



IEXL

Generation of Excel
Spreadsheet on I5

Work Manual



SYSTEM PREREQUISITES

Operating System level V5R2M0
I5 Java Virtual Machine 1.4
IBM Licensed program 5722SS1 Option 13

LIMITATIONS

All Excel limits apply, i.e., # of fonts;
of sheets; column widths.
I5: Numeric field size maximum is 29 with 9DP's
I5: Total file width 10,000 characters

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This product includes software developed by the
Apache Software Foundation – <http://www.apache.org/>

This product includes RPGMail developed by Aaron Bartell at www.mowyourlawn.com

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Introduction

Command IEXL Overview

The IEXL product has been designed to simplify the creation of Excel spreadsheets directly on the AS/400, ISERIES or I5 (Referred to as I5 after). There is no need for further PC packages or Database communications setup to use the IEXL product. The system uses Apache POI software to generate the spreadsheets which is supplied as part of this product.

At its most basic the product can be used to simply transfer a data file into a spreadsheet. If required, using its inbuilt functionality it can be used to set fonts, styles, headings, colours, etc to generate more professional looking spreadsheets. The software can be used by any person that can access data files.

If for example a user runs a Query on a weekly basis that generates an output file it may be of use to have this data transferred to Excel. This can be achieved by creating a schedule job that would read the Query file using the IEXL product.

On the more complex side a user may receive an existing I5 report that may be of use as a spreadsheet but retaining the I5 report format. This could be achieved by the IS department modifying the existing program that generates the report. As the report is generated, a work file is created with the same data as the report, placed in the associated spreadsheet column. Taking this approach means you do not have to create new programs but make a simple modification to an existing program.

The IEXL product can also be used to display the generated spreadsheet directly on your screen. You may want to modify a subfile program so the user can have the ability to load the data into Excel and have that displayed immediately.

However the option exists to simply transfer the data file to Excel and use its functionality to process the data.

As long as the file exists on the I5 it could have been created by RPG, COBOL, JAVA, SQL, Query, etc it can be uploaded to Excel with the IEXL product.

Whichever of the above suits your needs you can then e-mail the generated spreadsheet to both internal and external people. Using the inbuilt e-mail capabilities of I5 (SMTP) and RPG mail supplied as part of this product you specify which spreadsheet is sent out and who it is sent to.

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Command IEXL

IEXL Parameters

```

Generate Excel Spreadsheet (IEXL)

Type choices, press Enter.

System Name . . . . . 10.10.10.1' Character value
Spreadsheet Directory . . . . . '\idsexl\idsexl_spreadsheets'

File . . . . . Name
  Library . . . . . *LIBL Name, *LIBL
Member . . . . . *FIRST Character value, *FIRST...
Program to Generate File . . . . . *NONE Name, *NONE
  Library . . . . . *LIBL Name, *LIBL
Spreadsheet Name . . . . .

View existing spreadsheet . . . . . N Y, N
Distribution List ID . . . . . Character value
Distribution List ID Qualifier . . . . . Character value
Send E-mail . . . . . N Y, N

More...
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
    
```

```

Generate Excel Spreadsheet (IEXL)

Type choices, press Enter.

E-Mail Subject . . . . .
E-mail Body Text Directory . . . . .
E-mail to be sent from . . . . .
E-mail to be sent To . . . . .

More...
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
    
```

```

Generate Excel Spreadsheet (IEXL)

Type choices, press Enter.

View data in Excel . . . . . N Y, N
System Field Text . . . . . N Y, N
Application to Edit Data . . . . .
Store a copy of the document . . . . . N Y, N
Process empty work files . . . . . Y Y, N
Zip file . . . . . N Y, N

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
    
```

If your file is considered large you have the ability to create a ZIP file which will be e-mailed and/or stored on the system.

System Name

System Name is set when the command is installed on the system and should not be changed. Either the host name or the IP address can be used.

Directory Name for Spreadsheet

The directory name indicates where the file will be stored, if required, within the I5 directory systems – the IFS.

This parameter can be changed to any existing directory so that spreadsheets may be stored in different areas of the IFS. For example this may be useful to separate spreadsheets for different departments or companies.

File/Member and Library Name

This identifies the file that will be used to generate the spreadsheet.
*LIBL can be used for the library name.

Program to Generate File

Call a program to generate the data within the named file.

Spreadsheet Name

This will be the name of the spreadsheet generated.
Spreadsheet name cannot contain embedded blanks or '/'. The suffix '.XLS' will automatically be added to the name. This is the name that will be used to find attributes in the file CELLDEF and other control files. See 'spreadsheet control files' later.

View Existing Spreadsheet

If this parameter is set to 'Y' the system will search for the spreadsheet name entered in the previous parameter.

Distribution List ID and Qualifier

Distribution List/Qualifier is used to identify a pre-defined entry that contains a list of people that require the spreadsheet being e-mailed to them. Also an e-mail address of the sender. See 'e-mail control files' later.

Send E-Mail

Setting this to 'Y' will initiate the sending of the e-mail/s. The e-mails will be issued dependant on the distribution list or From and To parameters later in this command.

E-Mail Subject

E-mail subject is the text that will be placed in the e-mail subject.

E-Mail Body Text File

E-mail body text is used to locate a file stored in the IFS that contains the text for the e-mail body.

E-Mail To Be Sent From

E-mail address of sender. Enter the e-mail address of the person who is sending the e-mail. This is the person who should appear to have sent the e-mail. This information is stored in a log file that shows who actually sent the e-mail. (Alternative to Distribution List)

E-Mail To Be Sent To

E-mail address of recipient. Enter the e-mail address of the person who will receive a copy of the e-mail. This is an extra person that will receive the e-mail in addition to the distribution list. If no distribution list is entered then this will be the only recipient of the e-mail. (Alternative to Distribution List)

View Data in Excel

If this is set to 'Y' the spreadsheet will be displayed on your screen. Note, a shared network drive must exist. See prerequisites later in the spreadsheet generation section.

System Field Text

If this is set to 'Y' the field descriptions held within the file/field description will be used as column headings within the spreadsheet.

Application to Edit Data

This can be used to run an application to edit the data before the spreadsheet is generated.

Store a Copy of the Document

If this is set to 'Y', a copy of the document will be stored within the folder named on the 'Directory Name for Spreadsheet' parameter in the following format.
Spreadsheet name_Job Name_Date_Time.Xls

Process Empty Work Files

Set to 'Y' if empty files will be processed. If this is not set to 'Y' and the file is empty, a message will be issued and the process ended.

3

Spreadsheet Control Files

The control files are maintained via a set of screens which will allow you to enter the required functions. These screens can be accessed from the IDSMMAIN menu.

From a command line enter GO IDSMMAIN

```

IDSMMAIN                               IDSMMAIN Menu
Select one of the following:
    1. Spreadsheet Controls
    2. E-Mail controls

Selection or command
===> _____

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel
F13=Information Assistant  F16=System main menu
    
```

Select option 1 spreadsheet controls.

```

IDSWKM                               IDS Excel Spreadsheet Maintenance  11/14/08  14:39:18
Spreadsheet: _____
Type choices, press Enter
1=Update Record  3=Copy/Add  4=Delete  5=Setup

Sel  Spreadsheet
    _  IDSTEST

    Spreadsheet Description
    Test Spreadsheet

Bottom

F3=Exit  F12=Cancel  F6=Add
    
```

The IDSTEST spreadsheet information will be displayed.

Select option 5 to view the spreadsheet setup values.

Fonts and Styles (Attributes)

Press F4 to view details

```

IDSATRM          IDS Excel Attributes Maintenance      11/16/08  12:59:26

Spreadsheet Name: IDSTEST

Type choices, press Enter
1=Update Record  3=Copy/Add  4=Delete

Sel  Style  Font          Cell  Background
    ST1  Arial          Colour Colour      PointSize
    Italic Bold Wrap  Pattern Align  Control Spaces Edit New
    700
Cell Text

Cell Description
Style ST1 Test

Bottom
F3=Exit  F12=Cancel  F6=Add  F10=Column Widths  F11=Edit Codes  F13=Headings
F14=Spreadsheet Level  F15=Sheet Names
    
```

Style

The style can be set to any value. This code will be placed within your spreadsheet file to apply attributes to specific cells or complete rows.

Font

This should be set to the required Excel font. If left blank your default font values will be used when your spreadsheet is displays. If you would like to apply a font, open a blank spreadsheet and see which fonts are available to you.

Note that this is case specific

Cell Colour

This is used to apply a colour to the text within a given cell. It is a number between 1 and 300. See Appendix A for a list of codes and their associated colours.

Background Colour

This is used to apply a colour to the background within a cell. It is a number between 1 and 300. If this is requested it must be used in conjunction within the cell pattern field. See Appendix A for a list of codes and their associated colours.

Point Size

This is any valid number.

Italic

Set this to '1' if you require the text within a cell to be displayed in italics.

Bold

Set this to '700'; if you require the text within a cell to be displayed in bold.

Wrap

Set this to '1' if you would like to have text within a cell to be wrapped.

Cell Pattern

This is used to apply a pattern within a cell. It is a number between 1 and 15. See Appendix B for a list of codes and their associated patterns.

Alignment

This is used to set the alignment within a cell. See Appendix C for a list of valid codes and their meanings.

Column control

If this is set to 'N' the data within a given cell will NOT be used to calculate column widths. As cells are created, the column width is calculated by the number of characters used within the cell. By setting this to 'N' the data in a particular cell will be excluded from column width calculations.

Spaces

Use this option to insert a given number of spaces after the text in a cell.

Edit Codes

Use this field to apply edit codes to cells. You may want to always have 2 decimal places even when the value might be 1.00 for example. This value is used to look for edit codes set up in the edit code control file.

New Sheet

Use this field to tell the system to start a new sheet within the spreadsheet. If a new sheet is not requested by using this option and the data exceeds 65535 rows then a new sheet will be automatically started.

Cell Text

Use this field to place text within the spreadsheet. You may have a total or a break in some way within your data that would require a piece of text to go within it. If specified the text will be placed in the next cell in the spreadsheet.

Style Description

Use this field to enter a general description to this style.

Edit Codes

```

IDSATRM          IDS Excel Attributes Maintenance      11/16/08  12:59:26

Spreadsheet Name: IDSTEST

Type choices, press Enter
1=Update Record  3=Copy/Add  4=Delete

Sel  Style  Font
█   ST1   Arial
                                Cell  Background
                                Colour Colour  PointSize
                                █   █   █
                                Italic Bold  Wrap  Pattern  Align  Column  Edit  New
                                █   █   █   █   █   █   █   █   █
                                700
                                Cell Text

                                Cell Description
                                Style ST1 Test

                                                                Bottom
F3=Exit  F12=Cancel  F6=Add  F10=Column Widths  F11=Edit Codes  F13=Headings
F14=Spreadsheet Level  F15=Sheet Names
    
```

Press F11 from the Attributes maintenance display.

```

IDSECM          IDS Excel Edit Code Maintenance      11/16/08  14:45:07

Spreadsheet Name: IDSTEST

Type choices, press Enter
1=Update Record  3=Copy/Add  4=Delete

Sel  Edit Code  Edit Code  Additional
█   Number    Code      Characters
█   001       $#,##0.0000  10
-   008       $00.00      2

                                                                Bottom
F3=Exit  F12=Cancel  F6=Add

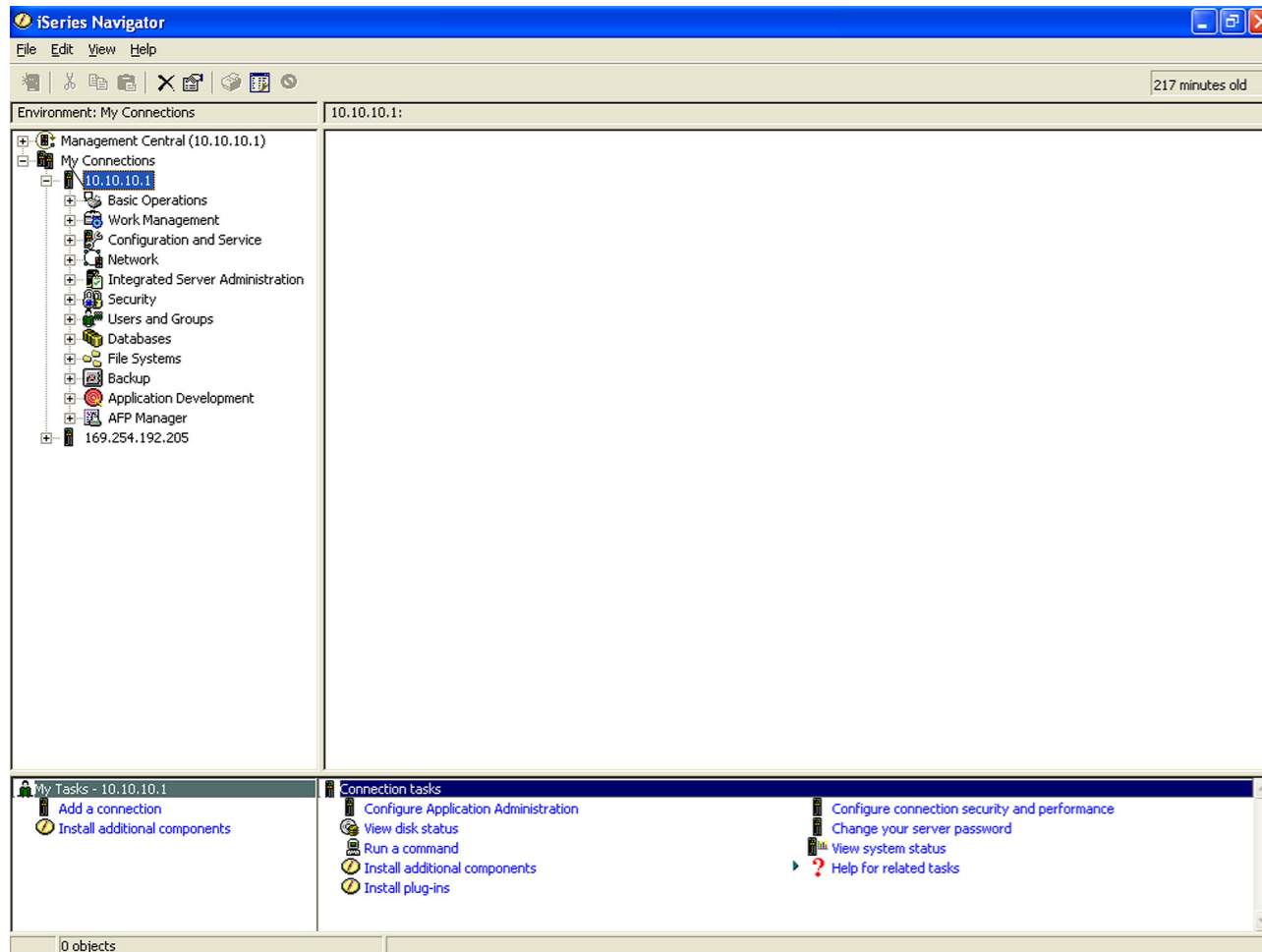
MA d 10/003
    
```

The edit codes control how numeric data is displayed within any given cell in the spreadsheet. The edit code number is stored within a style which has previously been set up within the 'Fonts and Styles (Attributes)' section.

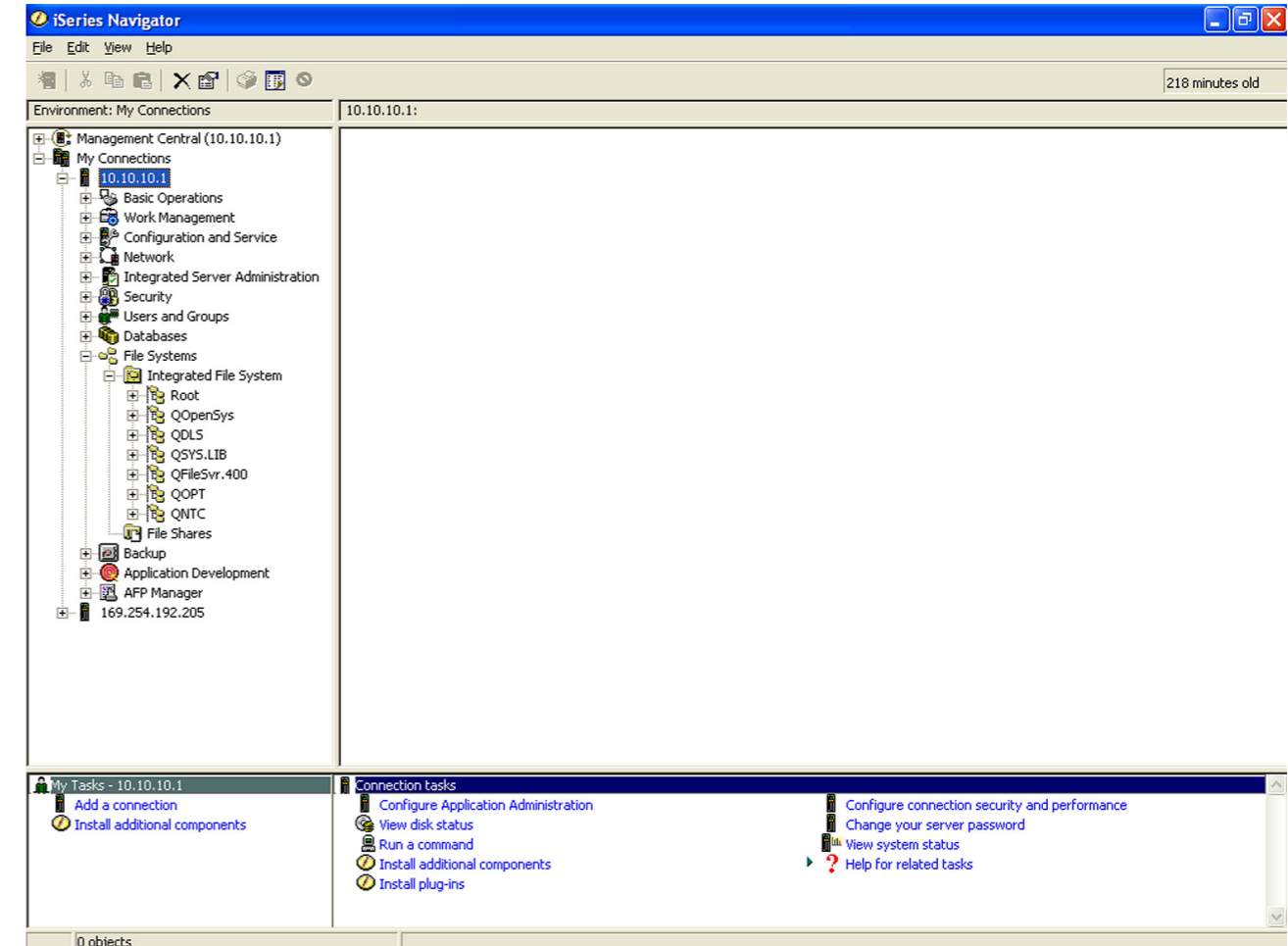
The above entries show that when edit code 1 is placed in a style/font, all data will start with a '\$' sign and always have 4 decimal places. Edit code 8 will always start with a '\$' sign and always have 2 decimal places.

Spreadsheet Prerequisites

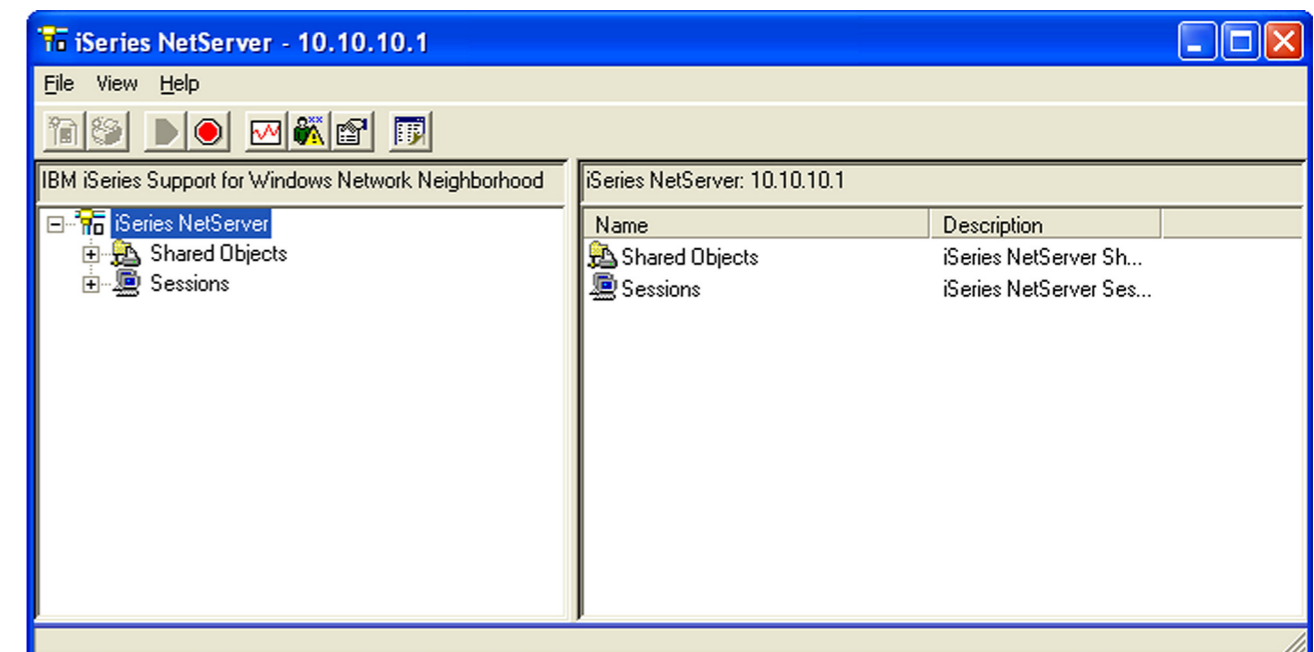
If you wish to use the IEXL facility to display spreadsheets directly to user's screens you must have a shared I5 drive active. If you do not already have a shared drive mapped to your system follow the below instructions.



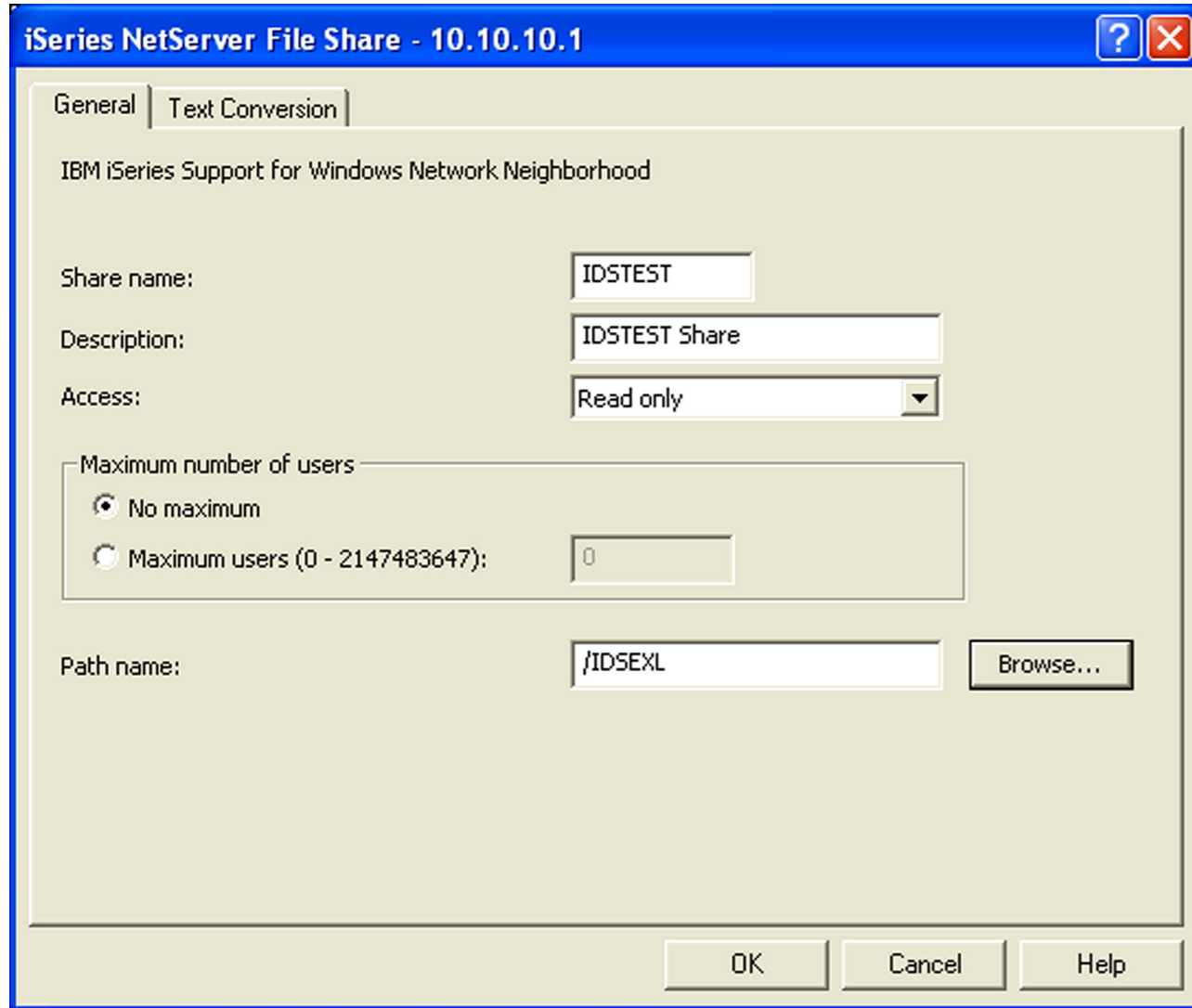
Select File Systems.



Right Click file shares and select 'Open Iseries Netserver'



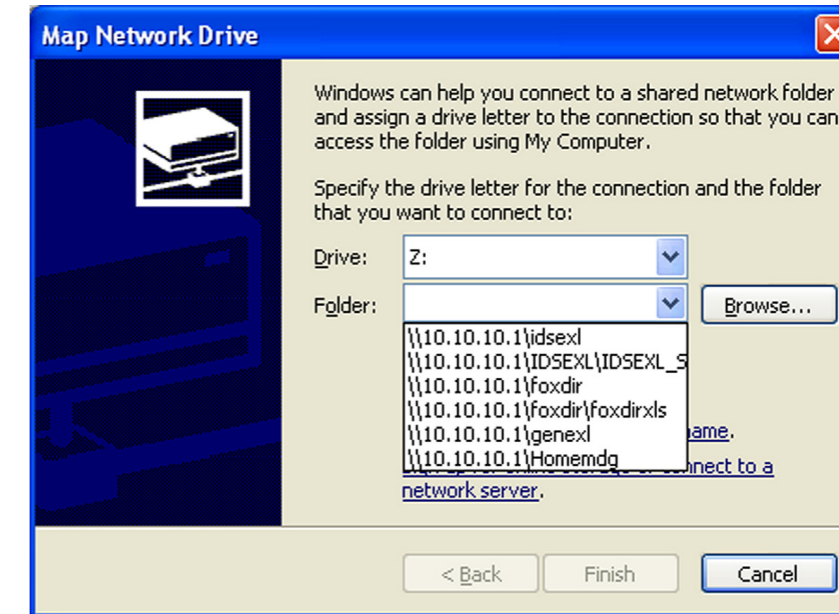
Right click shared objects and select new file.



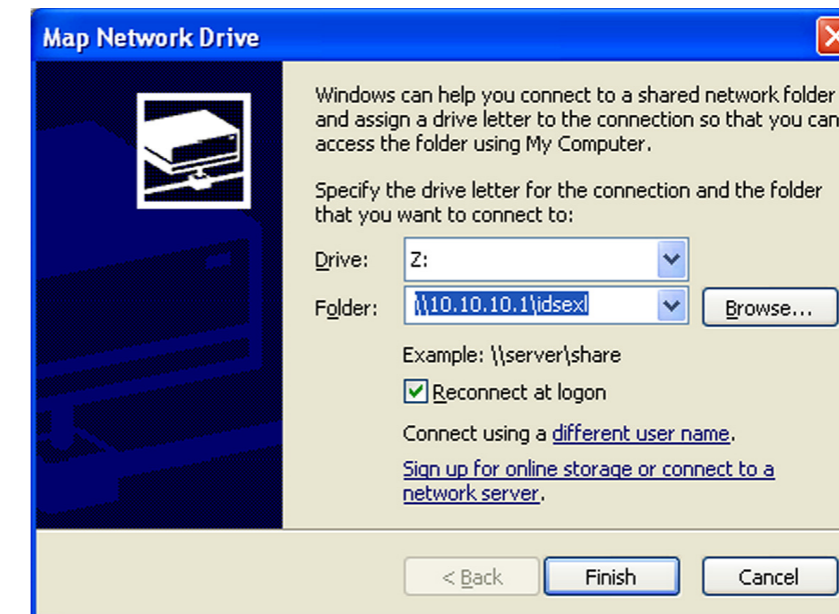
Enter required descriptions and select path. Press OK to create share.

Now that your shared I5 drive is active, you need to map one of your PC or network drives to the I5 share you have just created.

From Windows Explorer select tools, map network drive.



Select the required folder from your list



Select 'connect using a different user name'.

Enter your I5 user ID and password.

Click 'Finish'

4

E-mail Control Files

The control files are maintained via a set of screens which will allow you to enter the required functions. These screens can be accessed from the IDSMMAIN menu.

From a command line enter GO IDSMMAIN

```

IDSMMAIN                                IDSMMAIN Menu
Select one of the following:

  1. Spreadsheet Controls
  2. E-Mail controls

Selection or command
==> _

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel
F13=Information Assistant  F16=System main menu

```

Select option 2 E-mail Controls.

E-mail Authorities

```

IDSEAM                                IDS E-mail Authority Maintenance    11/18/08  19:34:55
User: MDG
Type choices, press Enter
  1=Update Record  3=Copy/Add  4=Delete  5=E-mail Header Level
  6=Copy All Levels

Sel  User      Active  Internal/
     MDG      Y      External/Both  Short Description
     _      _      B              Mark Golden

Bottom

F3=Exit  F12=Cancel  F6=Add

```

The E-mail system works on a user level basis where each user has their own specific entries for E-mails to be distributed. This can stop E-mails being sent inadvertently when a user runs a job.

This first screen controls if a user can send E-mails and what type of user they are. When jobs are run, the user is the user sign-on profile to the I5 .

In the above example the user is MDG.

The user is active. The user can be either deleted permanently or set to inactive which will remove the authority to issue E-mail.

The user is defined as type both. Users can be defined as being authorised to send internal only, external only or both types of E-mails.

A short description can also be defined.

Once a user has been defined as being authorized to send E-mails they will need to be setup as to which E-mails can be sent. These are defined as E-mail Headings which are received from the distribution lists previously covered in the IEXL command description.

From the above screen select option 5 'E-mail Header Level'

E-mail Headers

```

IDSEHM      IDS E-mail Distribution List Header Maintenance  11/18/08  19:48:26
User: MDG      Short Description: Mark Golden
Type choices, press Enter
1=Update Record  3=Copy/Add  4=Delete  5=E-mail Recipients  6=Email Senders

  Distribution  Distribution      Short
Sel  List       List Qualifier  Active  Description
  █  DLST1      DLST1Q         Y       Distribution List 1

Bottom

F3=Exit  F12=Cancel  F6=Add

```

In the above example the user MDG is set to issue E-mails via the distribution list DLST1 with qualifier DLST1Q. The list is active and has a brief description.

Again, like at authority level this entry can be deactivated rather than being deleted which removes this entry from the user MDG list.

To see a list of recipients for this distribution list select option 5.

E-mail Recipients

```

IDSETM      IDS E-mail Recipient Maintenance  11/18/08  20:10:01
User: MDG      Short Description: Distrbution List 1
Distribution List.....: DLST1  Distribution List Qualifier: DLST1Q
Type choices, press Enter
1=Update Record  3=Copy/Add  4=Delete

Sel  Active  Internal  Short
      External/Both  E-mail Address
  █  Y       I         M.SMITH@CMY1.COM
  _  Y       B         MARK_GOLDEN@CDS.CO.IE
  _  Y       B         ROBERT_HUNTER@CMPY2.COM
  _  Y       B         S.STRONG@CMPY2.COM

Bottom

F3=Exit  F12=Cancel  F6=Add

```

In the above example the entries for user MDG using distribution list DLST1, DLST1Q will issue 4 e-mails. All entries are active, however each can be disabled or deleted if required.

In the above example one 1 entry is defined as an internal E-mail address and three entries are defined as external. When user MDG was defined in the authority display it was defined as type 'B' for both, so all E-mails will be issued.

If the user MDG was changed to 'I' internal only then only the E-mail to M.SMITH@CMY1.COM would be issued.

Press F12 to return to the E-mails header screen.

E-mail Sender

```

IDSEHM      IDS E-mail Distribution List Header Maintenance  11/18/08  19:48:26
User: MDG      Short Description: Mark Golden

Type choices, press Enter
1=Update Record  3=Copy/Add  4=Delete  5=E-mail Recipients  6=Email Senders

Sel  Distribution  Distribution  Short
List  List Qualifier  Active  Description
┌───┴───┬──────────┴───┬───┴───┬──────────┴───
█  DLST1  DLST1Q      Y      Distribution List 1

Bottom

F3=Exit  F12=Cancel  F6=Add

```

Select option 6 to display the sender of this E-mail.

```

IDSESM      IDS E-mail Sender Maintenance  11/18/08  20:14:26
User: MDG      Short Description: Distribution List 1
Distribution List.....: DLST1  Distribution List Qualifier: DLST1Q

Type choices, press Enter
1=Update Record  3=Copy/Add  4=Delete

Sel  Active  Internal  Short
      External/Both  E-mail Address
┌───┴───┬───┴───┬───┴───┬──────────┴───
█  Y      I      DAMIAN.NEDLOG@SENDER.CO.UK

Bottom

F3=Exit  F12=Cancel  F6=Add

```

This entry defines who the sender of the E-mail is to be. Only one entry per distribution list/distribution list qualifier is allowed. An E-mail log file is used to record which user and job actually sent the E-mail.

E-mail Body Text

A file can be created that contains any E-mail body text that you would like to be inserted into the E-mail. This file is entered in the 'E-mail body text file' parameter on the IEXL command. The file itself is stored in your named IFS directory

```

Copy selected text to clipboard
Browse : /IDSEXL/IDSEXL_EMailBodies/ExampleBody.Txt
Record : 2 of 20 by 14 Column : 1 180 by 79
Control :

.....1.....2.....3.....4.....5.....6.....7.....
*****
                This E-mail Has been Issued by User MDG
                  Company IDS.

Disclaimer
IDS Company Information.

*****

F3=Exit  F10=Display Hex  F12=Exit  F15=Services  F16=Repeat find
F19=Left  F20=Right
  
```

To create a directory to store these files see Appendix D.

E-mail Controls

A file named EMAILEPF is contained within the library IDSEXL. This contains control information about mail routers and default values for the E-mail system. There is no maintenance program supplied for this file as once it is setup it should not be changed.

```

                Select and Sequence Fields

Type sequence numbers (1-999) to select fields, press Enter.

Seq  Field          File          Text
 1   RESRVR         EMAILEPF     SMTP Mail Server
 2   REXDPT         EMAILEPF     Dft EXCEL Dir Path
 3   REBDPT         EMAILEPF     Dft E-Mail Body Dir Path
 4   RESYSN         EMAILEPF     System Name
 5   REDMNN         EMAILEPF     Domain Name
 6   REDEMA         EMAILEPF     Dft From E-Mail Address

Bottom

F3=Exit  F5=Refresh  F11=Display nulls  F12=Cancel  F17=Select files
F19=Display system field names  F20=Display entire name
  
```

RESRVR: This should be set to the same value as MAILROUTER is set within your SMTP attributes.

REXDPT: This should be set left blank.

REBDPT: This should be set left blank.

RESYSN: This should be left blank.

REDMNN: This should be set to the required domain name. I.E @CDS.CO.UK, @IDS.COM

REDEMA: Enter a default E-mail address for a sender, without specifying the domain name. If no sender address has been defined for the E-mail being sent this will be used in conjunction with the value in REDMNN to build a default sender E-mail address.

5

Examples

Until your understanding of the system and the way it works has improved it is suggested that you start with small test files. This is so you can view your spreadsheets and e-mails quickly. Once this has been accomplished expand the file sizes and the amount of data they contain.

If you intend to view the spreadsheet via your PC you must have a shared drive configured. You will need this if you use the 'View Data in Excel' parameter which will immediately display your spreadsheet. If you do not use this parameter and use the 'Store a copy of the Document' parameter you will still need a shared drive to view the document via Windows Explorer.

Example 1 – Basic Spreadsheet

File IDSTEST is supplied with the system

Make sure the IDSEXL library is last in your library list.

Enter the following command.

IEXL FILE(IDSTEST) VFILE(Y). The following will be displayed.

The screenshot shows a Microsoft Excel window titled 'Microsoft Excel - 027366 [Read-Only]'. The spreadsheet contains the following data:

Customer Name	Address 1	Town	Country	Post Code	Credit L	Last Paym	Current Balance
Mr Mark Golden	5 University Way	Reading	England	RXX 555	125.1	20081014	150.99
IDS Solutions Ltd	15 Merchant Place	London		W1 998	1256	20081011	50000
Connuaght Data Systems Ltd	12 Church Road	Sligo	Republic of Ireland	IE1 12	1500	20081114	1450
Mr D.Johnson	26 Oak Lane	London					
Ms S.Shots	13 Unlucky Drive	IDSTown	Scotland				

The only attributes that are taken from the file are from the I5 system description of the file, For example, column G and H display decimal places.

Use the 'Column Headings' screen to insert some relevant descriptions

Enter the following command.

IEXL FILE(IDSTEST) SPN(IDSTEST) VFILE(Y). Note that the SPN parameter has been added. This parameter is used to search all the spreadsheet controls files for entries. The following will be displayed.

The screenshot shows a Microsoft Excel window titled 'Microsoft Excel - IDSTEST027366 [Read-Only]'. The spreadsheet contains the following data:

Customer Name	Address 1	Town	Country	Post Code	Credit L	Last Paym	Current Balance
Mr Mark Golden	5 University Way	Reading	England	RXX 555	125.1	20081014	150.99
IDS Solutions Ltd	15 Merchant Place	London		W1 998	1256	20081011	50000
Connuaght Data Systems Ltd	12 Church Road	Sligo	Republic of Ireland	IE1 12	1500	20081114	1450
Mr D.Johnson	26 Oak Lane	London					
Ms S.Shots	13 Unlucky Drive	IDSTown	Scotland				

You now have your column descriptions.

Change your column headings to be highlighted.

Using the Column Headings display update all your entries with a cell level attribute named ST1. This can be any code you choose however for this example use ST1.

Note that at present the row level attribute is not active for headings.

Use F12 to return to the Attributes maintenance screen. Press F6 to add a style/attribute.

The Style will be ST1, the code you added to all your column headings.

Set the point size to 12.

Set the Bold to 700.

Press enter to update.

Enter the following command.

IEXL FILE(IDSTEST) SPN(IDSTEST) VFILE(Y). The following will be displayed

Customer Name	Address 1	Town	Country	Post Code	Credit Last Pa	Current Balance
Mr Mark Golden	5 University Way	Reading	England	RXX 555	125.1	20081014 150.99
IDS Solutions Ltd	15 Merchant Place	London		W1 998	1256	20081011 50000
Connuaght Data Systems Ltd	12 Church Road	Sligo	Republic of Ireland	IE1 12	1500	20081114 1450
Mr D.Johnson	26 Oak Lane	London				
Ms S.Shots	13 Unlucky Drive	IDSTown	Scotland			

Note the change in the headings.

Example 2 – Spreadsheet with Attributes

Cell and row attributes within the actual data are recognised by using the I5 system field text. Row level attributes are recognised by the text 'Atr Excel Rec' and cell level attributes are recognised by the text 'Atr Excel Fld'. Note this is case sensitive.

A	R RIDS		TEXT('Test IDS File')
A	DSRFGRR	10	TEXT('Atr Excel Rec PGR')
*			
A	DSNAMA	10	TEXT('Atr Excel Fld NAM#')
A	DSNAM#	50	TEXT('Customer Name')
*			
A	DSADRA	10	TEXT('Atr Excel Fld ADR1')
A	DSADR1	50	TEXT('Address Line 1')
*			
A	DSAD2A	10	TEXT('Atr Excel Fld ADR2')
A	DSADR2	50	TEXT('Address Line 2')
*			
A	DSAD3A	10	TEXT('Atr Excel Fld ADR3')
A	DSADR3	50	TEXT('Address Line 3')
*			
A	DSPSTA	10	TEXT('Atr Excel Fld PSTC')
A	DSPSTC	10	TEXT('Post Code')
*			
A	DSABLA	10	TEXT('Atr Excel Fld CT#')
A	DSABAL	9 2	TEXT('Account Balance')
*			
A	DSLPHYA	10	TEXT('Atr Excel Fld CT2')
A	DSLPHYM	8 0	TEXT('Last Payment Date')
*			
A	DSCRLA	10	TEXT('Atr Excel Fld CT4')
A	DSCRDL	9 2	TEXT('Credit Limit')

Taking the above example.

One record level attribute is defined at the beginning of the record. If an attribute code is placed in this it will be applied to the complete row.

Each field is defined as having its own attribute. If an attribute code is placed in any of these it will override the row level attribute.

In the above example DDS is used to define the file however any utility that can define files and the associated text can be used.

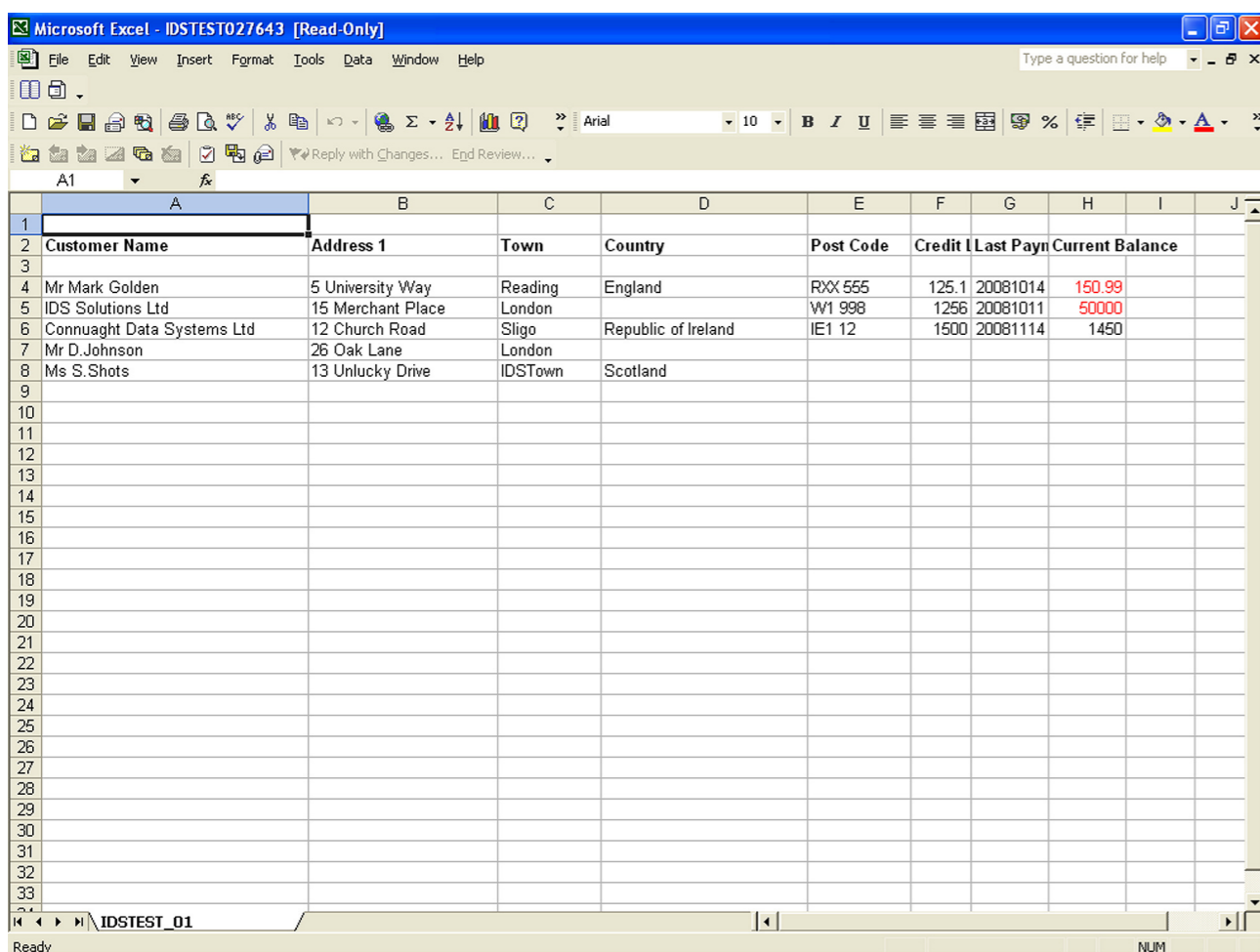
Using the data from example one it can be seen that the first and second customers are over their credit limit which you may want highlighted.

Use the Fonts And Styles (Attributes) screen to create a style called ST2. Set the cell colour to code 10. Colour code 10 is RED.

Within the file IDSTEST place the code ST2 in the field DSCRLA for the records that are over their credit limit.

Enter the following command.

```
IXL FILE(IDSTEST) SPN(IDSTEST) VFILE(Y)
```



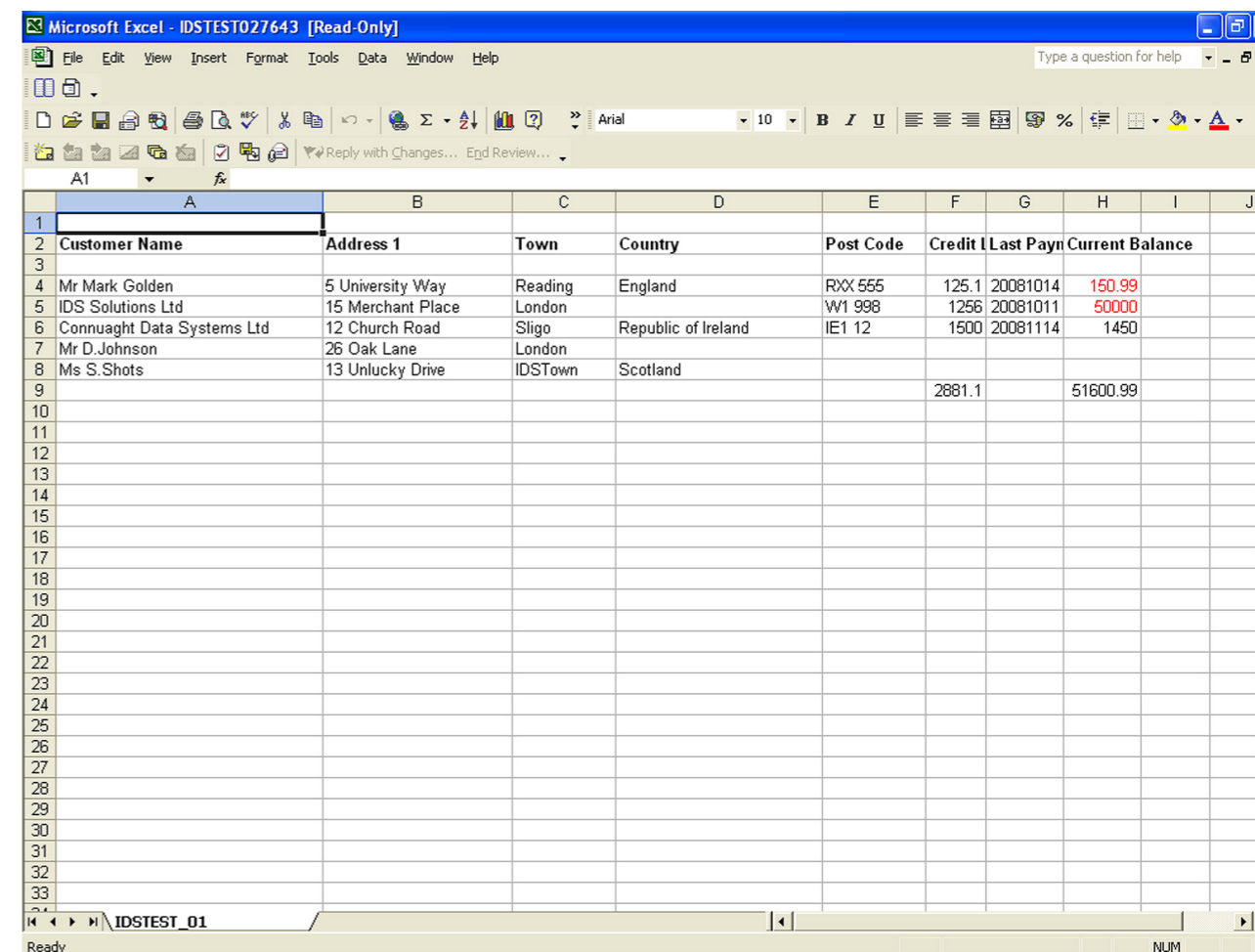
Note the selected cells are now highlighted in RED.

Example 3 – Spreadsheet with Text

Change the file IDSTEST so that it has a new record within it which could hold totals. Use any utility to create a record that has a credit limit of 2881.1 and a current balance of 51600.99

Enter the following command.

```
IXL FILE(IDSTEST) SPN(IDSTEST) VFILE(Y)
```



The new information is now displayed within the spreadsheet and text may be added to describe what they are.

Use the Fonts And Styles (Attributes) screen to create a style called ST3.

Set the bold code to '700'

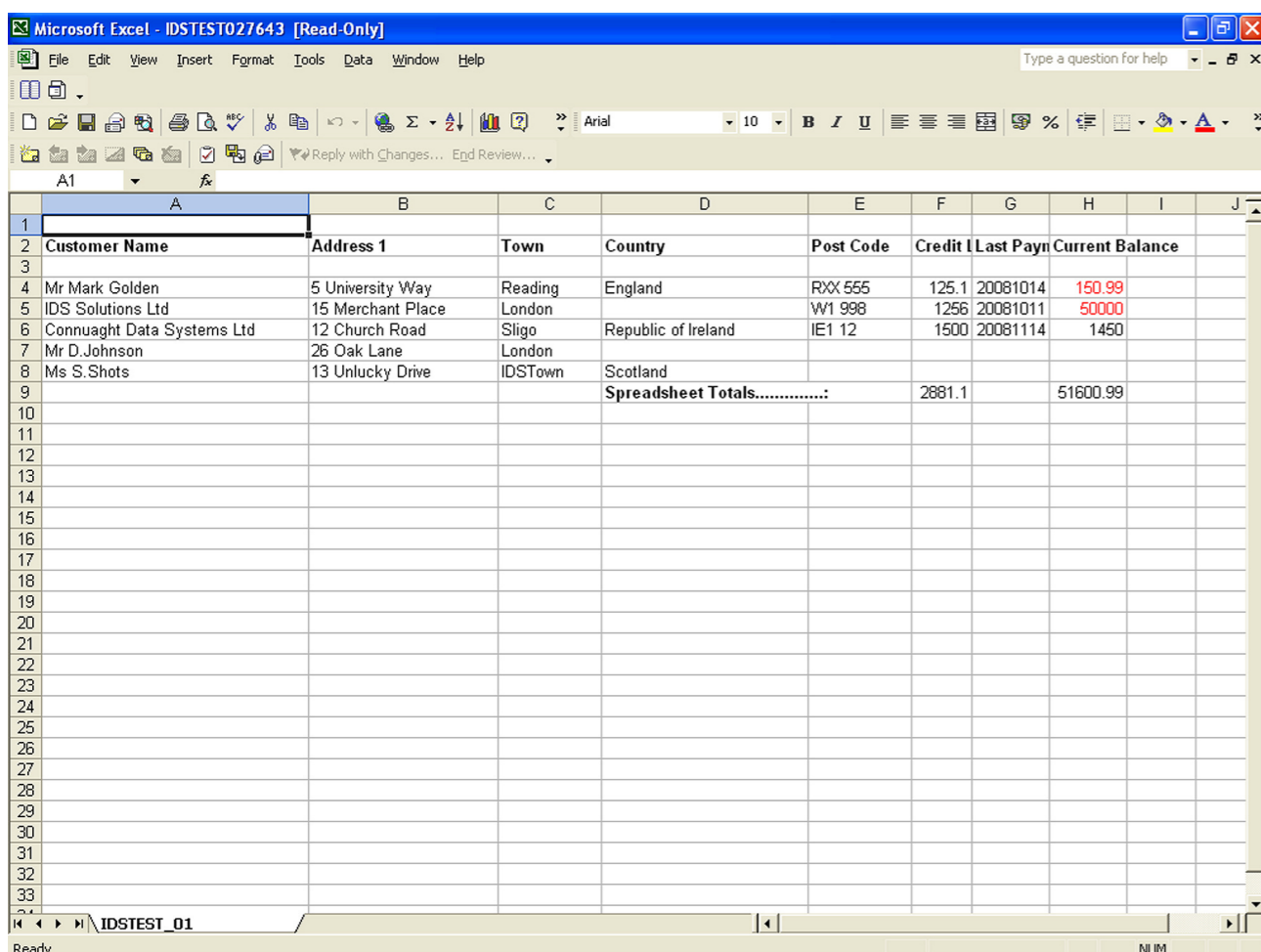
Set the column control to 'N'

Set the cell text to 'Spreadsheet Totals.....':

Within the file IDSTEST place the code ST3 in the field DSAD3A for the records that contains the totals.

Enter the following command.

```
IXL FILE(IDSTEST) SPN(IDSTEST) VFILE(Y)
```



Specifying the column control attribute to 'N' stops the total text adjusting the size of column D.

Example 4 – Spreadsheet with Edit Codes

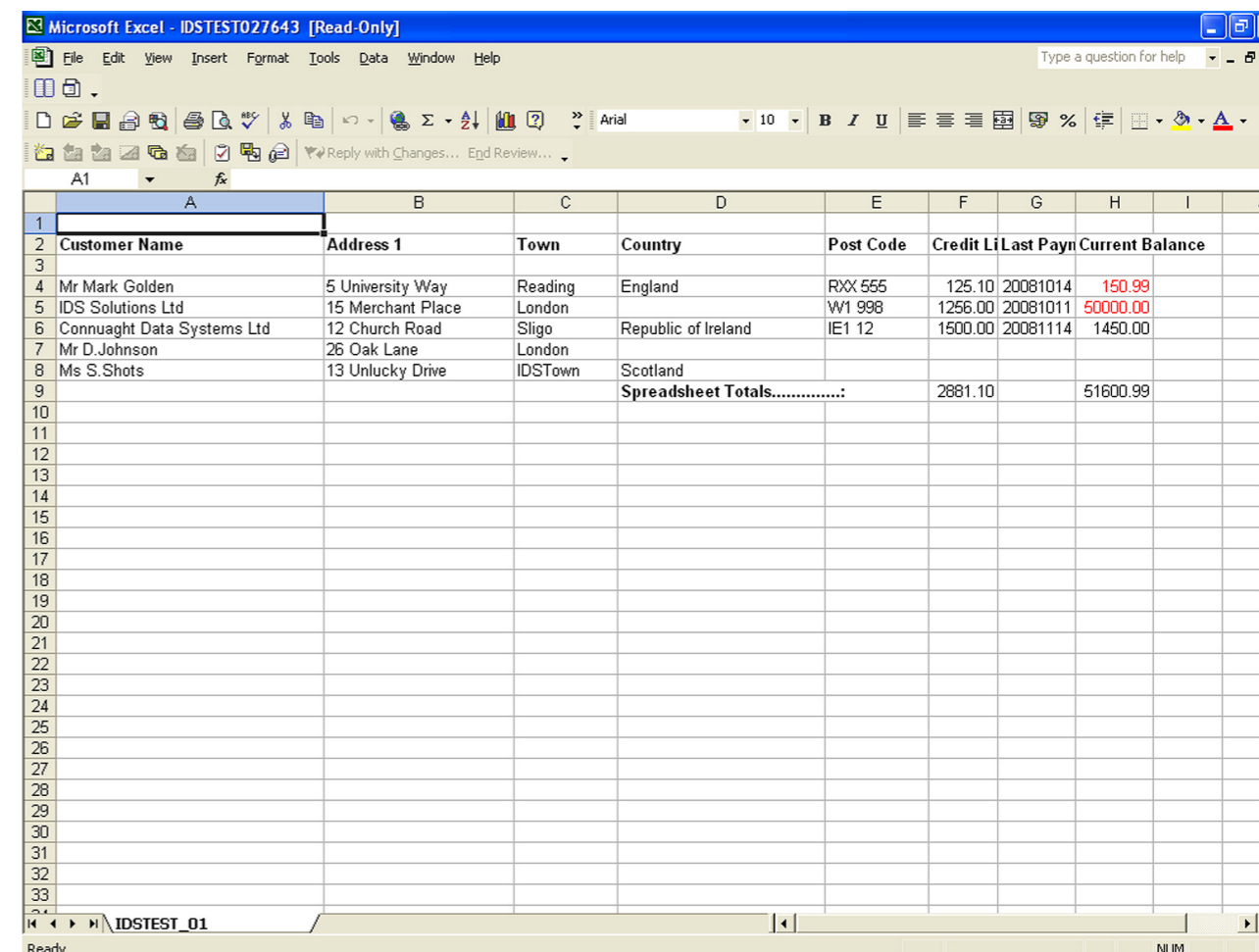
In Example 3 the credit limit column and current balance column are not aligned. To align them create the edit code number 1 with a edit code of ##.00

Change the existing font/style ST2 to have an edit code 1.
Change all records within the IDSTEST file to have a value of ST4 within fields DSABAL and DSCRDL if they do not already have a font/style code.

Use the Fonts And Styles (Attributes) screen to create a style called ST4. Set the edit code to 1.

Enter the following command.

```
IXL FILE(IDSTEST) SPN(IDSTEST) VFILE(Y)
```



Note that the numeric fields have now been aligned and always contain 2 decimal places.

Example Summary

If you wanted to e-mail any of the above examples set the IEXL parameter to 'Send E-mail' To 'Y'. Make sure that your distribution list has been set up or an 'E-mail to be sent To' address has been entered and run the command.

In the examples you were asked to create codes, ST1, ST2, ST3 and ST4. This is for example purposes only, once a code has been set up for a spreadsheet it can be used as many times as required. You do NOT need to create a different attribute for each cell or row.

In the examples you were asked to edit the file IDSTEST via a utility. This seems time intensive, however it is for demonstration purposes only. In a real production environment you would have RPG, COBOL, JAVA, SQL, QUERY etc doing this for you.

a

Appendix A

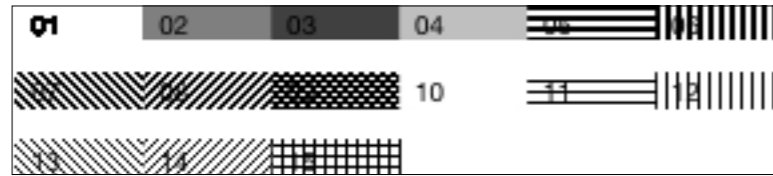
Use the number code to select the required colour

1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27
28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45
46	47	48	49	50	51	52	53	54
55	56	57	58	59	60	61	62	63
64	65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80	81
82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99
100	101	102	103	104	105	106	107	108
109	110	111	112	113	114	115	116	117
118	119	120	121	122	123	124	125	126
127	128	129	130	131	132	133	134	135
136	137	138	139	140	141	142	143	144
145	146	147	148	149	150	151	152	153
154	155	156	157	158	159	160	161	162
163	164	165	166	167	168	169	170	171
172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189
190	191	192	193	194	195	196	197	198
199	200	201	202	203	204	205	206	207
208	209	210	211	212	213	214	215	216
217	218	219	220	221	222	223	224	225
226	227	228	229	230	231	232	233	234
235	236	237	238	239	240	241	242	243
244	245	246	247	248	249	250	251	252
253	254	255	256	257	258	259	260	261
262	263	264	265	266	267	268	269	270
271	272	273	274	275	276	277	278	279
280	281	282	283	284	285	286	287	288
289	290	291	292	293	294	295	296	297
298	299	300						

b

Appendix B

Use the number code to select the required pattern.



c

Appendix C

Use the required code to activate alignment.

Action	Code
Center	2
Center selection	6
Fill	4
Justify	5
Left	1
Right	3

d

Appendix D

Create a directory within the IFS.
Example to create a directory called IDSEXL_EMailBodies within directory IDSEXL.

```

Create Directory (CRTDIR)

Type choices, press Enter.

Directory . . . . . > /IDSEXL/IDSEXL_EMailBodies'
-----
Public authority for data . . . *INDIR   Name, *INDIR, *RWX, *RW...
Public authority for object . . *INDIR   *INDIR, *NONE, *ALL...
      + for more values
Auditing value for objects . . . *SYSVAL  *SYSVAL, *NONE, *USRPRF...
Scanning option for objects . . *PARENT  *PARENT, *YES, *NO, *CHGONLY
Restricted rename and unlink . . *NO      *NO, *YES

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys

```

To create a header file within this folder.

Create a source file member in any source file. Call it TESTBODY.
Run the following command.

```

Display Command String

COPYTOIMPF FROMFILE(IDSEXL/QSOURCE TESTBODY)
           TOSTMF ('/IDSEXL/IDSEXL_EMailBodies/TestBody.Txt')
           STMFCODPAG(*PCASCII)
           RCDDL(*CRLF)
           DTAFMT(*FIXED)

Press ENTER to continue.

F3=Exit  F5=Refresh  F12=Cancel  F13=How to use this display  F24=More keys

```

From a command line enter

```
CD /
WRKLNK
Page down until the 'Object Link' IDSEXL is displayed.
Select option 5 against IDSEXL.
Page down until the 'Object Link' IDSEXL_EmailBodies is displayed.
```

```
Work with Object Links

Directory . . . . : /IDSEXL/IDSEXL_EmailBodies

Type options, press Enter.
 2=Edit  3=Copy  4=Remove  5=Display  7=Rename  8=Display attributes
11=Change current directory ...

Opt  Object link      Type  Attribute  Text
 1_  TestBody.Txt      STMF

Parameters or command
==> _____
F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F12=Cancel  F17=Position to
F22=Display entire field  F23=More options

Bottom
```

You can now use option 2 to edit the file.