



E Fundamentals... with Donuts

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Introduction

- Questions?
- Installing E?
- Emakers, unsafe, import
- CapDesk Demo
- CapDesk PowerBox
- DarpaBrowser Dancers

Tell Me If I Go
Too Fast Or
Too Slow!

Scopes

```
? for i => each in privilegedScope{  
>   println(i)  
> }  
&null  
&false  
&true  
&throw  
Etc
```

```
? for i => each in safeScope {  
>   println(i)  
> }  
&null  
&false  
&true  
&throw  
Etc.
```

Simple Confinement: Safe, Unsafe, Import



```
? e`println("hello")`.eval(safeScope)
# problem: Failed: Undefined variable: println
```

```
File jre/lib/ext/estuff/com/hp/donutLab: def adder(a, b) :any {return a + b}
```

```
? def addFunc := <import:com.hp.donutLab.adder>
# value: <adder>
```

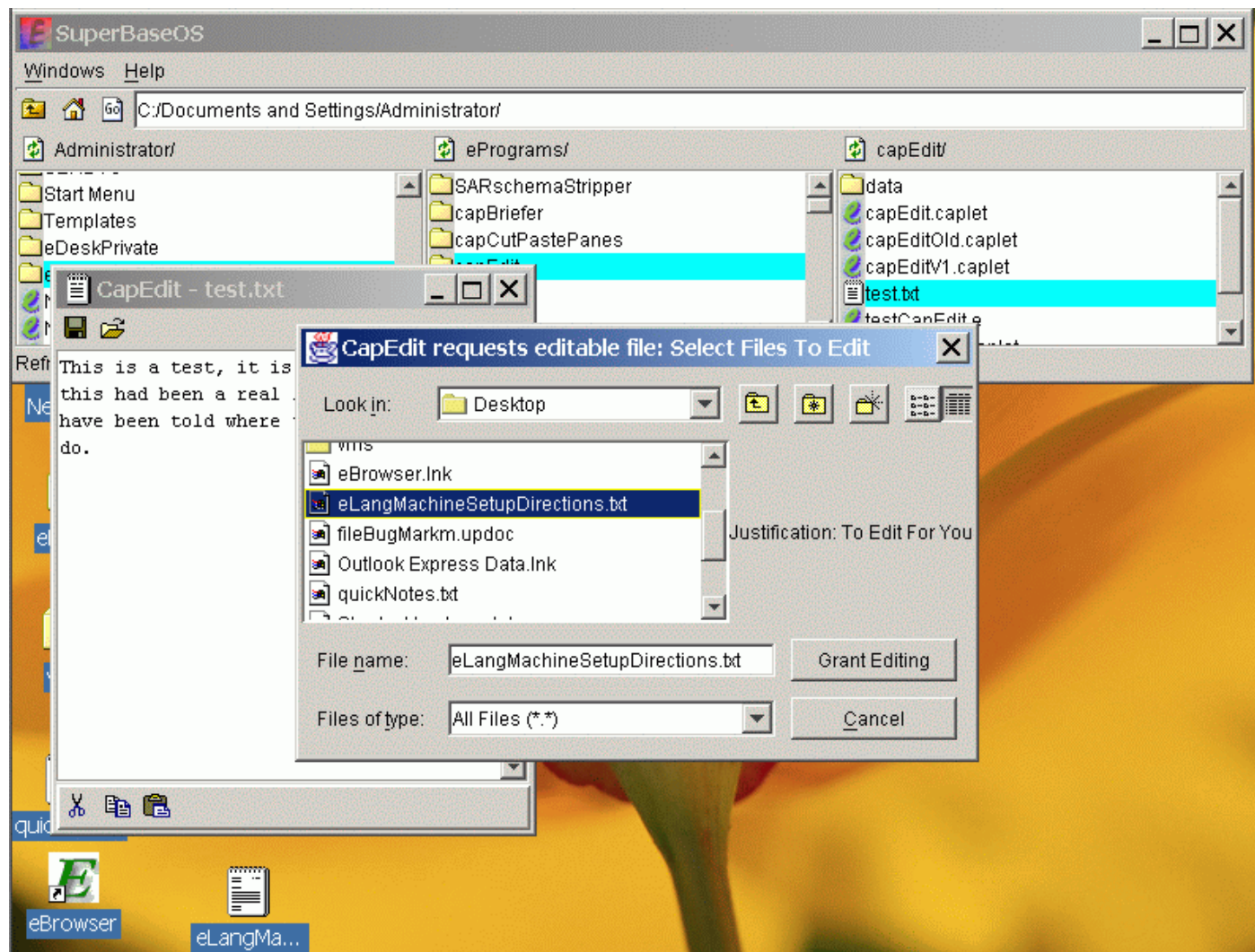
```
? addFunc(2,3)
# value: 5
```

```
? def javaFile := <unsafe:java.io.File>
# value: <unsafe:java.io.File>
```

```
? def <donut> := <import:com.hp.donutLab.*>
# value: <import:com.hp.donutLab.*>
```

```
? def adder2 := <donut:adder>
# value: <adder>
```

CapDesk: Dynamic Authorization/Revocation



Powerbox Skeleton

```
bind powerbox {
  to requestExit() :void {}
  to requestFileRcvrsVow(editable :boolean,
    title :String,
    justification :String,
    startPathText :String,
    optFilter :pbc) :vow {}
  to requestUrlVow(urlString :String,
    title :String,
    justification :String) :vow {}
  to requestCapVow(title :String, justification :String) :vow {}
  to optCap(capKey :String) :any {
    powersMap.fetch(capKey, thunk{})
  }
  to runSource(sourceText :Twine) :near {runSource(sourceText)}
  to getCAP_TIMER() :any {"capTimer"}
  to getFRAME_MAKER() :any {"frameMaker"}
  to getTRACELN() :any {"traceline"}
  to getURL_MAKER() :any {"urlMaker"}
  to getINITIAL_DOC_RCVRS() :any {"initialDocRcvrs"}
  to getLOCAL__URIGETTER() :any {"local__uriGetter"}
  to getDOC_SUFFIX() :any {"docSuffix"}
  to getPET_NAME() :any {"petName"}
  to getPET_ICON() :any {"petIcon"}
  to getDROP_TARGET() :any {"dropTarget"}
  to getSERVER_SOCKET() :any {"serverSocket"}
}
```

Caplication Usage:

```
powerbox.optCap(powerbox.getFRAME_MAKER())
```

PowerBox FrameMaker

```
def frameMaker := makeFrameAuthor(<swing:JFrame>,  
                                   powerBarControllerMaker,  
                                   capletIconImage,  
                                   capletName,  
                                   traceline)
```