

CONTENTS

1	Recommended third party tools	3
2	Creating extensions without third party tools	5
2.1	Extending Python with C or C++	5
2.1.1	A Simple Example	5
2.1.2	Intermezzo: Errors and Exceptions	6
2.1.3	Back to the Example	8
2.1.4	The Module's Method Table and Initialization Function	9
2.1.5	Compilation and Linkage	11
2.1.6	Calling Python Functions from C	11
2.1.7	Extracting Parameters in Extension Functions	13
2.1.8	Keyword Parameters for Extension Functions	14
2.1.9	Building Arbitrary Values	15
2.1.10	Reference Counts	16
2.1.11	Writing Extensions in C++	19
2.1.12	Providing a C API for an Extension Module	19
2.2	Defining Extension Types: Tutorial	23
2.2.1	The Basics	23
2.2.2	Adding data and methods to the Basic example	26
2.2.3	Providing finer control over data attributes	33
2.2.4	Supporting cyclic garbage collection	38
2.2.5	Subclassing other types	43
2.3	Defining Extension Types: Assorted Topics	45
2.3.1	Finalization and De-allocation	47
2.3.2	Object Presentation	48
2.3.3	Attribute Management	49
2.3.4	Object Comparison	51
2.3.5	Abstract Protocol Support	52
2.3.6	Weak Reference Support	53
2.3.7	More Suggestions	54
2.4	Building C and C++ Extensions	54
2.4.1	Building C and C++ Extensions with distutils	55
2.4.2	Distributing your extension modules	56
2.5	Building C and C++ Extensions on Windows	57
2.5.1	A Cookbook Approach	57
2.5.2	Differences Between Unix and Windows	57
2.5.3	Using DLLs in Practice	58
3	Embedding the CPython runtime in a larger application	59
3.1	Embedding Python in Another Application	59
3.1.1	Very High Level Embedding	59
3.1.2	Beyond Very High Level Embedding: An overview	60
3.1.3	Pure Embedding	61
3.1.4	Extending Embedded Python	63