage management policies. To save space, JAMS can TERSE the dataset.

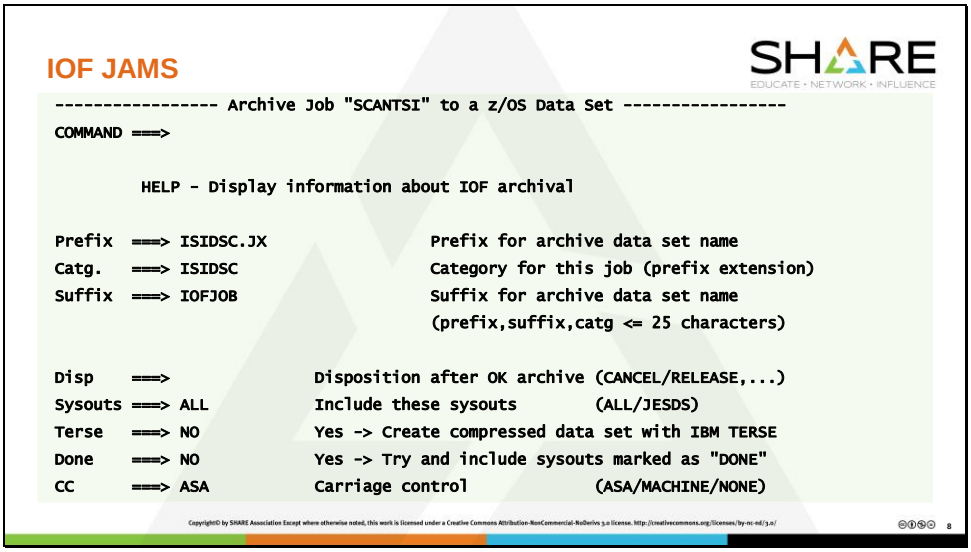
JAMS can be invoked during the execution of a job to create a JAMS archive of the running job.

Slide 18



In the example here, the SCANTSI job we just used in the SEND MAIL example is to be archived. Enter the line command “ARC”

Slide 19



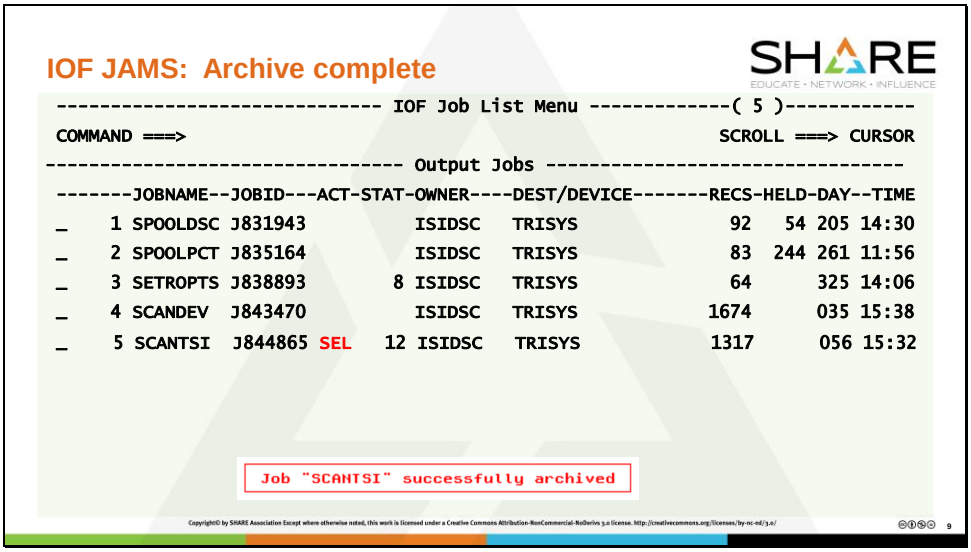
This panel is omitted from the live presentation, but for actual use, it allows you to specify:

- What parts of the job to archive
- How the archived dataset is to be named, and whether it will be stored as a PDS or TERSED.
- What is to happen to the SPOOL Job when the archive completes.

These fields are populated from previous use. If no changes are needed, press “Enter”.

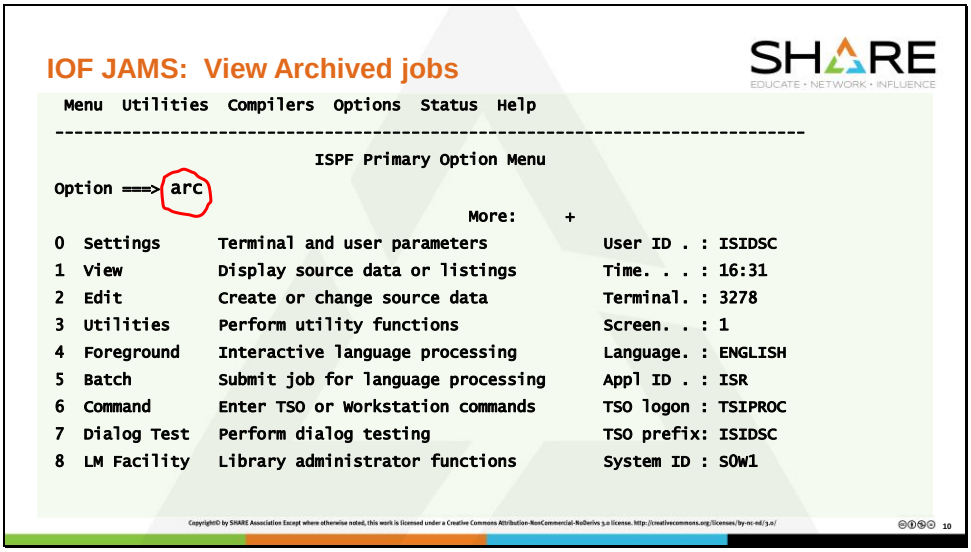
In this case:
* The dataset will be named ISIDSC.JX.ISIDSC.<unique-level>.JOFJOB
* All sysouts will be archived, and the job will be retained on SPOOL after the archive is complete.

Slide 20



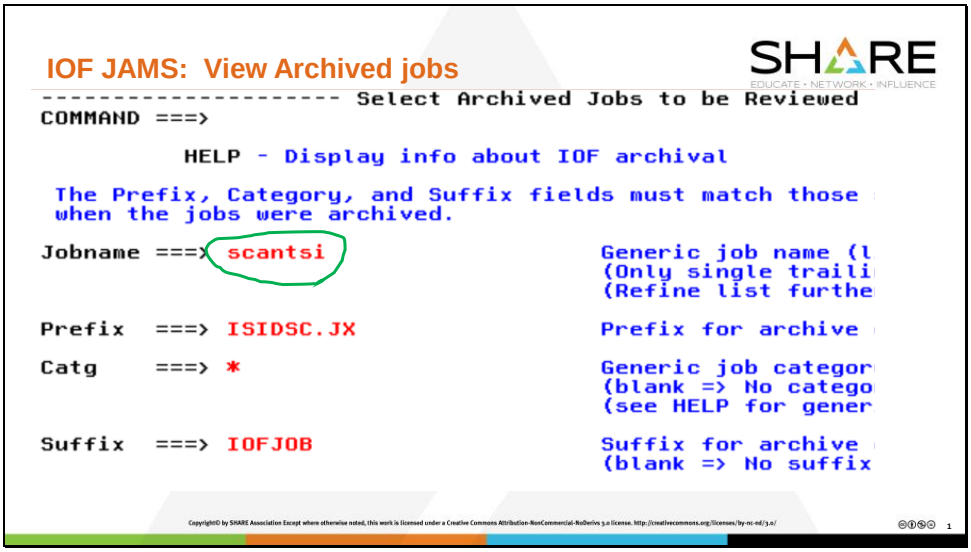
That's it.

Slide 21



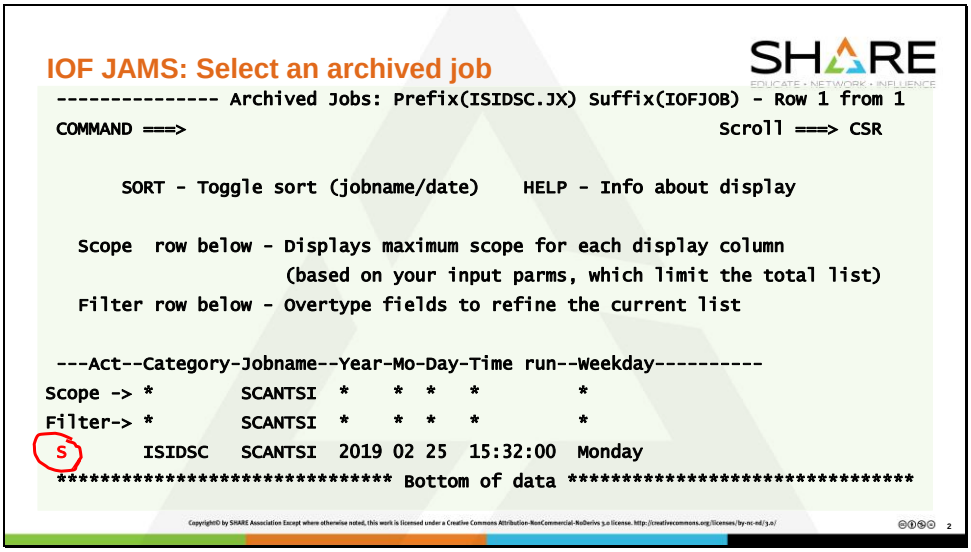
To view the archive. You can enter “arc” from the ISPF primary option menu, or from any IOF panel.

Slide 22



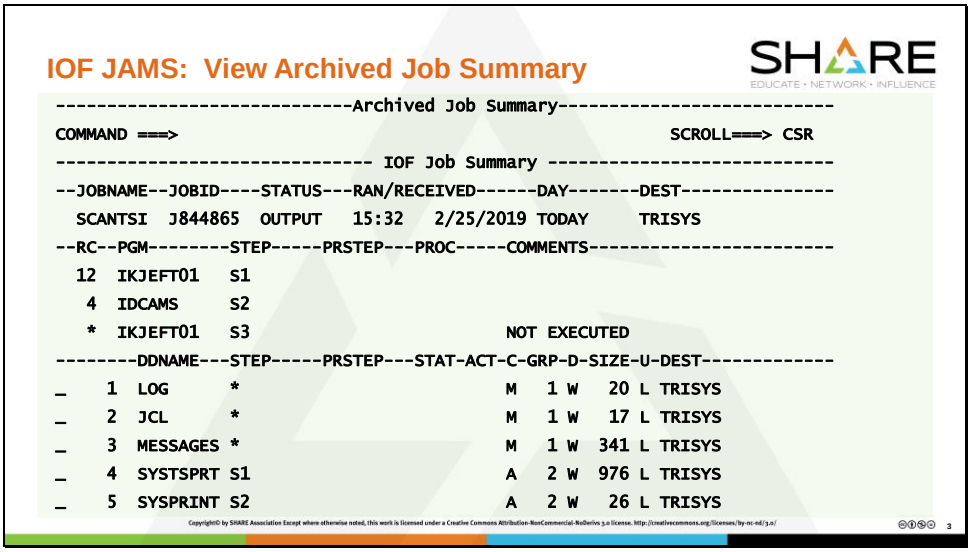
This panel comes up, and you can specify what JAMS jobs you want to look at. Here I've specified the Jobname of the job I just archived.

Slide 23



To display the job, enter “S” in the Line.

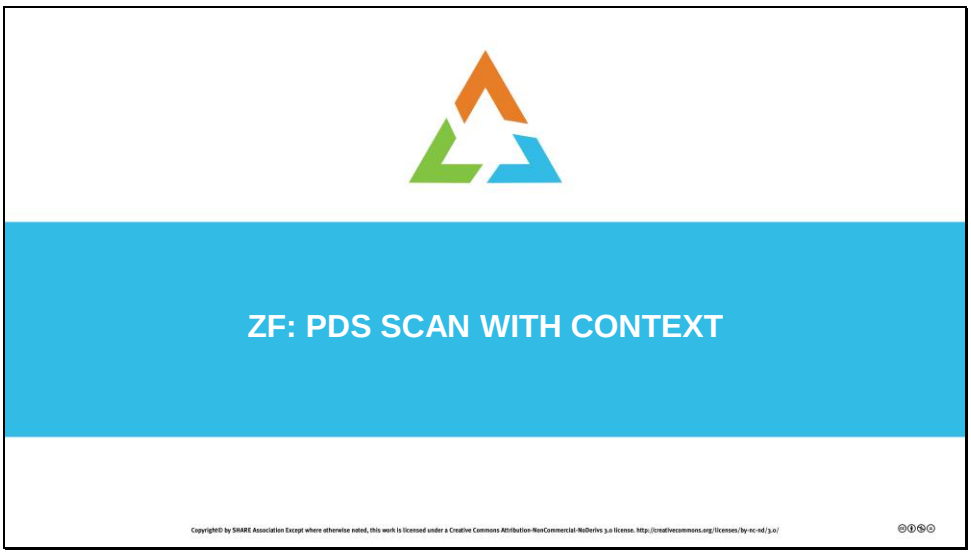
Slide 24



IOF displays the Job Summary. From here you can:

- Browse, print, copy, edit or email individual SYSOUT files.
- Print, copy or email the entire job.
- ISPF edit the original input job and submit it.

Slide 25

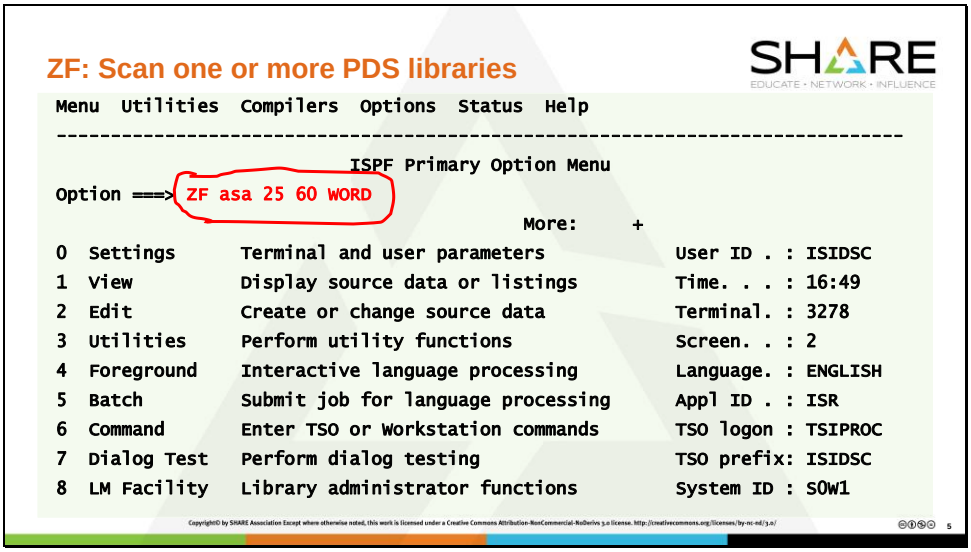


IOF now has the ZF command for scanning a PDS. I know everybody has their own favorite tool for scanning a PDS, but this one is nice because:

- You can specify ISPF-like find commands, including column limits.
- ZF provides a concise report of all the members where the string was found and a little bit of context.
- When you view the hit, you are automatically positioned to the proper location in the file.

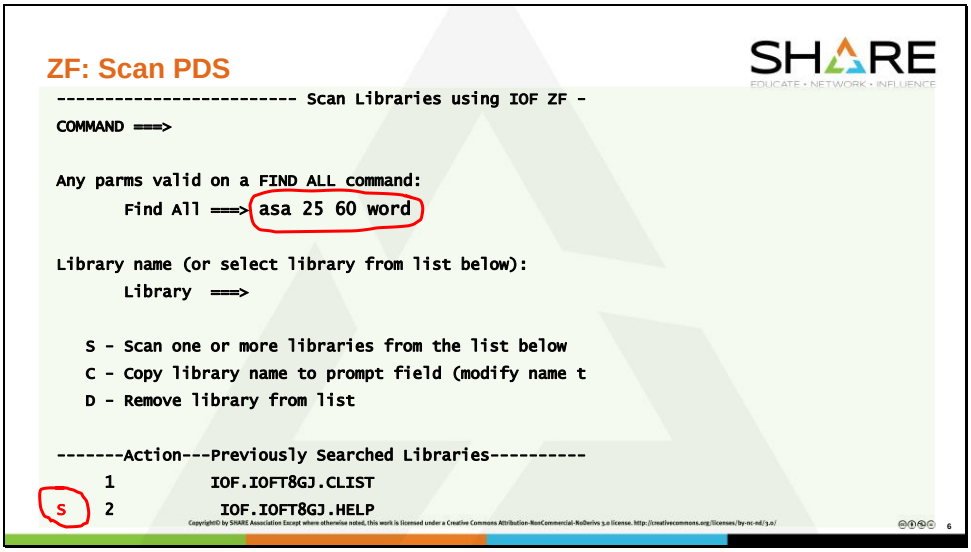
Let's see an example:

Slide 26



ZF can be entered from the ISPF Primary option menu, or from any IOF panel.

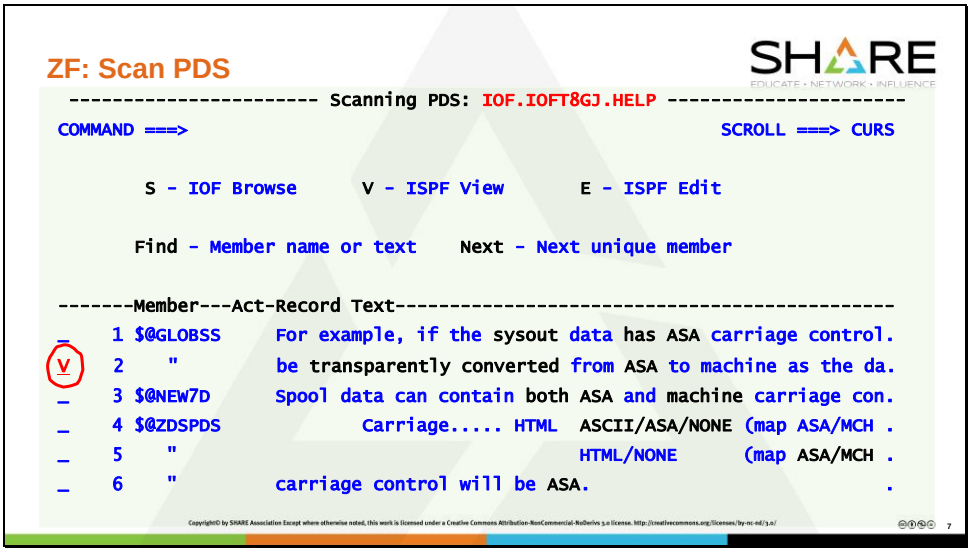
Slide 27



Select the library to be scanned.

This will scan for the word “asa” in columns 25-60 of the IOF HELP dataset.

Slide 28

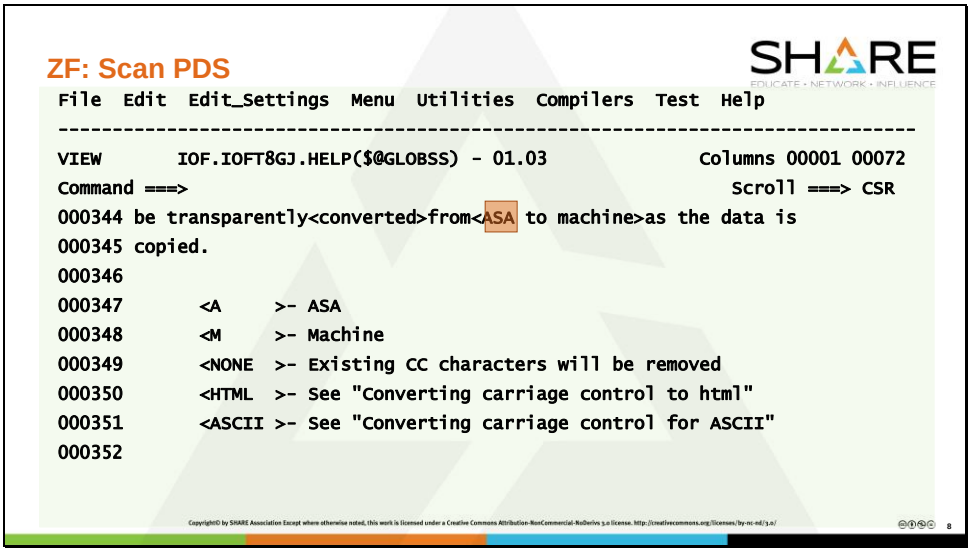


This list shows all the members where a hit was found in the dataset **IOF.IOFT8GJ.HELP**, along with text from the line where the string was found.

From here you can invoke IOF Browse, ISPF View, or ISPF Edit, and will be positioned at the appropriate location in the member. In this case, I'm doing ISPF View on the 2nd hit.

Note: When scanning multiple datasets, the results from each dataset are presented in sequence.

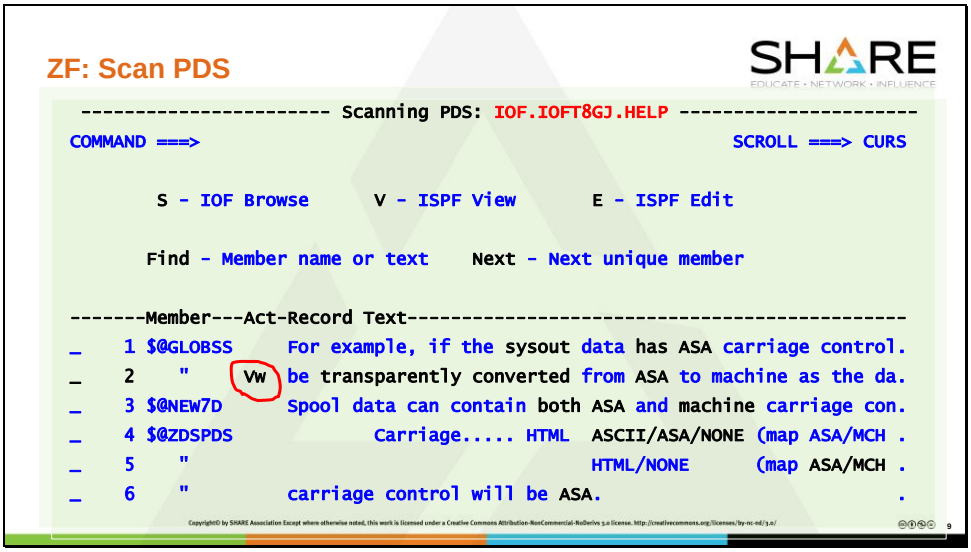
Slide 29



As you can see, the view has been positioned to the correct place in the member, and the matching string is highlighted.

When you end this VIEW session, you will be returned to the Scan Summary panel.

Slide 30



IOF now re-displays the original FIND summary, but the “ACT” column has been updated to help you keep track of what you’ve already investigated.

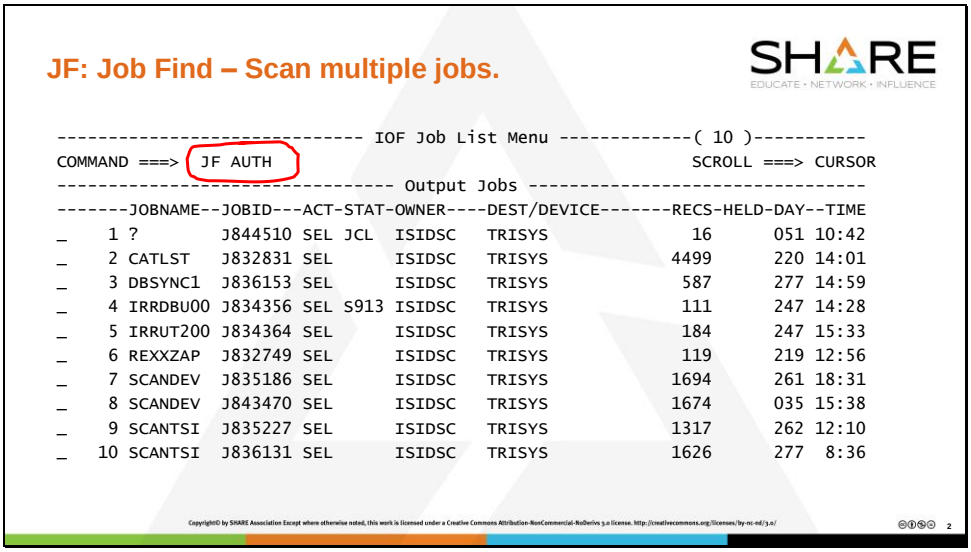
Slide 31

Do you ever think to yourself “I need to look at a job I ran earlier today, but I’m not sure which one it was?” If you do, JF is for you.

The JF command scans the jobs shown in the IOF Job List Menu for a specified string. You may not want to scan all the jobs in your default list, so you can use the IOF EXCLUDE command to remove jobs you do not want to scan. Then enter the command “JF” followed by the string to be scanned. As with ZF, ISPF “Find” format is used.

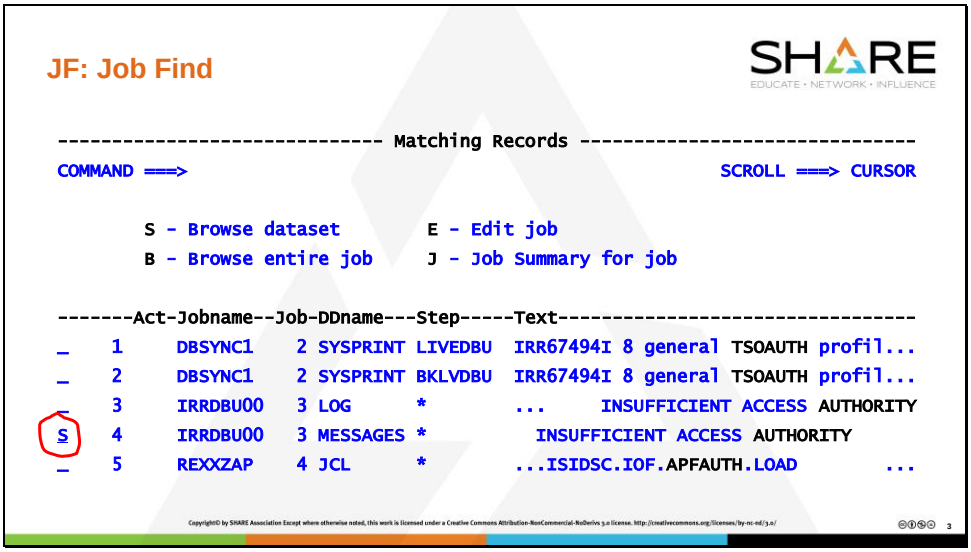
Examples:
EXCLUDE JOBNAME BG M
EXCLUDE AGEDAYS GT 5
You can also use the “X” line command to exclude specific jobs.

Slide 32



Once you have found all the jobs you want scanned, enter the JF command. Here I've specified the string to be searched without column limits.

Slide 33

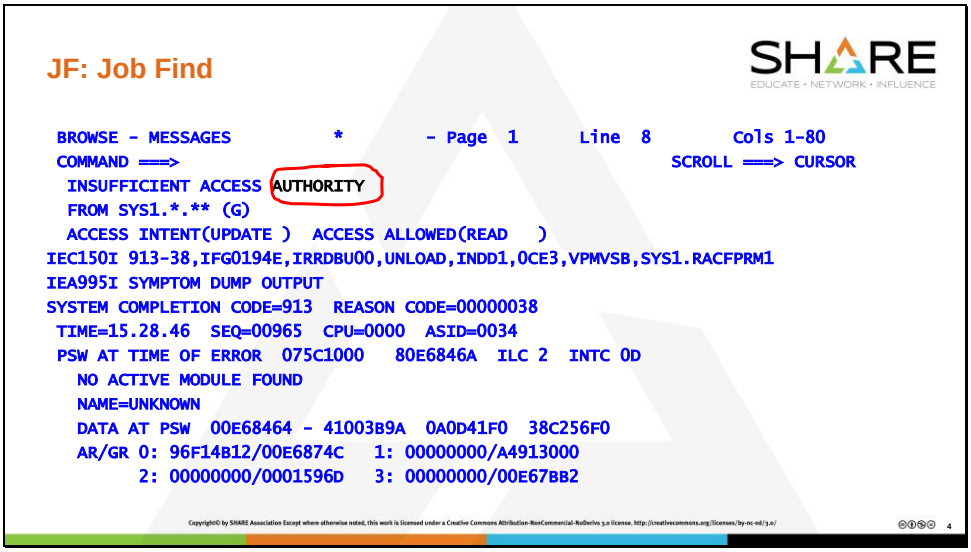


As with ZF, the scan results shows the context where the match was found: The Jobname, Stepname, and DDname along with the text of the line.

Next, select the job or SYSOUT file to be viewed. In this example, Browse the SYSOUT dataset.

Note the “E – Edit job”. This brings up an ISPF Edit panel with the original job: JCL, and all the SYSIN files.

Slide 34



Now you are in IOF Browse, positioned to the correct location in the file with the matching string highlighted.

Slide 35

SUMMARY

IOF users gain significant productivity from IOF's ease of use, and it continues to evolve with the system to fit the needs of its users. Today we gave a brief overview of the IOF Browse and job management features, and then focused on these recently added features:

- SEND MAIL
- JAMS: Job Archive for the end user
- ZF: Improved PDS scan
- JF: Scan multiple jobs for a string

Not previously mentioned in this presentation:

- Full support for 8 character userids available in IOF release 8G.

I will be around for the rest of the week. I'd like to talk to you individually if you have questions or suggestions – or just to chat about your own experiences on this platform, whether it involves IOF or not.

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Slide 36

These evaluations really are used by SHARE management and project officers to make the conference better. Please fill them out.

Slide 37

Useful Links and Contact information

https://www.triangle-systems.com/

IOF Website. This has a lot of examples and other usage information including a comprehensive user guide that goes into all the IOF Features.

http://www.fisc.com/support/ioffunctionality/

Our associated corporation, Fischer International, also has a website with IOF tips (text and video!). They also conduct an annual user survey to get ideas for future development. If you're interested, send email to Christine Cargnoni : CCC@FischerInternational.com

ioftech@triangle-systems.com

IOF Technical Support. Use this for reporting problems, and feel free to ask usage questions.

http://www.fisc.com/support/docs/ShareShootPresentationJW.pdf

2010 Shootout presentation. A similar presentation was done in 2010. It still has useful information.

Me: Dave.Crow@triangle-systems.com

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