

# IBExpert file system inventory tips and tricks

Have you ever tried to find how many large duplicate files are taking up space on your storage system?

We had the same idea and used some very easy IBExpert scripts to read all network files into a database. With about 8 million files on several NAS systems, the tools available in Microsoft Windows are not really helpful. Here you can find our solution, including sample code, using IBExperts IBEBlock scripting language and a Firebird database for storing the inventory.

First we created a table:

```
CREATE TABLE F (  
    FN  VARCHAR(512) NOT NULL PRIMARY KEY,      --filename incl. path  
    FS  BIGINT,                                  --filesize in bytes  
    FT  TIMESTAMP,                              --file timestamp  
    P   VARCHAR(512),                            --path to file without  
filename  
    N   VARCHAR(512)                            --filename without path  
);
```

Then we read all file names including path, timestamp and size into the table:

```
execute ibeblock  
as  
begin  
    ibec_progress('Searching for files...');  
    files_count = ibec_getfiles(files_list, '\\ibexpertnas\data\  
'*.*',__gfRecursiveSearch + __gfFullName);  
  
    if (files_count > 0) then  
        begin  
            i = 0;  
            while (i <= ibec_high(files_list)) do  
                begin  
                    try  
                        file_name = files_list[i];  
  
                        file_size = ibec_filesize(file_name);          -- File size  
                        file_time = ibec_FileDateTime(file_name);  
                        n=ibec_ExtractFileName(file_name);  
                        p=ibec_ExtractFileDir(file_name);  
                        update or insert into F (FN, FS, FT,p,n) values (:File_name,  
:File_Size, :File_time,:p,:n) matching (fn);  
                    except  
                        ibec_Progress(i||' von '||files_count||': '||file_name||'  
'||ibec_GetLastError());  
                    end  
                    i = i + 1;
```

```
x=ibec_mod(i,1000);
if (x=0) then
begin
    commit;
    ibec_Progress(i||' von '||files_count);
end
end
commit;
end
end;
```

Then we moved all \*.iso files from any other directory to the iso directory on the NAS:

```
execute ibeblock
as
begin
    for
        select f.fn,f.n from f
where (f.fn like '%.iso'
        and f.fn not starting with '\\ibexpertnas\data\iso')
    into fn,n do
    begin
        if (ibec_MoveFile(fn,'\\ibexpertnas\data\iso\'||n)) then delete from f
where f.fn=:fn;
        ibec_progress(fn);
    end
    commit;
end
```

To get a list of the largest files on your file system, including how much space they use, how often they are stored and in which directories they can be found:

```
select f.n,sum(f.fs),count(*),list(f.p) from f
group by 1
order by 2 desc
```

The following file-handling functions are available in IBEBlock:

Function	Description
<a href="#">ibec_DeleteFile</a>	Erases the file from the disk.
<a href="#">ibec_DirectoryExists</a>	Call ibec_DirectoryExists to determine whether the directory specified by the Name parameter exists.
<a href="#">ibec_FileExists</a>	Tests if a specified file exists.
<a href="#">ibec_FileSize</a>	Returns the size of the specified file.
<a href="#">ibec_GetFiles</a>	Retrieves specified file or list of files.
<a href="#">ibec_LoadFromFile</a>	Loads file data into variable.
<a href="#">ibec_SaveToFile</a>	Saves value of variable into file.
<a href="#">ibec_CopyFile</a>	Copies an existing file to a new one.
<a href="#">ibec_MoveFile</a>	Renames an existing file or a directory (including all its children).

Function	Description
<a href="#">ibec_FileDateTime</a>	Returns the TIMESTAMP of a specified file.
<a href="#">ibec_ExtractFileDir</a>	Extracts the drive and directory parts from FileName.
<a href="#">ibec_ExtractFileName</a>	Extracts the name and extension parts of a file name.
<a href="#">ibec_ForceDirectories</a>	Creates all the directories along a directory path if they do not already exist.

*Important:* IBEBlock is a set of DDL-Data Definition Language, DML-Data Manipulation Language and other statements that are executed on the server and on the client side, and which include some specific constructions applicable only in IBExpert or the IBExpert command-line tool IBEScript (excluding the free versions of these products), independent of the database server version.

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Last update: **2023/07/06 17:02**

