<a>

Understanding URLs & Addressing

OCI / CAIT

R. Scott Granneman

Jordan Lev

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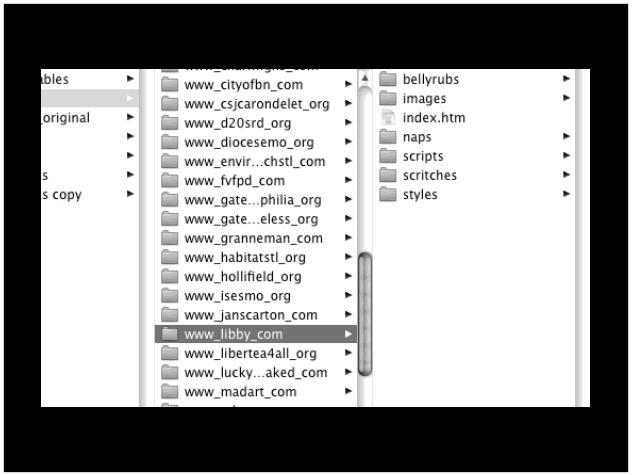
Default Folder Structure

CGI-Executables
Documents
Documents_original
htpasswd
share
sharedAssets
sharedAssets copy
404
aclyou_aclupa_org
blog_aclupa_org
blog_websanity_com
board_aclu-em_org
db_websanity_com
downloads…anity_com
frontier_websanity_com
help_websanity_com
mockups_…anity_com
multiblog_…anity_com
pledge_sp-r_org
robots.txt
sandbox_websanity_com
serverInfo
sites_websanity_com
template0…sanity_com
WebObjects
www_aachonline_org
www_aclu-em_org
www_aclu-mn_org

3

www_bys-kids_org
www_carm…hoto_com
www_char…igns_com
www_cityofbn_com
www_csjcarondelet_org
www_d20srd_org
www_diocesemo_org
www_envir…chstl_com
www_fvfpd_com
www_gate…philia_org
www_gate…eless_org
www_granneman_com
www_habitatstl_org
www_hollifield_org
www_isesmo_org
www_janscarton_com
www_libby_com
www_libertea4all_org
www_lucky…aked_com
www_madart_com
www_mbamec_com
images
scripts
styles

4

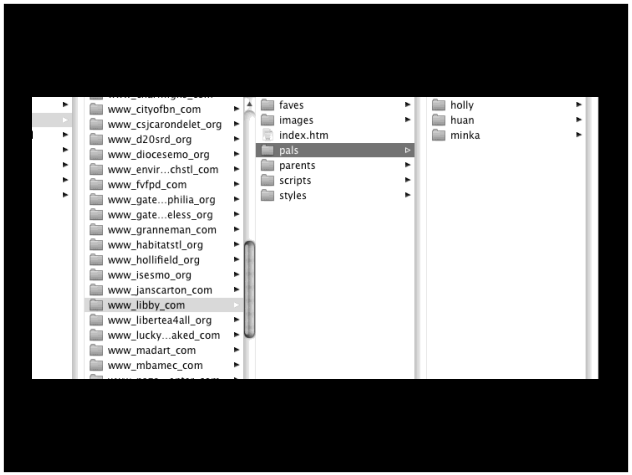

www_cityofbn_com
www_csjcarondelet_org
www_d20srd_org
www_diocesemo_org
www_envir…chstl_com
www_fvfpd_com
www_gate…philia_org
www_gate…eless_org
www_granneman_com
www_habitatstl_org
www_hollifield_org
www_isesmo_org
www_janscarton_com
www_libby_com
www_libertea4all_org
www_lucky…aked_com
www_madart_com
bellyrubs
images
index.htm
naps
scripts
scritches
styles

5

www_cityofbn_com
www_csjcarondelet_org
www_d20srd_org
www_diocesemo_org
www_envir…chstl_com
www_fvfpd_com
www_gate…philia_org
www_gate…eless_org
www_granneman_com
www_habitatstl_org
www_hollifield_org
www_isesmo_org
www_janscarton_com
www_libby_com
www_libertea4all_org
www_lucky…aked_com
www_madart_com
www_mbamec_com
www_naza…enter_com
faves
images
index.htm
scripts
styles
bellyrubs
naps
scritches

6

7


www_cityofbn_com
www_csjcarondelet_org
www_d20srd_org
www_diocesemo_org
www_envir…chstl_com
www_fvfpd_com
www_gate…philia_org
www_gate…eless_org
www_granneman_com
www_habitatstl_org
www_hollifield_org
www_isesmo_org
www_janscarton_com
www_libby_com
www_libertea4all_org
www_lucky…aked_com
www_madart_com
www_mbamec_com
faves
images
index.htm
pals
parents
scripts
styles
holly
huan
minka

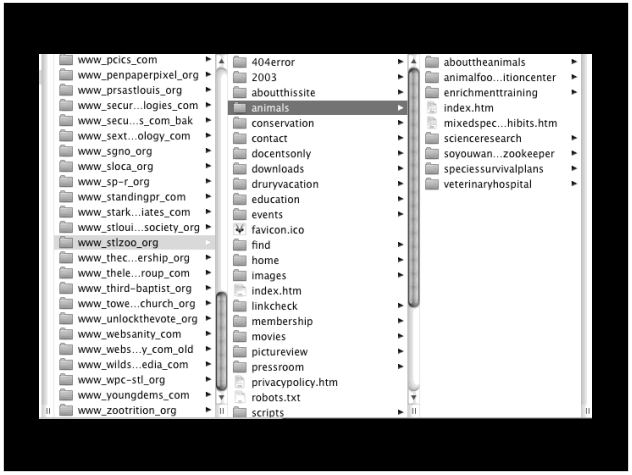
8

www_cityofbn_com
www_csjcarondelet_org
www_d20srd_org
www_diocesemo_org
www_envir…chstl_com
www_fvfpd_com
www_gate…philia_org
www_gate…eless_org
www_granneman_com
www_habitatstl_org
www_hollifield_org
www_isesmo_org
www_janscarton_com
www_libby_com
www_libertea4all_org
www_lucky…aked_com
www_madart_com
faves
images
index.htm
pals
parents
scripts
styles
denise
scott

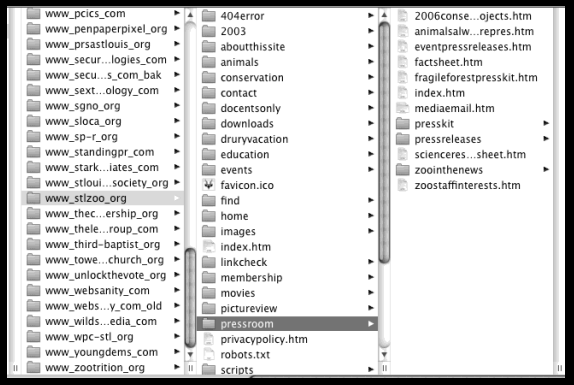
9

www_cityofbn_com
www_csjcarondelet_org
www_d20srd_org
www_diocesemo_org
www_envir…chstl_com
www_fvfpd_com
www_gate…philia_org
www_gate…eless_org
www_granneman_com
www_habitatstl_org
www_hollifield_org
www_isesmo_org
www_janscarton_com
www_libby_com
www_libertea4all_org
www_lucky…aked_com
www_madart_com
www_mbamec_com
www_naza…enter_com
www_nccjstl_org
www_neuro_wustl_edu
www_pcics_com
www_penpaperpixel_org
404error
about
aboutthissite
artproject
contact
downloads
eventsexhibitions
facilityrental
favicon.ico
find
google1f48f…845d0.html
home
images
index.htm
linkcheck
pictureview
privacypolicy
robots.txt
scripts
sharedAssets
sitemap
styles
subscribetoournewsletter

10


www_pcics_com
www_penpaperpixel_org
www_prsastlouis_org
www_secur…logies_com
www_secu…s_com_bak
www_sext…ology_com
www_sgno_org
www_sloca_org
www_sp-r_org
www_standingpr_com
www_stark…iates_com
www_stloui…society_org
www_stlzoo_org
www_thec…ership_org
www_thele…roup_com
www_third-baptist_org
www_towe…church_org
www_unlockthevote_org
www_websanity_com
www_webs…y_com_old
www_wilds…edia_com
www_wpc-stl_org
www_youngdems_com
www_zootrition_org
404error
2003
aboutthissite
animals
conservation
contact
docentsonly
downloads
druryvacation
education
events
favicon.ico
find
home
images
index.htm
linkcheck
membership
movies
pictureview
pressroom
privacypolicy.htm
robots.txt
scripts
abouttheanimals
animalfoo…itioncenter
enrichmenttraining
index.htm
mixedspec…hibits.htm
scienceresearch
soyouwan…zookeeper
speciessurvivalplans
veterinaryhospital

11



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Default Index Files

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```
<a href="http://www.nytimes.com">
      The New York Times</a>

<a href="http://www.google.com/">
            Google</a>

<a href="http://www.granneman.com">
        Scott Granneman</a>
```

Where do you end up
when you go these URLs?

How does the web server
know which page you're asking for?

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```
<a href="http://www.nytimes.com/arts">
     The New York Times Arts</a>

<a href="http://www.google.com/a/">
          Google Apps</a>

<a href="http://www.granneman.com/
              webdev/">
Web Development :: Scott Granneman</a>
```

Where do you end up
when you go these URLs?

How does the web server
know which page you're asking for?

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Error 403

Access forbidden!

You don't have permission to access the requested directory. There is either no index document or the directory is read-protected.

If you think this is a server error, please contact the webmaster.

Error 403

www.diocesemo.org
Mon Sep 29 14:14:43 2008
Apache/2.2.8 (Unix) mod_ssl/2.2.8 OpenSSL/0.9.7l DAV/2 PHP/5.2.6

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Error 404

Object not found!

The requested URL was not found on this server. If you entered the URL manually please check your spelling and try again.

If you think this is a server error, please contact the webmaster.

Error 404

www.ianscarton.com
Mon Sep 29 14:16:21 2008
Apache/2.2.8 (Unix) mod_ssl/2.2.8 OpenSSL/0.9.7l DAV/2 PHP/5.2.6

Directory Listing

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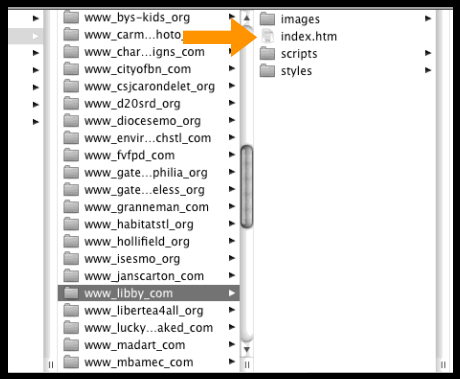
Index of /downloads/apply/options

Name	Last modified	Size
d6c7f99b8d7684e6ad064505daa424d5data.txt	26-Sep-2008 16:23	3k
61bb8384f9716726fffc16489ea87061data.txt	25-Sep-2008 20:57	2k
a873ae3c272180f64d042e34977b8071data.txt	25-Sep-2008 20:40	3k
3a71aa784db915c2adad643a74b3c751data.txt	25-Sep-2008 15:32	3k
4a663a89203bb0e311786cf238d907cadata.txt	24-Sep-2008 23:53	3k
67c2d5481f212272c509c6cc2896d68ddata.txt	24-Sep-2008 20:11	3k
f1cfe80b146b954c68b0b16c2e27e547data.txt	24-Sep-2008 19:50	3k
a0925a393d5009ea3f0f27fbe772af42data.txt	24-Sep-2008 17:53	3k
d8861a00f88fdd1532e26cdb79b14356data.txt	24-Sep-2008 08:14	2k
eed2192c51d0b3ee42e203ed8d6c77aedata.txt	23-Sep-2008 21:57	3k
76044134547bfbec2bbcd61b42e8f920data.txt	23-Sep-2008 16:41	2k
26cf614ef74f716719e0606e900625eddata.txt	23-Sep-2008 11:10	3k
9c1a4d753c7c622a5ee1b314ff72371edata.txt	23-Sep-2008 09:59	3k
a7f0d62433d975d095f30e7019c6d737data.txt	22-Sep-2008 16:09	2k
ae3392cbd785ab2edfef3bb6818d1b09data.txt	22-Sep-2008 11:22	3k
7c9ea0913bbb473250b8936d458b247fdata.txt	19-Sep-2008 09:44	4k
44fd7188a101d65d1c45fc5fa424e902data.txt	16-Sep-2008 16:23	2k
61d23a8d68952ff0b5d283fd8d095feadata.txt	16-Sep-2008 01:13	3k
1e26d948a753fcc339404af4234c3a8adata.txt	14-Sep-2008 21:29	2k
3bdf06e95b9a7f53c110a174fdf35e33data.txt	14-Sep-2008 17:06	3k

18



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Typical Default Index Files

Apache	IIS
index.html	default.htm
index.htm	default.asp
index.php	
index.shtml	

You can use any of these
on any web server,
depending upon how it's configured

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Apache

```
DirectoryIndex "index.php" "index.html"
               "index.htm"
```

OR

```
DirectoryIndex "index.htm" "index.php"
               "index.shtml"
```

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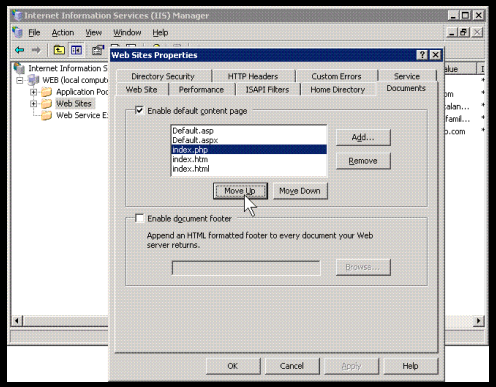

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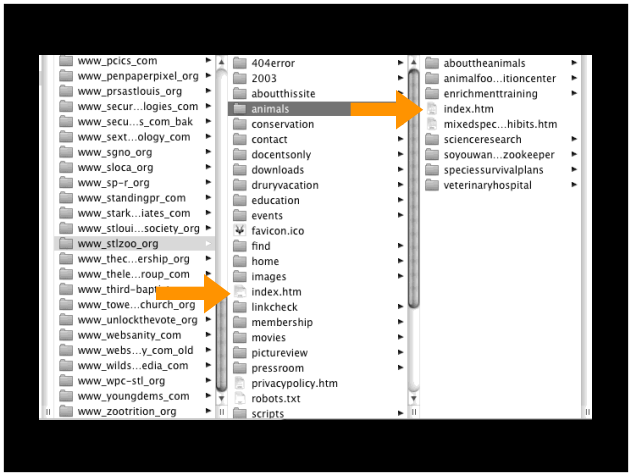
index.htm
index.html
index.shtml
default.html
default.shtml
default.asp
index.php
index.asp
index.jsp


www_pcics_com
www_penpaperpixel_org
www_prsastlouis_org
www_secur...logies_com
www_secu...s_com_bak
www_sext...ology_com
www_sgno_org
www_sloca_org
www_sp-r_org
www_standingpr_com
www_stark...iates_com
www_stloui...society_org
www_stlzoo_org
www_thec...ership_org
www_thele...roup_com
www_towe...church_org
www_unlockthevote_org
www_websanity_com
www_webs...y_com_old
www_wilds...edia_com
www_wpc-stl_org
www_youngdems_com
www_zootrition_org
404error
2003
abouthissite
animals
conservation
contact
docentsonly
downloads
druryvacation
education
events
favicon.ico
find
home
images
index.htm
linkcheck
membership
movies
pictureview
pressroom
privacypolicy.htm
robots.txt
scripts
abouttheanimals
animalfoo...itioncenter
enrichmenttraining
index.htm
mixedspec...hibits.htm
sciencesearch
soyouwan...zookeeper
speciessurvivalplans
veterinaryhospital

23

www_pcics_com
www_penpaperpixel_org
www_prsastlouis_org
www_secur...logies_com
www_secu...s_com_bak
www_sext...ology_com
www_sgno_org
www_sloca_org
www_sp-r_org
www_standingpr_com
www_stark...iates_com
www_stloui...society_org
www_stlzoo_org
www_thec...ership_org
www_thele...roup_com
www_towe...church_org
www_unlockthevote_org
www_websanity_com
www_webs...y_com_old
www_wilds...edia_com
www_wpc-stl_org
www_youngdems_com
www_zootrition_org
404error
2003
abouthissite
animals
conservation
contact
docentsonly
downloads
druryvacation
education
events
favicon.ico
find
home
images
index.htm
linkcheck
membership
movies
pictureview
pressroom
privacypolicy.htm
robots.txt
scripts
2006conse...ojects.htm
animalsalw...repres.htm
eventpressreleases.htm
factsheet.htm
fragileforestpresskit.htm
index.htm
mediaemail.htm
presskit
pressreleases
scienceres...sheet.htm
zoointhenews
zoostaffinterests.htm

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Absolute & Relative

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Absolute

The full, complete address
to somewhere,
from start to finish

Relative

The address
to somewhere,
in relation to where you are now

Absolute Directions

Party at my (old) house!

40 to Skinker

N on Skinker

Pass Forest Park Parkway

R/E on Waterman

1 and 1/2 blocks on Waterman

6047 Waterman

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Relative Directions

Party at my (old) house!

From Wash U,
walk down Skinker to Waterman

Right on Waterman

1 and 1/2 blocks on Waterman

6047 Waterman

28

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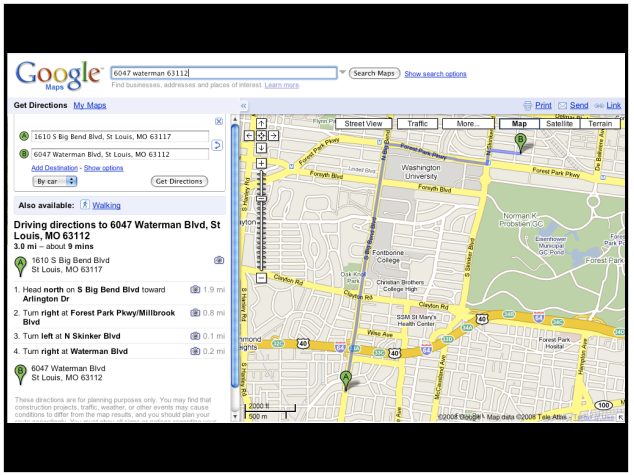
Google Maps
6047 waterman 63112
Search Maps
Show search options
Find businesses, addresses and places of interest. Learn more.
Get Directions
My Maps
Print
Send
Link
1610 S Big Bend Blvd, St Louis, MO 63117
6047 Waterman Blvd, St Louis, MO 63112
Add Destination - Show options
By car
Get Directions
Also available: Walking
Driving directions to 6047 Waterman Blvd, St Louis, MO 63112
3.0 mi – about 9 mins
1610 S Big Bend Blvd
St Louis, MO 63117
1. Head north on S Big Bend Blvd toward Arlington Dr 1.9 mi
2. Turn right at Forest Park Pkwy/Millbrook Blvd 0.8 mi
3. Turn left at N Skinker Blvd 0.1 mi
4. Turn right at Waterman Blvd 0.2 mi
6047 Waterman Blvd
St Louis, MO 63112
These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your
Street View
Traffic
More...
Map
Satellite
Terrain
Forest Park Pkwy
Forsyth Blvd
Washington University
Fontbonne College
Christian Brothers College High
Clayton Rd
SSM St Mary's Health Center
Wise Ave
Forest Park Hospital
Norman K. Probstein GC
Eisenhower Municipal GC Pvnd
Forest Park
2000 ft
500 m
©2008 Google - Map data ©2008 Tele Atlas

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URLs

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Absolute		Complete URL
Site root-relative		Web server fills in protocol & domain
Document-relative		Same directory
		Down into sub-directory
		Up into parent directory

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OK	Never OK
`foo.htm`	`C:\Windows\foo.htm`
`bar/foo.htm`	`\Windows\foo.htm`
`http://www.foo.com`	`\foo.htm`
`../foo.htm`	`file:///`
`/bar/foo.htm`	

No OS-specific paths!

Absolute URLs

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Absolute URL

`http://www.libby.com/`

`http://www.libby.com/parents/`

`http://www.libby.com/parents/scott.htm`

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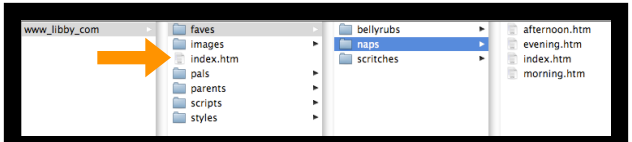

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On `index.htm`:

```
<a href="http://www.libby.com/faves/naps/
    afternoon.htm">After lunch</a>

<a href="http://www.dogster.com">Chat
    with pals</a>
```

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Site-Root Relative URLs

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`/foo/bar.htm`

The web server fills in the rest:

`http://`

&

`www.libby.com`

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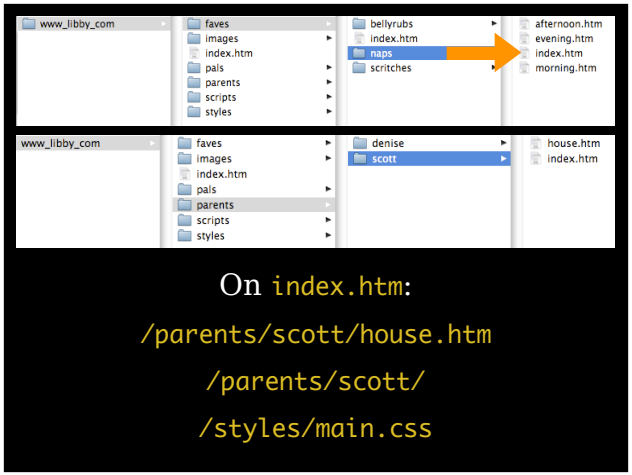
The 1st `/` in

`/foo/bar.htm`

is always short for

`http://www.libby.com`



On `index.htm`:

`/parents/scott/house.htm`

`/parents/scott/`

`/styles/main.css`

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Document-Relative URLs

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Document-relative URLs
tell the browser
how to get
from the page it is currently on
to another on the same site

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Grandparent	File in grandparent folder	`../../baba.htm`
Parent	File in parent folder	`../ali.htm`
Sibling	File in same folder	`foo.htm`
Child	File in child folder	`bar/foo.htm`
Grandchild	File in grandchild folder	`foobar/bar/foo.htm`

Same Directory

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`foo.htm`

The server fills in the rest:

`http://`
`www.libby.com/`
`path/to/URL/`

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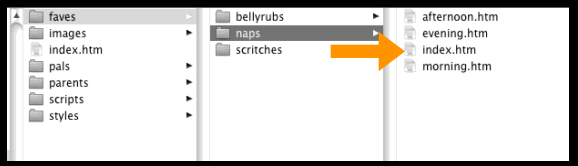

On `index.htm`:

```
<a href="morning.htm">After breakfast</a>
<a href="afternoon.htm">After lunch</a>
<a href="evening.htm">After dinner</a>
```

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Down

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`bar/foo.htm`

The server fills in the rest:

`http://`

`www.libby.com/`

`path/to/URL/`

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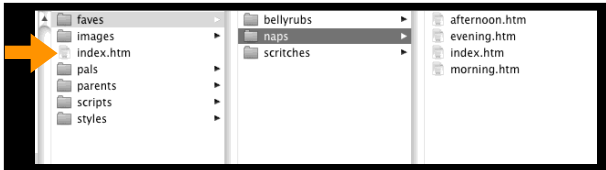


On `index.htm`:

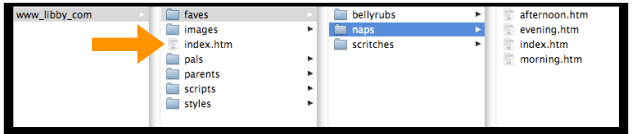
```
<a href="faves/naps/morning.htm">After breakfast</a>
```

```
<a href="faves/naps/afternoon.htm">After lunch</a>
```

```
<a href="faves/naps/evening.htm">After dinner</a>
```

Up

49



As we just learned,
going *down* with a Relative URL is easy:

~~naps/evening.htm~~

~~naps/~~

faves/naps/

faves/naps/morning.htm

How do you go *up*?

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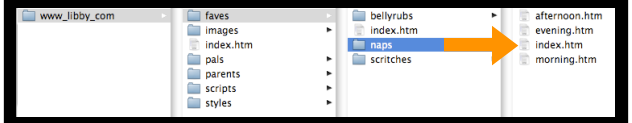
`../` = up



On `index.htm`:

`../index.htm`

`../`

`../../`

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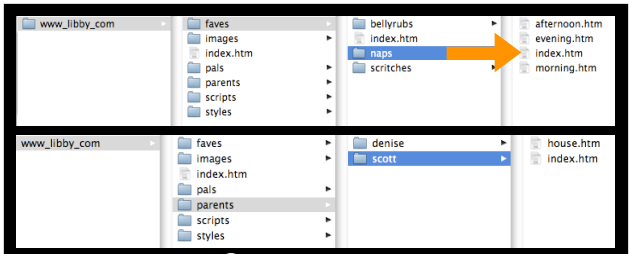
What about this?

`../../bar/foo.htm`

53



On `index.htm`:

`../../parents/scott/index.htm`

`../../parents/scott/`

`../../parents/scott/house.htm`

`../../styles/main.css`

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Which One?

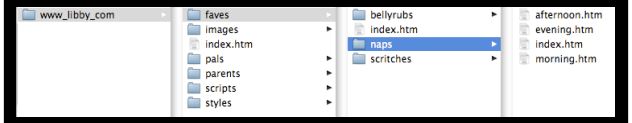
Advantages of Relative URLs

Quick & easy on small sites

Can test site on your local computer without a web server

Can change domain name easily

Can move directories up or down & links are preserved



55

Advantages of Absolute URLs

Doesn't matter where the page with link on it is in the file structure

Quick & easy

Required for external links

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Extras

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Want to create a “fake” link?

One that looks like a link,
but doesn’t actually go anywhere?

```
<a href="#">Fake link</a>
```

(Actually, it reloads the same page)

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You can also use the
`id` attribute
to position anchors in elements

Every `id` on a page
must be unique

Create an anchor

```
<h3 id="foo">Lorem ipsum</h3>
```

Link to the anchor

```
<a href="#foo">dolor sit amet</a>
```

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You can use this technique
to create a table of contents

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```
<h2>Table of Contents</h2>
<ul>
  <li><a href="#part-one">Part One</a></li>
  <li><a href="#part-two">Part Two</a></li>
</ul>
…
<h2 id="part-one">Part One</h2>
…
<h2 id="part-two">Part Two</h2>
```

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You can also use this technique
to make it easy for visitors
to jump back to the TOC

```
<h2 id="toc">
  Table of Contents
</h2>
<ul>
  <li><a href="#part-one">Part One</a></li>
  <li><a href="#part-two">Part Two</a></li>
</ul>
…
<h2 id="part-one">
  Part One <a href="#toc">↩</a>
</h2>
…
<h2 id="part-two">
  Part Two <a href="#toc">↩</a>
</h2>
```

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Thank you!

scott@granneman.com
www.granneman.com
ChainsawOnATireSwing.com
@scottgranneman

info@jordanlev.com
webconcentrate.com

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<a>
Understanding URLs & Addressing

OCI / CAIT

R. Scott Granneman

Jordan Lev

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