

Catalogs and Utilities

Using Existing Datasets

Lesson 3:

Catalogs and Utilities

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Catalogs

- Catalogs are hierarchically organized by dataset name qualifiers.
 - All datasets are alphabetically arranged based on the first or high level qualifier.
 - Within that qualifier, datasets are alphabetized on the second qualifier.
- Duplicate entries are not permitted.
 - Datasets in a catalog must be uniquely named.
- For each dataset, the device type and the volume serial number(s) are listed.

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Finding Datasets with a Catalog

- Only the name - DSN and disposition - DISP are needed in order to locate a catalogued dataset which is listed in a catalog.
- During allocation, the z/OS operating system searches the catalog in order to supply the missing parameters.

Example:

```
//PAYTRAN DD DSN=TEST.PAYDATA,DISP=OLD
```

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Catalog Maintenance: DISP Parameter Options

- The CATLG option creates a dataset entry in the catalog based on information in the JCL.

Example:

```
//EMPINFO DD DSN=TEST.PAYDATA.RUN4,  
//          DISP=(OLD,CATLG),  
//          UNIT=SYSDA,  
//          VOL=SER=SEDO12
```

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Catalog Maintenance: DISP Parameter Options

- During termination, z/OS will create a catalog entry for TEST.PAYDATA.RUN4.
- The next time that the dataset is used, UNIT and VOL can be omitted.
- If the catalog already contains an entry for TEST.PAYDATA.RUN4, z/OS includes an error message as part of the termination messages.

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Catalog Maintenance: DISP Parameter Options

- **UNCATLG**
 - The UNCATLG disposition removes an entry from the catalog without deleting the dataset itself.

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Catalog Maintenance: DISP Parameter Options

– These two examples demonstrate UNCATLG in use:

```
//PAYTRAN DD DSN=TEST.SYSED.PAYROLL,
//          DISP=(OLD,UNCATLG),
//          UNIT=SYSDA,
//          VOL=SER=SED011
//PAYDATA DD DSN=TEST.SYSED.PAYDATA,
//          DISP=(OLD,UNCATLG)
```

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Catalog Maintenance: DISP Parameter Options

- **DELETE**
 - The DELETE option scratches the dataset.
 - If z/OS located the dataset through JCL, there is no change to the catalog.
 - If the dataset was allocated using a catalog, DELETE also removes the catalog entry.

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Catalog Maintenance: DISP Parameter Options

• These examples use DELETE instead of UNCATLG:

```
//PAYTRAN DD DSN=TEST.SYSED.PAYROLL,
//          DISP=(OLD,DELETE),
//          UNIT=SYSDA,
//          VOL=SER=SED011
//PAYDATA DD DSN=TEST.SYSED.PAYDATA,
//          DISP=(OLD,DELETE)
```

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IEHLIST Utility Program: Listing the Catalog

- At times, there may be a requirement to know what entries are contained in the catalog.
 - When z/OS provides an error message, it attempts to CATLG or UNCATLG, it will be necessary to determine whether the catalog contains the correct entry.
- The IBM utility IEHLIST prints the contents of a catalog.
 - The TSO/ISPF utilities can be used in the foreground to perform the same function.
- This listing makes it possible to verify the entries for the datasets.

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IEHLIST Utility Program: Listing the Catalog

• This JCL will execute IEHLIST:

```
//CATLIST EXEC PGM=IEHLIST
//SYSPRINT DD SYSOUT=*
//CATVOL DD DISP=OLD,
//          UNIT=SYSDA,
//          VOL=SER=SP8403
//SYSIN DD *
control cards go here
```

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Utility Control Statements

- Utility control statements are similar to job control statements.
- However, they have a significantly more structured format.
- Utility control statements can have three fields:
LABEL OPERATION OPERAND
- Do not code // in the first two characters.

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LISTCTLG Control Statement

- LABEL is an optional field which identifies a particular operation when more than one is included in the input stream.
 - If a label is present, it must begin in column 1.
 - If a label is not present, column 1 must be blank.
- OPERATION specifies the operation the utility is to perform.
 - It is separated by at least one blank from both the label and operand fields.
- OPERAND provides the utility with the information it needs to complete the operation.
 - Commas separate multiple operands for the same statement.
 - All utility operands are keyword parameters, no positional parameters are used.

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LISTCTLG Control Statement

- Utility control statements can be continued by following these steps:
 1. End the first part of the statement with a comma in or before column 71.
 2. Place a non-blank character, such as X, in column 72.
 3. Start the next parameter in column 16.
- Except for the IDCAMS utility, these rules apply to the control statements for all IBM utility programs.

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LISTCTLG Control Statement

LISTCTLG Control Statement

- The LISTCTLG statement directs IEHLIST to print a catalog listing.
- It has the following format:

```
LISTCTLG VOL=device=serial, [NODE=qualifier]
```

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LISTCTLG Control Statement

- LISTCTLG The IEHLIST operation to list a catalog.
- VOL A required parameter specifying the catalog location.
- device The device type containing the catalog.
 - » This has the same value as the UNIT parameter in the JCL.
- serial The serial number of the catalog volume.
 - » This must be the same as the VOL=SER JCL parameter.
- NODE An optional parameter which limits the size of the listing.
- qualifier One or more high level qualifiers of catalog entries that are required to be listed.

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LISTCTLG Control Statement

- This code produces three catalog listings:

```
//LISTCATS EXEC PGM=IEHLIST
//SYSPRINT DD SYSOUT=*
//CATVOL DD DISP=SHR,
//          UNIT=SYSDA,
//          VOL=SER=SP8403
//ANYNAME DD DISP=SHR,
//          UNIT=SYSDA,
//          VOL=SER=NSWA02
//SYSIN DD *
LISTCTLG VOL=SYSDA=SP8403
LISTCTLG VOL=SYSDA=NSWA02, NODE=SYSED. TEST
LISTCTLG VOL=SYSDA=NSWA02,
          NODE=A0391MH
```

Column 72

X

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LISTCTLG Control Statement

The listing provides the following information:

1. The name of the utility program which produced the listing.
2. The name of the volume containing the catalog.
3. The name of the node, if one was specified.
4. The names of all datasets contained in the catalog.

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LISTCTLG Control Statement

- The device type for each dataset entry.
 - The device type indicator is not identical to that used on the UNIT parameter; from the standpoint of z/OS, it is the equivalent value which is meaningful.
- The volume serial number containing the dataset.
 - If the dataset spans multiple volumes, all of the serial numbers are listed.
- The sequence number is provided if the dataset is one of multiple datasets on a tape.

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IEHPROGM Utility Program: Catalog Maintenance

- IEHPROGM is the IBM utility program which allows catalog entries to be added or deleted.
 - It is also used to delete or scratch datasets.
- When there is a requirement to make several changes at the same time, IEHPROGM is more efficient than using the DISP parameter.

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IEHPROGM Utility Program: Catalog Maintenance

- This following JCL is needed to run IEHPROGM:

```
//CATMAINT EXEC PGM=IEHPROGM
//SYSPRINT DD SYSOUT=*
//CATVOL DD DISP=SHR,
//          UNIT=SYSDA,
//          VOL=SER=SED100
//SYSIN DD *
control cards go here
```

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IEHPROGM Control Statements

- The CATLG control statement adds catalog entries.
- The UNCATLG control statement deletes catalog entries.
- The format is:

```
CATLG DSNAME=data.set.name,VOL=device=serial
UNCATLG DSNAME=data.set.name
```

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IEHPROGM Control Statements

CATLG and UNCATLG

- The operations to create and delete a catalog entry, respectively.

DSNAME

- The parameter specifying the dataset name.
- It cannot be abbreviated DSN.

data.set.name

- The fully qualified dataset name as it appears in the catalog.

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IEHPROGM Control Statements

VOL

- A parameter specifying the device type and serial number(s) of the volume(s), limited to 50, that contain the dataset(s).

device

- The device type containing the dataset to be cataloged.
- This has the same value as the UNIT parameter in the JCL.

serial

- The serial number of the volume on which the dataset resides.
- This must be the same as the VOL=SER JCL parameter.
- The statements on the next slide demonstrate IEHPROGM.

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IEHPROGM Control Statements

```
//CATMAINT EXEC PGM=IEHPROGM
//SYSPRINT DD SYSOUT=*
//CATVOL DD DISP=SHR,
// UNIT=SYSDA,
// VOL=SER=SED100
//SYSIN DD *
CATLG DSNAME=TEST. NEWPAY. DATA2,
VOL=SYSDA=SED011
UNCATLG DSNAME=TEST. PAYDATA
CATLG DSNAME=TEST. PAYDATA,
VOL=TAPE=991555
```

Column 72 → X

Column 72 → X

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