

## 3.1 Shortcut to a File

This section presents a sample of the Shell Link Binary File Format, consisting of a [shortcut](#) to a file with the path "C:\test\a.txt".

The following is the hexadecimal representation of the contents of the [shell link](#).

	x0	x1	x2	x3	x4	x5	x6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0000	4C	00	00	00	01	14	02	00	00	00	00	00	C0	00	00	00
0010	00	00	00	46	9B	00	08	00	20	00	00	00	D0	E9	EE	F2
0020	15	15	C9	01	D0	E9	EE	F2	15	15	C9	01	D0	E9	EE	F2
0030	15	15	C9	01	00	00	00	00	00	00	00	00	01	00	00	00
0040	00	00	00	00	00	00	00	00	00	00	00	00	BD	00	14	00
0050	1F	50	E0	4F	D0	20	EA	3A	69	10	A2	D8	08	00	2B	30
0060	30	9D	19	00	2F	43	3A	5C	00	00	00	00	00	00	00	00
0070	00	00	00	00	00	00	00	00	00	00	00	46	00	31	00	00
0080	00	00	00	2C	39	69	A3	10	00	74	65	73	74	00	00	32
0090	00	07	00	04	00	EF	BE	2C	39	65	A3	2C	39	69	A3	26
00A0	00	00	00	03	1E	00	00	00	00	F5	1E	00	00	00	00	00
00B0	00	00	00	00	00	74	00	65	00	73	00	74	00	00	00	14
00C0	00	48	00	32	00	00	00	00	00	2C	39	69	A3	20	00	61
00D0	2E	74	78	74	00	34	00	07	00	04	00	EF	BE	2C	39	69
00E0	A3	2C	39	69	A3	26	00	00	00	2D	6E	00	00	00	00	96
00F0	01	00	00	00	00	00	00	00	00	00	00	61	00	2E	00	74
0100	00	78	00	74	00	00	00	14	00	00	00	3C	00	00	00	1C
0110	00	00	00	01	00	00	00	1C	00	00	00	2D	00	00	00	00
0120	00	00	00	3B	00	00	00	11	00	00	00	03	00	00	00	81

<b>0130</b>	8A	7A	30	10	00	00	00	00	43	3A	5C	74	65	73	74	5C
<b>0140</b>	61	2E	74	78	74	00	00	07	00	2E	00	5C	00	61	00	2E
<b>0150</b>	00	74	00	78	00	74	00	07	00	43	00	3A	00	5C	00	74
<b>0160</b>	00	65	00	73	00	74	00	60	00	00	00	03	00	00	A0	58
<b>0170</b>	00	00	00	00	00	00	00	63	68	72	69	73	2D	78	70	73
<b>0180</b>	00	00	00	00	00	00	00	40	78	C7	94	47	FA	C7	46	B3
<b>0190</b>	56	5C	2D	C6	B6	D1	15	EC	46	CD	7B	22	7F	DD	11	94
<b>01A0</b>	99	00	13	72	16	87	4A	40	78	C7	94	47	FA	C7	46	B3
<b>01B0</b>	56	5C	2D	C6	B6	D1	15	EC	46	CD	7B	22	7F	DD	11	94
<b>01C0</b>	99	00	13	72	16	87	4A	00	00	00	00					

**HeaderSize:** (4 bytes, offset 0x0000), 0x0000004C as required.

**LinkCLSID:** (16 bytes, offset 0x0004), 00021401-0000-0000-C000-000000000046.

**LinkFlags:** (4 bytes, offset 0x0014), 0x0008009B means the following [LinkFlags \(section 2.1.1\)](#) are set:

- HasLinkTargetIDList
- HasLinkInfo
- HasRelativePath
- HasWorkingDir
- IsUnicode
- EnableTargetMetadata

**FileAttributes:** (4 bytes, offset 0x0018), 0x00000020, means the following [FileAttributesFlags \(section 2.1.2\)](#) are set:

- FILE\_ATTRIBUTE\_ARCHIVE

**CreationTime:** (8 bytes, offset 0x001C) FILETIME 9/12/08, 8:27:17PM.

**AccessTime:** (8 bytes, offset 0x0024) FILETIME 9/12/08, 8:27:17PM.

**WriteTime:** (8 bytes, offset 0x002C) FILETIME 9/12/08, 8:27:17PM.

**FileSize:** (4 bytes, offset 0x0034), 0x00000000.

**IconIndex:** (4 bytes, offset 0x0038), 0x00000000.

**ShowCommand:** (4 bytes, offset 0x003C), SW\_SHOWNORMAL(1).

**Hotkey:** (2 bytes, offset 0x0040), 0x0000.

**Reserved:** (2 bytes, offset 0x0042), 0x0000.

**Reserved2:** (4 bytes, offset 0x0044), 0 x00000000.

**Reserved3:** (4 bytes, offset 0x0048), 0 x00000000.

Because **HasLinkTargetIDList** is set, a [LinkTargetIDList](#) structure (section 2.2) follows:

- **IDListSize:** (2 bytes, offset 0x004C), 0x00BD, the size of **IDList**.
- **IDList:** (189 bytes, offset 0x004E) an [IDList](#) structure (section 2.2.1) follows:
  - **ItemIDList:** (187 bytes, offset 0x004E), [ItemID](#) structures (section 2.2.2) follow:
    - **ItemIDSize:** (2 bytes, offset 0x004E), 0x0014
    - **Data:** (12 bytes, offset 0x0050), <18 bytes of data> [computer]
    - **ItemIDSize:** (2 bytes, offset 0x0062), 0x0019
    - **Data:** (23 bytes, offset 0x0064), <23 bytes of data> [c:]
    - **ItemIDSize:** (2 bytes, offset 0x007B), 0x0046
    - **Data:** (68 bytes, offset 0x007D), <68 bytes of data> [test]
    - **ItemIDSize:** (2 bytes, offset 0x00C1), 0x0048
    - **Data:** (68 bytes, offset 0x00C3), <70 bytes of data> [a.txt]
  - **TerminalID:** (2 bytes, offset 0x0109), 0x0000 indicates the end of the **IDList**.

Because **HasLinkInfo** is set, a [LinkInfo](#) structure (section 2.3) follows:

- **LinkInfoSize:** (4 bytes, offset 0x010B), 0x0000003C
- **LinkInfoHeaderSize:** (4 bytes, offset 0x010F), 0x0000001C as specified in the [LinkInfo](#) structure definition.
- **LinkInfoFlags:** (4 bytes, offset 0x0113), 0x00000001 **VolumeIDAndLocalBasePath** is set.
- **VolumeIDOffset:** (4 bytes, offset 0x0117), 0x0000001C, references offset 0x0127.
- **LocalBasePathOffset:** (4 bytes, offset 0x011B), 0x0000002D, references the character string "C:\test\a.txt".
- **CommonNetworkRelativeLinkOffset:** (4 bytes, offset 0x011F), 0x00000000 indicates **CommonNetworkRelativeLink** is not present.
- **CommonPathSuffixOffset:** (4 bytes, offset 0x0123), 0x0000003B, references offset 0x00000146, the character string "" (empty string).
- **VolumeID:** (17 bytes, offset 0x0127), because **VolumeIDAndLocalBasePath** is set, a [VolumeID](#) structure (section 2.3.1) follows:

- **VolumeIDSize:** (4 bytes, offset 0x0127), 0x00000011 indicates the size of the **VolumeID** structure.
- **DriveType:** (4 bytes, offset 0x012B), DRIVE\_FIXED(3).
- **DriveSerialNumber:** (4 bytes, offset 0x012F), 0x307A8A81.
- **VolumeLabelOffset:** (4 bytes, offset 0x0133), 0x00000010, indicates that Volume Label Offset Unicode is not specified and references offset 0x0137 where the Volume Label is stored.
- **Data:** (1 byte, offset 0x0137), "" an empty character string.
- **LocalBasePath:** (14 bytes, offset 0x0138), because **VolumeIDAndLocalBasePath** is set, the character string "c:\test\la.txt" is present.
- **CommonPathSuffix:** (1 byte, offset 0x0146), "" an empty character string.

Because **HasRelativePath** is set, the **RELATIVE\_PATH StringData** structure (section 2.4) follows:

- **CountCharacters:** (2 bytes, offset 0x0147), 0x0007 Unicode characters.
- **String** (14 bytes, offset 0x0149), the Unicode string: ".\la.txt".

Because **HasWorkingDir** is set, the **WORKING\_DIR StringData** structure (section 2.4) follows:

- **CountCharacters:** (2 bytes, offset 0x0157), 0x0007 Unicode characters.
- **String** (14 bytes, offset 0x0159), the Unicode string: "c:\test".

**Extra data section:** (100 bytes, offset 0x0167), an **ExtraData** structure (section 2.5) follows:

- **ExtraDataBlock** (96 bytes, offset 0x0167), the **TrackerDataBlock** structure (section 2.5.10) follows:
  - **BlockSize:** (4 bytes, offset 0x0167), 0x00000060
  - **BlockSignature:** (4 bytes, offset 0x016B), 0xA0000003, which identifies the TrackerDataBlock structure (section 2.5.10).
  - **Length:** (4 bytes, offset 0x016F), 0x00000058, the required minimum size of this extra data block.
  - **Version:** (4 bytes, offset 0x0173), 0x00000000, the required version.
  - **MachineID:** (16 bytes, offset 0x0177), the character string "chris-xps", with zero fill.
  - **Droid:** (32 bytes, offset 0x0187), 2 GUID values.
  - **DroidBirth:** (32 bytes, offset 0x01A7), 2 GUID values.
- **TerminalBlock:** (4 bytes, offset 0x01C7), 0x00000000 indicates the end of the extra data section.