



Implementing a Freeware
Tool for Creating and
Publishing CAP Alerts

The title of this presentation is “Implementing a Freeware Tool for Creating and Publishing CAP Alerts”.

In this session I will present a simple software tool. Please do not assume that this tool is typical of what is actually in use by alerting authorities today. In almost every case, people responsible for issuing alerts use systems that have been around for many years and have their own work flows and business rules.

In such real-world situations, CAP alerts are generated with a process tacked onto existing procedures and alerting systems.




Learning Objectives

On completion of this session, you should be able to:

1. Describe the pre-requisites for a CAP alert source, (Internet host server and Web container, and software for editing CAP alerts and publishing the CAP news feed)
2. Discuss some CAP Editor configuration choices, including particular locations of files and customized display options.
3. Discuss how to set appropriate permissions in the host file system and support the authentication of authorized users.

Here are the Learning Objectives for this session.



Presentation Outline


- 204.1 Overview of Tool for Creating CAP Alerts
- 204.2 Components Required for Deploying Tool
- 204.3 Authorized Editors, Sample Alerts, RSS File, Stylesheet, Installing CAP Editor
- 204.4 Local Configuration of CAP Editor

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Here is an outline of the major topics in this presentation.

The first topic is:

Overview of Tool for Creating CAP Alerts



Tool for CAP Alert Editing ([edit.html](#))



CAP Alert Editor, Session Setup

NOTE: If an alert must be issued in less than one minute, please use your simplified warning method instead of this editor tool.

This tool is for composing alerts in CAP (X.1303) format. You must login to be authenticated in your role as authorized composer or approver of CAP alerts. (An approver is an authorized composer also authorized to publish the CAP alert.) Authentication requires your e-mail address and password.

Language - [2-letter \(lowercase\) ISO 639-1 code](#) for text in this CAP alert and its Internet news feed.

Status - Is the alert to be published as an **actual** alert or as a test or exercise?

Scope - Is the alert to be published as a **public** alert or published as a private or restricted alert?

MsgType - Is this a new alert, or an update or cancel of an already issued alert?

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This is the entry point to the freeware I call "CAP Editor".

CAP Editor opens to an authorized person upon entry of his/her email address and associated password.

Here is where the CAP alert language, status, scope and msgType are set.

Then, hit the "Compose CAP Alert" button to continue.

CAP Tool for CAP Alert Editing (selector)

CAP Initialize this CAP alert (status: Test, scope: Restricted, msgType: Alert)

This application confirmed or created two file directories, within the designated server directory for the application, now set to null. The directory at c:/cap/en/drafts is for draft CAP alerts and c:/cap/en/alerts is for published CAP alerts.

Select initial values using one of the most recent posted alerts: (c:/cap/en/alerts)

As Posted 2014/03/30 16:34:58	2012-10-28-08-47-32.xml	The tsunami Advisory continues in effect for the coastal areas of California and Oregon from Gualala Point, California (80 miles NW of San Francisco) to Douglas/Lane County Line, Oregon (10 miles SW of Florence).
As Posted 2014/03/24 09:51:03	2011-02-02-08-37-09.xml	Geomagnetic Storm Alert
As Posted 2013/11/21 20:42:18	2013-11-22-01-42-03.xml	Flood warning for Musanze Northern Province, Rwanda
As Posted 2012/08/16 15:04:16	2011-02-02-10-08-30.xml	Flash flood Warning for South Central San Bernardino, Western Riverside, and North Central San Diego Counties in Southwest California

Select initial values using one of the most recent draft alerts: (c:/cap/en/drafts)

Draft as of 2013/11/21 20:42:06	2013-11-22-01-42-03.xml	Flood warning for Musanze Northern Province, Rwanda
Draft as of 2011/02/05 04:07:26	2007-08-15-18-53-48.xml	Flash flood Warning for South Central San Bernardino, Western Riverside, and North Central San Diego Counties in Southwest California
Draft as of 2011/02/05 04:07:26	2011-01-25-04-53-33.xml	Geomagnetic Storm Alert
Draft as of 2011/02/05 04:07:26	2011-01-25-05-06-47.xml	Mount St Helens Volcano Advisory (aviation color code ORANGE)

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In this application, the composer is able to start from any previously entered CAP message, whether that message was actually posted or only drafted. This is a useful because a new event is often similar to a prior event.

If this is to be not a new alert but an update, cancel, or error of a previous alert, the composer would select the particular posted alert. This allows the software to generate the reference to that posted alert.

Here, a composer can scan the dates and headlines of most recent CAP alerts.

Putting the mouse over an entry shows text of the description and instruction elements for that alert.

We'll assume this is a new alert and the composer wants to start with a previously posted alert concerning an advisory for the Mount St Helens volcano.

Next we will see the main editing screen for a CAP alert, initialized from this previous alert.

CAP Tool for CAP Alert Editing (draft)

Show/Hide XML Validate (Google) Save edited alert End this session

identifier urn:oid:2.49.0.1.170.1.2014.10.17.10.57.42

sender echristian@usgs.gov sent 2014-10-17T10:57:42-00:00

status Test msgType Alert scope Restricted

restriction:

language en category Met responseType

event: Message from USGS Volcanoes Program

urgency Expected severity Minor certainty Possible

onset expires

senderName: USGS Volcanoes Program, Craig Weaver

[Text templates for headline, description, instruction.](#)

headline
Mount St Helens Volcano Advisory (aviation color code ORANGE)

description
Current status is Volcano Advisory (Alert Level 2):

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The composing screen has Web form fields with pull-down selections and input areas for text. The composer can mouse over any field to see a tip about what values are expected.

The composer can choose text from templates for the headline, description, and instruction. This choice opens a new window so text can be copied and pasted as needed.

As the alert is being composed, the composer can choose at any time to validate the draft alert.

The composer can also save a copy of the draft alert.

Show/Hide XML
Validate (Google)
Save edited alert
End this session

identifier [uuid:2.45.0.0.388.0.2014.10.18.13.31.33]

sender [schristian@usgs.gov] **sent** [2014-10-18T13:31:33-00:00]

status [Test] **msgType** [Alert] **scope** [Public]

language [en] **responseType** [Monitor]

event [Message from USGS Volcanoes Program]

urgency [Expected] **severity** [Minor] **certainty** [Possible]

onset [] **expires** []

senderName [USGS Volcanoes Program, Craig Weaver]

Text templates for headline, description, instruction

headline [Mount St Helens Volcano Advisory (aviation color code ORANGE)]

description
 Current status is Volcano Advisory (Alert Level 2); aviation color code ORANGE: Growth of the new lava dome inside the crater of Mount St. Helens continues, accompanied by low rates of seismicity, low emissions of steam and volcanic gases, and minor production of ash. During such eruptions, changes in the level of activity can occur over days to months. The eruption could intensify suddenly or with little warning and produce explosions that ...

instruction
 Wind forecasts from the National Oceanic and Atmospheric Administration (NOAA), coupled with eruption models, show that any ash clouds that rise above the crater rim today would drift principally eastward. Under current eruptive conditions, small, short-lived explosions may produce ash clouds that exceed 30,000 feet in altitude. Ash from such events can travel 100 miles or more downwind.

web [http://volcan.wr.usgs.gov/Volcanoes/MSH/Eruption04/]

image [http://www.fs.fed.us/gsn/volcanocams/msh/]

contact [Craig Weaver 1-206-553-0627]

areaDesc
 Skamania County, Washington, in the Pacific Northwest region of the United States (96 miles south and 53 miles northeast of Portland, Or

circle
 R:2.12220
 Circle format: lat,lon<separation>
[Make circle using map](#) Geocode format: 'type' = 'value'

```
<?xml version="1.0" encoding="UTF-8" ?>
<cap:alert xmlns:cap="urn:ietf:params:tc:emergency:cap:1.1" ?>
  <cap:identifier>{uuid:2.45.0.0.388.0.2014.10.18.13.31.33}</cap:identifier>
  <cap:sender>schristian@usgs.gov</cap:sender>
  <cap:status>Test</cap:status>
  <cap:msgType>Alert</cap:msgType>
  <cap:scope>Public</cap:scope>
  <cap:language>en</cap:language>
  <cap:responseType>Monitor</cap:responseType>
  <cap:category>Message from USGS Volcanoes Program</cap:category>
  <cap:urgency>Expected</cap:urgency>
  <cap:severity>Minor</cap:severity>
  <cap:certainty>Possible</cap:certainty>
  <cap:senderName>USGS Volcanoes Program, Craig Weaver</cap:senderName>
  <cap:headline>Mount St Helens Volcano Advisory (aviation color code ORANGE)</cap:headline>
  <cap:description>Current status is Volcano Advisory (Alert Level 2); aviation color code ORANGE: Growth of the new lava dome inside the crater of Mount St. Helens continues, accompanied by low rates of seismicity, low emissions of steam and volcanic gases, and minor production of ash. During such eruptions, changes in the level of activity can occur over days to months. The eruption could intensify suddenly or with little warning and produce explosions that create hazardous conditions within several miles of the crater and farther downwind. Small lahars could suddenly descend the Toutle River if triggered by heavy rain or by interaction of hot rocks with snow and ice. These lahars pose a navigable hazard below the Sediment Retention Structure (SRS) but could pose a hazard along the river channel upstream.</cap:description>
  <cap:instruction>Wind forecasts from the National Oceanic and Atmospheric Administration (NOAA), coupled with eruption models, show that any ash clouds that rise above the crater rim today would drift principally eastward. Under current eruptive conditions, small, short-lived explosions may produce ash clouds that exceed 30,000 feet in altitude. Ash from such events can travel 100 miles or more downwind.</cap:instruction>
  <cap:web>http://volcan.wr.usgs.gov/Volcanoes/MSH/Eruption04/</cap:web>
  <cap:contact>Craig Weaver 1-206-553-0627</cap:contact>
  <cap:resourceDesc>Image File</cap:resourceDesc>
  <cap:resourceImage>http://www.fs.fed.us/gsn/volcanocams/msh/</cap:resourceImage>
  <cap:areaDesc>Skamania County, Washington, in the Pacific Northwest region of the United States (96 miles south of Seattle, Washington and 53 miles northeast of Portland, Oregon</cap:areaDesc>
  <cap:circle>R:2.12220</cap:circle>
</cap:alert>
```

Tool for CAP Alert Editing

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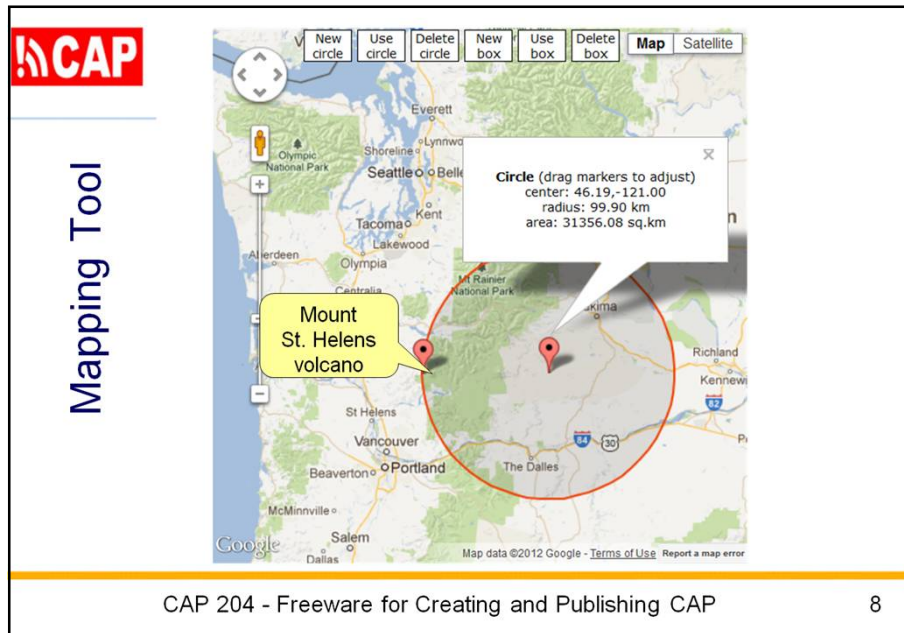
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The composer can choose to show the CAP alert in XML format. When the composer changes anything in the Web form and leaves that field, the CAP message XML changes as well.

Here, we see XML on the right side of the screen.

The composer can also use a map tool to specify a circle and/or a polygon for the alerting area.

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Here, the composer has used the mapping tool to specify the center point and radius of a circle that defines the alerting area of this CAP alert message.

This circle is an area extending about 200 km east of the Mount St Helens volcano.

Editing Tool for CAP Alerts
(validate)

google.org Common Alerting Protocol Validator

The [Common Alerting Protocol](#) validator is a free service that checks the syntax of CAP messages and Atom and RSS feeds of CAP messages. It supports CAP v1.0, v1.1 and v1.2.

Input feed

```
<?xml version="1.0" encoding="UTF-8" ?>
<cap:alert xmlns:cap="urn:oasis:names:tc:emergency:cap:1.1" >
<cap:identifierurn:oid:2.49.0.0.388.0.2014.10.18.9.52.55 >
<cap:senderurn:oid:2.49.0.0.388.0.2014.10.18.9.52.55/cap:sender >
<cap:sender2014-10-18T09:52:55-00:00/cap:sender >
<cap:statusAlert/cap:status >
<cap:msgTypeAlert/cap:msgType >
<cap:scopeRestricted/cap:scope >
<cap:info >
<cap:languageen/cap:language >
<cap:categoryVolcano/cap:category >
<cap:eventMessage from USGS Volcanoes Program/cap:event >
<cap:agencyUSGS/cap:agency >
<cap:severityMinor/cap:severity >
<cap:certaintyPossible/cap:certainty >
<cap:senderNameUSGS Volcanoes Program, Craig Weaver/cap:senderName >
<cap:headlineMount St Helens Volcano Advisory (aviation color code ORANGE) >
<cap:description >
<cap:descriptionCurrent status is Volcano Advisory (Alert Level 2):
aviation color code ORANGE: Growth of the new lava dome
inside the crater of Mount St. Helens continues,
accompanied by low rates of seismicity, low emissions of
steam and volcanic gases, and minor production of ash.
During such eruptions, changes in the level of activity can
occur over days to months. The eruption could intensify
suddenly or with little warning and produce explosions that
cause hazardous conditions within several miles of the crater and
farther
downwind. Small lahars could suddenly descend the Toutle River if triggered by
heavy rain or by interaction of hot rocks with snow and ice. These lahars pose
a significant hazard below the Bellevue-Preston Riverway (BR) but could pose
a hazard along the river channel upstream.</cap:description >
</cap:headline >
<cap:descriptionCurrent status is Volcano Advisory (Alert Level 2):
aviation color code ORANGE: Growth of the new lava dome inside the crater of
Mount St. Helens continues, accompanied by low rates of seismicity, low
emissions of steam and volcanic gases, and minor production of ash. During such
eruptions, changes in the level of activity can occur over days to months. The
eruption could intensify suddenly or with little warning and produce explosions
that cause hazardous conditions within several miles of the crater and farther
downwind. Small lahars could suddenly descend the Toutle River if triggered by
heavy rain or by interaction of hot rocks with snow and ice. These lahars pose
a significant hazard below the Bellevue-Preston Riverway (BR) but could pose
a hazard along the river channel upstream.</cap:description >
</cap:description >
Type an alert or upload a file

(Optional) Validate against common CAP profiles:
 US PHWS Profile v1.0
 CAP Canadian Profile v1.0
 CAP Australian Profile v3.0 Committee
 Google Public Alerts CAP v1.0

Validate

Result
Valid
```

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Here, we see what happens when the composer hits the "Validate" button. In this case, the Google CAP validator reports that this CAP alert is valid. If there had been any errors, those would have been listed.

CAP **Saved**

This draft alert was saved to drafts directory as c:/cap/en/drafts/2014-10-18-09-52-55.xml and is available private!
[E-mail the alert to me](#)

identifier urn:oid:2.49.0.0.388.0.2014.10.18.9.52.55

sender echristian@usgs.gov

sent 2014-10-18T09:52:55-00:00

status Test **msgType** Alert **scope** Restricted

restriction civic-authorities

addresses

note

references

language en **category** Met **responseType**

event Message from USGS Volcanoes Program

urgency Expected **severity** Minor **certainty** Possible

onset **expires**

senderName: USGS Volcanoes Program, Craig Weaver

headline Mount St Helens Volcano Advisory (aviation color code ORANGE)

description Current status is Volcano Advisory (Alert Level 2); aviation color code ORANGE; Growth of the new lava volcanic gases, and minor production of ash. During such eruptions, changes in the level of activity can occur over conditions within several miles of the crater and farther downwind. Small lahars could suddenly descend the Toutle the Sediment Retention Structure (SRS) but could pose a hazard along the river channel upstream.

instruction Wind forecasts from the National Oceanic and Atmospheric Administration (NOAA), coupled with eruptive conditions, small, short-lived explosions may produce ash clouds that exceed 30,000 feet in altitude. Ash

web <http://vulcan.wr.usgs.gov/Volcanoes/MSH/Eruption04/>

image <http://www.fs.fed.us/gpnl/volcanocams/msh/>

contact Craig Weaver 1-206-553-0627

areaDesc Skamania County, Washington, in the Pacific Northwest

circle 46.2,-122.2 0 **geocode** **polygon**

Validate (Google) Publish this approved alert Continue editing this draft alert End this editing session

Editing Tool for CAP Alerts (published)

Publish CAP alert


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Here, we see what happens when the composer hits the "Save" button.

When the composer receives confirmation that the draft CAP alert message has been saved, he or she can send a link to the draft alert via e-mail to the composer's e-mail address. In this way, the composer can use his or her e-mail system to get others to review the alert, or to send the CAP message to a notification mailing list.

If the person composing the alert is authorized in the role of approver, he or she can actually publish the alert. The tool copies the alert into the publicly accessible directory of posted CAP alerts.

The tool also updates the RSS news feed.



RSS Feed for Alerts in CAP

```


<?xml version="1.0" encoding="UTF-8" ?>
-- rss version="2.0" xmlns:geo="http://www.w3.org/2003/01/geo/wgs84_pos#" xmlns:dc="http://purl.org/dc/elements/1.1/">
- <channel>
  <title>Alerts Issued by ACMAD</title>
  <link>http://www.acmad.org/alerts/rss.xml</link>
  <description>Latest alerts posted by the African Centre of Meteorological Applications for Development</description>
  <dc:publisher>ACMAD (African Centre of Meteorological Applications for Development)</dc:publisher>
  <language>en-us</language>
  <copyright>public domain</copyright>
  <pubDate>Mon, 14 Mar 2011 10:37:11 +0000</pubDate>
  <lastBuildDate>Mon, 14 Mar 2011 10:37:11 +0000</lastBuildDate>
  <docs>http://blogs.law.harvard.edu/tech/rss</docs>
- <image>
  <title>Latest Alerts posted by ACMAD</title>
  <url>http://www.acmad.org/images/acmad.gif</url>
  <link>http://www.acmad.org/alerts/rss.xml</link>
</image>
- <item>
  <title>Mount St Helens Volcano Advisory (aviation color code ORANGE)</title>
  <link>http://www.acmad.org/alerts/20110314092621.xml</link>
  <description>Current status is Volcano Advisory (Alert Level 2); aviation color code ORANGE: Growth of the new lava dome inside the crater of Mount St. Helens continues, accompanied by low rates of seismicity, low emissions of steam and volcanic gases, and minor production of ash. During such eruptions, changes in the level of activity can occur over days to months. The eruption could intensify suddenly or with little warning and produce explosions that cause hazardous conditions within several miles of the crater and farther downwind. Small lahars could suddenly descend the Toutle River if triggered by heavy rain or by interaction of hot rocks with snow and ice. These lahars pose a negligible hazard below the Sediment Retention Structure (SRS) but could pose a hazard along the river channel upstream.</description>
  <author>echristian@wmo.int</author>
  <category>Met</category>
  <guid>http://www.acmad.org/alerts/20110314092621.xml</guid>
  <pubDate>2011-03-14T09:26:21-00:00</pubDate>
</item>

```


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Recall that the news feed points to the CAP alerts in the publicly accessible directory of posted alerts, with the most recent first.

Direct subscribers to the RSS news feed will get the alert when their subscription software next checks the news feed.




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Now let's look at the
Components Required for Deploying a CAP Alert Source



Java Application on Web Host Server

- Web user view implemented via JSP (Java Server Pages) as HTML forms
- Web form editing of CAP alert implemented with client-side Javascript
- Draft alerts sent via the server's e-mail (SMTP) facility
- Draft and final alerts stored in the host server file system
- Server-side application managed by Web host server and Tomcat Web container

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During the overview, we saw that the CAP Editot tool presents a Web user interface. This user view is implemented via JSP (Java Server Pages) as various HTML forms.

The editing of a CAP alert through a Web form is implemented using embedded, client-side Javascript.

When an approver chooses to publish a CAP alert, the tool stores the CAP alert in a publicly-accessible part of the file system and update the associated RSS news feed at the server.

The tool runs on Apache Tomcat. Tomcat is available for Windows, Unix, and Apple. The tool should also run on other Web containers, such as Microsoft's Internet Information Server (IIS) but that is not taught in this class.

We will install the application under Tomcat on the "localhost". That term refers to use of TCP/IP within the local machine, without connecting to the public Internet.



Required Components

- CAP Editor Application (uses Tomcat + Java) CAP Editor
- Apache Tomcat (uses Java Compiler) Tomcat
- Java Compiler Java Compiler

Optional

- Eclipse IDE
- Tomcat as a Server within Eclipse

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Here are the components to implement the CAP Editor freeware tool.

Of course, you need a copy of the freeware tool itself. That is available to you as a “WAR” file (Web Archive), which is how deployment is accomplished through the Tomcat Web container. A WAR file is a type of JAR file (Java Archive), much like a Zip file.

It is required that you have installed a Java compiler, and that you have installed the Apache Tomcat Web container.

CAP Java Install (Step 1)

To check if PC is 32- or 64-bit:
Run msinfo32 [on Windows 10,
 Run after right-click Start button]

- JDK (Java SE Development Kit) is in CAP Jump Start /Java directory, or download JDK from [this URL](#)
- Choose the appropriate ".exe" file for your PC ("...-i586.exe" for a 32-bit or "...-X64.exe" for 64-bit)
- Right click on exe file and select "Run as Administrator"
- WAIT FOR IT... (slow to indicate it is running)
 Accept all defaults, close when install is complete

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From here on, I assume the install is occurring on a Windows PC. If you have instead Linux or Mac OS, your instructions to install Java and Tomcat are different, but the CAP Editor WAR file installs the same way under Tomcat on those platforms.

Our Step 1 is to install a Java compiler. To install the Java compiler, you need to know if your PC system is 32-bit or 64-bit. To check that: in the Run box enter "**msinfo32**" [On Windows 10, get the Run box after a right-click on the Start button] Here you see the "System Type" described as either 32-bit or 64-bit.

The Java compiler comes as a JDK (Java SE Development Kit). The JDK is provided in the CAP Jump Start /Java directory. Or, you can download the JDK from the URL provided at the link on the slide.


You must choose the appropriate ".exe" file for your PC. Choose "...-i586.exe" for a 32-bit PC or "...-X64.exe" for a 64-bit PC.

Now you need to **right click** on the appropriate exe file and select "Run as Administrator".

Here you need to WAIT FOR IT, maybe as long as a minute. The JDK install is slow to indicate that it is running, so PLEASE be patient.

As the JDK installs, accept all defaults that are prompted. Close when the JDK install is complete. You do not need to read any notes offered.

At this point, you will get a request from Oracle to supply your contact details and register. This is not necessary. You can simply close the Oracle screen that makes that request.



Apache Tomcat (Step 2)


- Tomcat may be already installed on your PC: check by clicking Start, search "Services", then look for "Apache Tomcat" among installed Services
- If no Tomcat, install from exe in CAP Jump Start /Tomcat directory (or download exe from [this URL](#))
- Right click on the exe file and select "Run as Administrator"

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It is possible that Tomcat is already installed on your PC. Check by clicking on the Start button, then search for "Services". Selecting the *Services* with a gear icon will produce a listing of all services installed on your PC. Now look for "Apache Tomcat" (the services are in alphabetical order).

Assuming Tomcat is not installed, you will install the exe file for Tomcat. This is provided in the CAP Jump Start /Tomcat directory. Or, you can download Tomcat from the URL provided at the link you see on the slide.

Now you need to **right click** on the exe file and select "Run as Administrator".



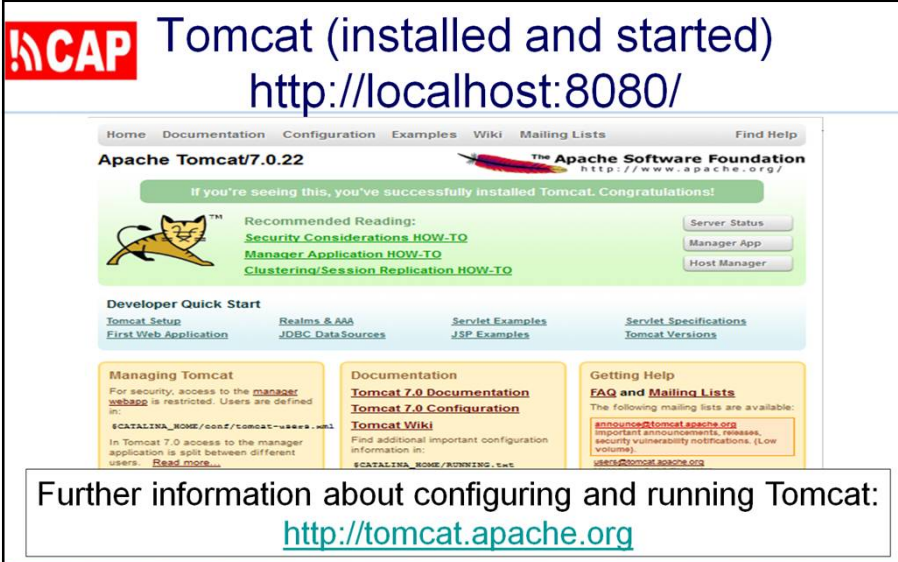
Apache Tomcat Installer

- Accept all defaults:
"Choose Components", "Configuration",
the path to JRE as installed in Step 1,
and "Choose Install Location"
- Click "Finish" when install is complete

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When prompted, accept the defaults for "Choose Components", "Configuration", path to the JRE (Java Runtime Environment), and "Choose Install Location".

Click "Finish" when install is complete.




CAP Tomcat (installed and started)
<http://localhost:8080/>

Home Documentation Configuration Examples Wiki Mailing Lists Find Help

Apache Tomcat/7.0.22  The Apache Software Foundation
<http://www.apache.org/>

If you're seeing this, you've successfully installed Tomcat. Congratulations!

 Recommended Reading:
[Security Considerations HOW-TO](#)
[Manager Application HOW-TO](#)
[Clustering/Session Replication HOW-TO](#)

Server Status
 Manager App
 Host Manager

Developer Quick Start

Tomcat Setup Realms & AAA Servlet Examples Servlet Specifications
 First Web Application JDBC Data Sources JSP Examples Tomcat Versions

Managing Tomcat
 For security, access to the [manager](#) [webapp](#) is restricted. Users are defined in:
 \$CATALINA_HOME/conf/tomcat-users.xml
 In Tomcat 7.0 access to the manager application is split between different users. [Read more...](#)

Documentation
[Tomcat 7.0 Documentation](#)
[Tomcat 7.0 Configuration](#)
[Tomcat Wiki](#)
 Find additional important configuration information in:
 \$CATALINA_HOME/RUNNING.txt

Getting Help
[FAQ and Mailing Lists](#)
 The following mailing lists are available:
[announce@tomcat.apache.org](#)
 important announcements, releases, security vulnerability notifications. (Low volume).
[users@tomcat.apache.org](#)

Further information about configuring and running Tomcat:
<http://tomcat.apache.org>

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Next, you would check to see if Tomcat is installed and started. Using a Web browser, go to <http://localhost:8080/> and you would see a screen like this.

CAP Tomcat Start, Stop, Restart


The screenshot shows the Windows Services console with the 'Apache Tomcat 7.0 Tomcat7' service selected. A callout box points to the service with the text 'Start, Stop, Restart Tomcat'. To the right, the 'Apache Tomcat 7.0 Tomcat7 Properties' dialog box is open, showing the 'General' tab. The service name is 'Tomcat7', the display name is 'Apache Tomcat 7.0 Tomcat7', and the path to the executable is 'C:\Program Files\Apache Software Foundation\Tomcat 7.0\bin\Tomcat7.exe'. The service status is 'Started'.

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
If Tomcat is not running, you may need to start the Tomcat service.

This is done via the Control Panel - System and Security - Administrative Tools - Services. Then, look for the Apache Tomcat 7.0 service, as shown here.

There is also a Tomcat Manager tool available in the launch icons on the lower right side of the Windows desktop.



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Next we will turn to the Steps numbered 3, 4, 5, 6, and 7 in the readme.doc instructions.

These concern:

- defining authorized editors in Tomcat,
- copying the sample alerts provided,
- customizing the RSS File,
- customizing the Stylesheet, and
- installing the CAP Editor application.



Define authorized CAP composers/approvers (Step 3)

```

<tomcat-users>
  <role rolename="manager-gui"/>
  <user username="tomcat" password="tomcat" roles="manager-gui" />
  <role rolename="composer-cap"/>
  <user username="composer@email.com" password="test" roles="composer-cap" />
  <role rolename="approver-cap"/>
  <user username="approver@email.com" password="secret" roles="approver-cap" />
</tomcat-users>

```

Copy the file from CAP Jump Start /Tomcat/tomcat-users.xml to
c:/Program Files/Apache Software Foundation/Tomcat 8.5/conf/
tomcat-users.xml

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In this application, the only authorized users are people defined in either the "composer-cap" or the "approver-cap" role. An "approver-cap" user has all composer abilities plus the "publish alert" ability.

Note that the username must be the user's e-mail address because the CAP Editor uses that for sending a copy of a draft alert to the composer.

The username and password for authorized users in either role must be in the Tomcat file named 'tomcat-users.xml'. Here is shown the sample file that you would edit, using your own values for the values shown in red. The sample is found at CAP Jump Start \Tomcat\tomcat-users.xml

Note that Tomcat has to distinguish which users are in which roles ('manager-gui', 'composer-cap;', 'approver-cap'). So, you cannot define the same password for any user name that occurs more than once.

For now, we will not edit the file but just drag the file so that it replaces the file at **c:/Program Files/Apache Software Foundation/Tomcat 8.5/conf/tomcat-users.xml**



Install Sample Files (Step 4)

- Copy CAP Jump Start /CAP Editor/cap to c:/cap (includes sub-directories /en/alerts and /en/drafts)
- The CAP editor application needs write permissions for these files and directories
- The CAP editor application will find these files using your configuration parameters (Step 8):
 - param-name: capDraftsDirectoryName
 - param-name: capAlertsDirectoryName

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Example test files of draft and final alerts are provided in the CAP Jump-Start package under the directories:

/CAP Editor/cap/en/drafts and **/CAP Editor/cap/en/alerts**


Notice that the directory "cap" has a subdirectory "en", indicating that the subordinate material is in English. The "cap/en" directory contains two subdirectories: "cap/en/alerts" for published alerts and "cap/en/drafts" for draft alerts.

Copy these directories to your local file system.

You must assure that the CAP editor application has write permissions for all of these files and subdirectories.

You will inform the CAP editor of where you put these files using these configuration parameters (as explained in Step 8 below):

- param-name: capDraftsDirectoryName
- param-name: capAlertsDirectoryName



Customize the RSS File (Step 5)

Customize your copy of **c:/cap/en/alerts/rss.xml**

```

<title>Latest alerts from Servicio Nacional de Meteorología e
  Hidrología del Perú (SENAMHI)</title>
<link>http://www.senamhi.gob.pe/cap/en/alerts/rss.xml</link>
<description>This feed lists the most recent alerts posted by
  Servicio Nacional de Meteorología e Hidrología del Perú
  (SENAMHI)</description>
<language>en</language>
<copyright>public domain</copyright>

```

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Next, you need to customize your own copy of the RSS file.

There are five elements you should customize as they describe this particular RSS news feed as published by this particular alerting authority: **title**, **link**, **description**, **language**, and **copyright**.

Here is what the example text looks like in the sample provided:

```

<title>Latest alerts from Servicio Nacional de Meteorología e
  Hidrología del Perú (SENAMHI)</title>
<link>http://www.senamhi.gob.pe/cap/en/alerts/rss.xml</link>
<description>This feed lists the most recent alerts posted by
  Servicio Nacional de Meteorología e Hidrología del Perú
  (SENAMHI)</description>
<language>en</language>
<copyright>public domain</copyright>


```

You can modify these five elements in your copy of this RSS file at any time. The editor freeware will maintain your values for these five elements when the RSS file is regenerated.

However, please note that the CAP editor freeware will not retain any other RSS elements you may insert.

The freeware does fill in three other RSS elements automatically: **pubDate**, **lastBuildDate**, and **docs**.

Also, The editor freeware will maintain any stylesheet processing instructions that you may insert in the RSS file



Customize the Stylesheet (Step 6)

Customize `c:/cap/en/senamhi-cap-en-style.xml`

```

<title>
  <xsl:value-of select="*[local-name()='info']*[1]/
    *[local-name()='headline']" />
  Alerts Issued by Servicio Nacional de Meteorología
  e Hidrología del Perú (SENAMHI)</title>
  ...
  <meta name="country" content="Peru"/>

```

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You should customize the XML stylesheet that is referenced in the second line of each CAP alert. Simply edit the sample stylesheet provided in the sample alerts directory as the file named, e.g.

`C:\cap\en\senamhi-cap-en-style.xml`

You can also insert HTML code for a Web page header immediately after `<body>` (the "body" element start tag), and the HTML code for a Web page footer immediately before `</body>` (the "body" element end tag).

For example, you can change the name of the organization in the HTML title element and the name of the country in the HTML Meta element.



Install CAP Editor Application (Step 7)

- Copy WAR file from CAP Jump Start /CAP Editor/ to c:/Program Files/Apache Software Foundation/ Tomcat 8.5/**webapps/**
- NOTE: If deployed previously, save your customized "web.xml" file (per Step 8)
- Start Tomcat if it is not already running
- Tomcat will build application from the CAP Editor WAR file
- Use a browser to open the application at <http://localhost:8080/org.cap.editor.en.jsp>

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To install the CAP Editor application on Tomcat, copy the WAR file to the Tomcat Install Location directory /webapps/ .


Tomcat will build an "org.cap.editor.en.jsp" subdirectory from the WAR file when Tomcat is restarted

Note: If this application was deployed previously, and you have customized the CAP Editor application through its "web.xml" file (described in Step 8 below), now save your web.xml file elsewhere so you can restore it after deploying the application.


Restart Tomcat (described at slide 18).

Now you can find the application running at <http://localhost:8080/org.cap.en.editor.jsp>

However, the application will not run correctly until it is configured. That is Step 8, which we'll get to next.




Presentation Outline

- 204.1 Overview of Tool for Creating CAP Alerts
- 204.2 Components Required for Deploying Tool
- 204.3 Authorized Editors, Sample Alerts, RSS File, Stylesheet, Installing CAP Editor
-  204.4 Local Configuration of CAP Editor

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We turn now to Local Configuration of CAP Editor, which is Step 8 in the readme.doc instructions.

 Local Configuration (Step 8) Configuration file at Tomcat Install Location directory C:\Program Files\Apache Software Foundation\Tomcat 8.5\ webapps\org.cap.editor.en.jsp\WEB-INF\web.xml	
param-name	param-value
alertingAuthorityLogoUrl	http://www.senamhi.gob.pe/images_/logo-senamhi.png
alertingAuthorityOid	urn:oid:2.49.0.1.218.0
alertingAreaDefaultLatLng	-1.4,-78.4
alertingAreaDefaultZoom	7
capDraftsDirectoryName	c:/cap/en/drafts
capDraftsPrivateUrlStub	http://www.senamhi.gob.pe/cap/en/drafts
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Customize your implementation of CAP editor by setting various parameters in the file at Tomcat Install Location directory /webapps/org.cap.editor.en.jsp/WEB-INF/web.xml

Whenever you change contents of the web.xml file, stop the CAP editor application and start it again, using Tomcat shutdown and startup.

param-name: **alertingAuthorityLogoUrl**
 param-value: http://www.senamhi.gob.pe/images_/logo-senamhi.png

param-name: **alertingAuthorityOid**
 param-value: urn:oid:2.49.0.1.218.0

Note: Alert messages are prefixed with urn:oid:2.49.0.1.c.n where c is the ISO 3166-1 country code (see http://en.wikipedia.org/wiki/ISO_3166-1_numeric#Current_codes) and n identifies a particular authority as registered by that country. 2.49.0.1.218.0 is unique to Servicio Nacional de Meteorología e Hidrología del Perú (SENAMHI) because the ISO 3166-1 numeric code for Peru is 218 and SENAMHI was the first alerting authority registered for Peru in <http://www.wmo.int/alertingorg>

param-name: **alertingAreaDefaultLatLng**
 param-value: -1.4,-78.4


Note: Replace this value with the center latitude and longitude for the alerting area typically served by this alerting authority. This is used when showing the map initially. In Google Maps, you can show the lat,lng for your cursor position with right click and select "What's Here?".

param-name: **alertingAreaDefaultZoom**
 param-value: 7

Note: Replace this value with a zoom value for initially showing the map centered on the specified latitude and longitude. A zoom value of 7 selects an area about 300 kilometers (200 miles) across; successive zoom levels change by a factor of 2.

param-name: **capDraftsDirectoryName**
 param-value: c:/cap/en/drafts

param-name: **capDraftsPrivateUrlStub**
 param-value: http://www.serviciometeorologico.gob.ec/cap/en/drafts

 Local Configuration (directories)	
param-name	param-value
capAlertsStylesheetHref	http://www.senamhi.gob.pe/cap/en/senamhi-cap-en-style.xsl
capAlertsDirectoryName	c:/cap/en/alerts
capAlertsRssFileName	c:/cap/en/alerts/rss.xml
capAlertsPublicUrlStub	http://www.senamhi.gob.pe/cap/en/alerts
capAlertsRssItemLimit	50
capSchemaFileName	c:/cap/schema-1-2.xsd
capExternalValidationUrl	https://cap-validator.appspot.com/validate
capAlertHubUrl	https://alert-hub.appspot.com/publish
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param-name: **capAlertsStylesheetHref**

param-value: <http://www.serviciometeorologico.gob.ec/cap/en/senamh-cap-en-style.xsl>

Note: This optional parameter provides the URL file name of an XML stylesheet. This will be inserted into each CAP alert.

param-name: **capAlertsDirectoryName**

param-value: c:/cap/en/alerts

param-name: **capAlertsRssFileName**

param-value: c:/cap/en/alerts/rss.xml

param-name: **capAlertsPublicUrlStub**

param-value: <http://www.serviciometeorologico.gob.ec/cap/en/alerts>

param-name: **capAlertsRssItemLimit**

param-value: 50

Note: This value limits how many items are listed in the publicly visible RSS file for posted alerts. A high value may be appropriate for a site that issues many alerts but some RSS readers may not process more than 50.

param-name: **capSchemaFileName**

param-value: c:/cap/schema-1-2.xsd

Note: Replace this value with the directory path and file name where the schema for CAP version 1.2 is located.

param-name: **capExternalValidationUrl**


param-value: <https://cap-validator.appspot.com/validate>

Note: This is an optional parameter. If specified, the value is the URL for a online validator of CAP alerts. (The example is a free resource offered by Google.Org.) If an external validator is not accessible, leave out the parameter or give it a blank value.

param-name: **capAlertHubUrl**

param-value: <https://alert-hub.appspot.com/publish>

Note: This is an optional parameter. If specified, the value is the URL for an alert hub which is expecting to receive a notice to signify an update was just made to the RSS file. (The example is a free resource offered by Google.Org.) If it is not desired to push such a notice to an alert hub, leave out the parameter or give it a blank value.



Additional Languages

- Copy "org.cap.editor.en.jsp" within Tomcat webapps and rename (e.g, for Spanish: "org.cap.editor.es.jsp")
- Modify the web.xml in the new CAP editor directory under Tomcat webapps
- Modify your rss.xml file to translate English text
- Modify your stylesheet to translate English text
- Duplicate your /cap/en/alerts and /cap/en/drafts directories (e.g., "cap/es/alerts" and "cap/es/drafts")
- Shutdown and startup Tomcat in order to deploy the new CAP Editor application

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If you need to have the CAP editor create and publish CAP alerts in language other than English, you can make a copy of the Tomcat webapps directory of the English CAP editor and rename the copy to reflect the two-letter code of the other language (e.g, for Spanish the copy would be named "org.cap.es.editor.jsp").

Note that the editor Web form will still be in English, but the text elements of the alerts and the RSS news feed can be in the other language.


The "cloned" version of CAP-Editor" will need to be further customized to reflect the other language. The "readme.doc" file explains in detail what changes are needed in the associated RSS file and XML stylesheet, and in various param-value entries in the associated web.xml file.

You must also make your own other-than-English copy of your /cap/en/alerts and /cap/en/drafts directories

When you then shutdown and startup Tomcat, this new version of the CAP editor will be deployed.

The already authorized Tomcat user names and passwords apply to all Tomcat webapps, so those users can login to either.

Of course, the same process can provide for CAP editors in several different languages; each would run as a separate application under Tomcat.



Using the CAP Editor Application

<http://localhost:8080/org.cap.editor.en.jsp>

- You can play with the application and reinstall whenever you like
- To remove or add testing CAP alert files, just delete or add, directly in file system
- The headline, description, and instruction element values can be customized by editing the [textTemplates.html](#) file
(Note: Dutch, French, Papiamento, and Spanish templates available from [here](#))


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Now you can run the application from a browser by entering the URL:
<http://localhost:8080/org.cap.editor.en.jsp>

When using the application, you may create bogus draft and final alert files. To remove these, simply use the file system and go to the directory to delete any files you do not wish to keep. You can also add other valid CAP alerts to these directories as desired.

You may also wish to customize the templates of text values for the headline, description, and instruction elements of various common CAP alerts. To do so, just edit the `textTemplates.html` file following the pattern of HTML usage already there.

(g) If the other language to be supported is Dutch, French, Papiamento, or Spanish, you can replace the `textTemplates` file in the Tomcat directory `"/webapps/nnnn.cap.editor.xx.jsp/"` with a language-specific `"textTemplates.html"` file. The templates are available for free download at the hyperlink shown.



PHP version of CAP Editor

- The PHP version of CAP Editor is [here](#)
- Customize it by editing “parms.xml” file
- Instructions provided for install on Linux/Apache or on Microsoft Internet Information Server (IIS)
- Instructions provided for “composer-cap” and “approver-cap” Role-based Access, including support for Active Directory (using its LDAP programming interface)


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The PHP version of CAP Editor is available at the given link.

You can customize it by editing the “parms.xml” file, equivalent to the “web.xml” file used with Tomcat.

Instructions are provided for install on Linux/Apache or on Microsoft Internet Information Server (IIS).

Instructions are also provided for the equivalent to “tomcat-users.xml” to implement Role-based Access for the roles of “composer-cap” and “approver-cap”. Software and instructions for use of Active Directory are included.



Review of Key Points

- Example Tool for Creating Alerts in CAP Format
- Components Required for Deploying a CAP Alert Source
- Local Configuration of CAP Editor

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Review of Key Points


- Example Tool for Creating Alerts in CAP Format
- Components Required for Deploying a CAP Alert Source
- Local Configuration of CAP Editor



What have you learned?

1. Describe the pre-requisites for a CAP alert source, (Internet host server and Web container, and software for editing CAP alerts and publishing the CAP news feed
2. Discuss some CAP Ediotr configuration choices, including particular locations of files and customized display options.
3. Discuss how to set appropriate permissions in the host file system and support the authentication of authorized users.

Now that you have completed this session, you should be able to perform the objective tasks.



Reference Links

- [CAP References \(PrepareCenter.Org\)](#)
- [CAP Implementations by Country](#)
- [CAP Video \(10 minutes, made by IFRC\)](#)
- CAP Training Courses - contact me
Eliot Christian eliot.j.christian@gmail.com

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Here are some key reference links concerning CAP.