Best of Runtime Library

Inhalt

Content

Contenu

Contenido

Contenudo

RTL is a Built In Delphi's Functions and Procedures Collection

1. Has a Version:

```
const
  RTLVersion = 18.00;  {(* You can use RTLVersion in $IF expressions to test the
      runtime library version level independently of the compiler version level.
  Example:  {$IF RTLVersion >= 16.8} ... {$IFEND} *)
```

2. Routines are organised by Units:

Classes, DateUtils, Dialogs, Math, Masks, FileCtrl, System, ShareMem, StrUtils, SysUtils, Types (check the Docu rtl manual fpc)

3. SysUtils is well documented! (RealTimeLib or RichTimeLib or RoutineTimeLib)

RTL as Objects (Object Binding)

1. Name Conflicts Possible:

Procedure ProcessPath(const EditText: string; var Drive: Char; var DirPart: string; var
FilePart: string);'); //unit FileCtrl versus unit IdGlobal //or JCLMath.pas

Objects are wrapped by Routines:

```
function GrabLine2(const s: string; ALine: Integer): string;
var
  sl: TStringList;
begin
  sl:= TStringList.Create;
  try
    sl.LoadFromFile(s);
    Result:= sl[ALine - 1]; // index off by one
  finally
    sl.Free;
  end;
end;
```

2. unit Contnrs; is the Collection of Objects and his routines

Objectives

Topic Overview: Localizing RTL Categories

Arithmetic routines	Floating/Type conversions
Business and finance routines	Geometric routines
Command line utilities	Measurement conversion
Character manipulation	Numeric formatting routines
Date/Time routines	Ordinal routines
Dialog and Message routines	Pointer and address routines
File/Text Management	Random number routines
File Name Utilities Flow Control Routines	String handling routines String formatting routines

RTL is platformindenpendent or at least

```
begin
    {$IFDEF LINUX}
     dllhandle:= dlopen(PChar(s2), RTLD_LAZY);
    {$ELSE}
     dllhandle:= LoadLibrary(Pchar(s2));
    {$ENDIF}
     if dllhandle = {$IFDEF LINUX} NIL {$ELSE} 0 {$ENDIF} then
```

```
{$IFDEF LINUX}
 p.Ext1:= dlsym(dllhandle, pchar(copy(s, 1, pos(#0, s)-1)));
{$ELSE}
 p.Ext1:= GetProcAddress(dllhandle, pchar(copy(s, 1, pos(#0, s)-1)));
{$ENDIF}
```

Best of I

EKON 15

//You can test all Functions in one Script „165_best_of_runtime2.txt“:

http://www.sourceforge.net/projects/maxbox

```
//Function ABNFToText(const AText : String): String;  //Indy unit IdGlobal
//Function BytesToString(ABytes: TIdBytes; AStartIndex: Integer;  AMaxCount: Integer): string;
//Function ChangeFileExt(const FileName: string; const Extension: string): string); /SysUtils
//Function CharToHexStr(Value: char): string);    //Indy
//Function CompareDateTime(const ADateTime1, ADateTime2 : TDateTime) : Integer; /DateUtils
//Function CompareText(const S1: string; const S2: string): Integer);  /SysUtils
//Function TextIsSame(const A1: string; const A2: string): Boolean;  /SysUtils
//Function ContainsText(const AText, ASubText: string): Boolean;  /StrUtils
//Function CopyFileTo(const Source, Destination: string): Boolean;  //Indy
//Function CurrentProcessId: TIdPID;
//Function CurrentThreadId: TIdPID;
//Function DecodeDateFully(DateTime: TDateTime; var Year, Month, Day, DOW: Word): Boolean;
//Function DomainName(const AHost: String): String;  //Indy  /SysUtils^
//Function DupeString(const AText: string; ACount: Integer) : string;  /StrUtils
//Function ExePath: string;    //mXUtils
```

Best of II

```
//Function Fetch(var AInput: string; const ADelim: string; const ADelete: Boolean; const //Indy
//Function FindCmdLineSwitch(Switch : string; IgnoreCase : Boolean): Boolean; /SysUtils
//Function FloatToCurr(Value: Extended): Currency; /SysUtils
//Function Format(const Format: string; const Args: array of const): string;  /SysUtils
//Function FutureValue(NPeriods:Integer; const Payment,PresentValue, FutureValue… /Math
//Function GetClockValue: Int64;  //Indy…..
//Function GetTickCount: Cardinal;   //  4294967296 ms are ~ 49,7 days
//Function GetTickDiff(const AOldTickCount, ANewTickCount: Cardinal): Cardinal;
//Function GetVersionString(FileName: string): string; //Jedi…
//Function GetAssociatedProgram(const Extension:string; var Filename,Description:string): bool;
//Function GetHostName: string;
//Function HexStrToStr(Value: string): string;
//Function IfThen(AValue: Boolean; const ATrue : string; AFalse: string): string;  /Math
//Function InputBox(const ACaption:string; const APrompt:string;  /Dialogs
//Function LoadStr(Ident: Integer): string;  /SysUtils
//Function Mean(const Data: array of Double): Extended;    /Math…  //_27
//Function StdDev(const Data: array of Double): Extended;
//Procedure MeanAndStdDev(const Data: array of Double; var Mean, StdDev: Extended);
```

Best of III

EKON 15

```
//Function ProcessPath(const ABasePath:String;  /FileCtrl, Dialogs…
//Function PromptForFileName(var AFileName:string; const AFilter:string; const ADefaultExt:
              string;'  const ATitle: string;const AInitialDir:string;SaveDialog: Boolean): Boolean);
//Function ServicesFilePath: string;  //Indy…Jedi
//Function ShellExecute(hWnd: HWND; +Operation, FileName, Parameters,Directory: string);
//Function SYDDepreciation(const Cost, Salvage: Extended; Life,Period: Integer): Extended; !
//Function StrHtmlDecode(const AStr : String): String;
//Function StrHtmlEncode(const AStr : String): String;
//Function DateTimeToInternetStr(now, true))
//Function LoadFileAsString( const FileName : string) : string');  //FileUtils  Jedi
//Procedure CreateFileFromString( const FileName, Data : string)');
//Procedure ShowFileProperties(const FileName: string);
//Procedure GetConvTypes(const AFamily: TConvFamily; out ATypes: TConvTypeArray);
//Procedure GetConvFamilies(out AFamilies: TConvFamilyArray); /ConvUtils
```

```
function ReturnAddr: Pointer;
 asm
        MOV EAX,[EBP+4]
 end;
```

Wishes Realised in the End…

Binary streams manipulation with TBinaryReader and TBinaryWriter.

* A regular expression library has been integrated into the Delphi RTL:
  - o RegularExpressions
    - + RegularExpressions.TRegEx is the main record for the user to match and replace with reg ex. The members of the RegEx unit make up an interface very close to the MSDN, except RegEx is implemented with records instead of classes, and therefore it does not use inheritance.
  - o RegularExpressionsCore
    - + RegularExpressionsCore.TPerlRegEx implements Perl-compatible regex. The RegExCore interface can be called directly, but is also the underlying base for the RegEx interface.
* New file management extensions:
  - o Added Support for Symbolic Links -- TSymLinkRec.
  - o New functionalities for TPath, TDirectory, and TFile records.
  - o A new Windows-specific method, TPath.GetHomePath, which returns the path to the application data folder.
* Unicode support for strings stored on files.