



NORDUGRID-MANUAL-15

21/12/2010

THE HOPI MANUAL

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1 Introduction

The Hopi service is a HTTP(S) server supporting GET and PUT methods and capable of generating a HTML listing of files. It's main configuration parameter is the document root directory.

It also has a slave mode which is used in the Chelonia storage system tied to the Shepherd service. In the slave mode: 1. there is no HTML listing generated; 2. the files are removed after download; 3. upload is only possible to an existing file, which will be removed after the upload. (The Shepherd service keeps a second hardlink of each file in a separate directory, so that's why it makes sense to remove files after transfer.)

The Hopi service can be the only service in a message chain, in that case it does not need to have a Plexer, and the URLs will not contain any extra path; or the Hopi could be after the Plexer, in that case all the URLs contains a fixed path (e.g. `https://localhost:60000/hopi/`).

2 Clients

Because Hopi is a HTTP(S) server, any HTTP client can be used (for HTTPS maybe needs more configuration)

- web browser (needs importing the client credentials into the browser)
- curl/wget (needs specifying the client credentials as command line argument)
- arccp (the client credentials comes from the userconfig)

3 Configuration

Here is an example configuration of a secure Hopi with Plexer:

```
<?xml version="1.0"?>
<cfg:ArcConfig xmlns="http://www.nordugrid.org/schemas/loader/2009/08"
xmlns:cfg="http://www.nordugrid.org/schemas/arccconfig/2009/08"
xmlns:tcp="http://www.nordugrid.org/schemas/tcp/2009/08"
xmlns:tls="http://www.nordugrid.org/schemas/tls/2009/08">
  <cfg:Server>
    <cfg:PidFile>tmp/arched.pid</cfg:PidFile>
    <cfg:Logger>
      <cfg:File>/var/log/arc/arched.log</cfg:File>
      <cfg:Level>ERROR</cfg:Level>
    </cfg:Logger>
  </cfg:Server>
  <ModuleManager>
    <Path>/usr/local/lib/arc/</Path>
  </ModuleManager>
  <Plugins>
    <Name>mcctls</Name>
    <Name>mcchttp</Name>
    <Name>mccsoap</Name>
    <Name>mcctcp</Name>
  </Plugins>
  <Chain>
    <Component name="tcp.service" id="tcp">
      <next id="tls"/>
      <tcp:Listen>
        <tcp:Interface>0.0.0.0</tcp:Interface>
        <tcp:Port>50000</tcp:Port>
        <tcp:Version>4</tcp:Version>
      </tcp:Listen>
    </Component>
  </Chain>
</ArcConfig>
```

```

        </tcp:Listen>
    </Component>
    <Component name="tls.service" id="tls">
        <next id="http"/>
        <tls:KeyPath>/etc/grid-security/hostkey.pem</tls:KeyPath>
        <tls:CertificatePath>/etc/grid-security/hostcert.pem</tls:CertificatePath>
        <tls:CACertificatesDir>/etc/grid-security/certificates</tls:CACertificatesDir>
    </Component>
    <Component name="http.service" id="http">
        <next id="soap">POST</next>
        <next id="plexer">GET</next>
        <next id="plexer">PUT</next>
    </Component>
    <Component name="soap.service" id="soap">
        <next id="plexer"/>
    </Component>
    <Plexer name="plexer.service" id="plexer">
        <next id="hopi">~/hopi/</next>
    </Plexer>
    <Service name="hopi" id="hopi">
        <DocumentRoot>/tmp/hopi</DocumentRoot>
        <SlaveMode>0</SlaveMode>
    </Service>
</Chain>
</cfg:ArcConfig>

```