

Authoring IETF drafts

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Internet Standard Development

- Internet Engineering Task Force (IETF)
 - Organization responsible for development of Internet Standards
 - Egs. include: TCP, IP Protocols
- Indian Internet Research and Engineering Forum (IIREF)
 - An effort carried out by C-DAC Bangalore, and sponsored by MeitY, Govt. of India

About IIREF

- IIREF - Indian Internet Research and Engineering Forum aims to serve as a platform for Indian researchers and practitioners to come together and collaborate among themselves in their specific areas of interest in alignment with the IETF working groups.
- The forum aims to build and nurture competencies through conduction of awareness and training programs, and also in future, provide mentors to specific areas that have fairly evolved within the forum.
- Can be reached at, www.iiref.in

Definition of Internet Standard

- As defined by IETF

“An Internet Standard is characterized by a high degree of technical maturity and by a generally held belief that the specified protocol or service provides significant benefit to the Internet community.”

About IETF

- A community of people contributing jointly towards protocol development.
- There are 7 areas and a large number of working groups in each area.
- Membership is free and anybody is free to contribute to IETF.
- How to contribute ?
 - You can read the protocol drafts being circulated and give their comments
 - You can also propose new drafts

How to write an IETF draft?

- There are many tools available for IETF draft
- Complete list can be found at <https://tools.ietf.org/>
- Xml2rfc is a of the most popular tool which take XML source file and returns IETF draft
- Using Xml2rfc , we can generate Draft TXT and HTML etc. from XML source.
- Several XML source templates are available to draft it
 - <https://tools.ietf.org/tools/templates/>
- An important XML source is “draft-davies-template-bare.xml”

What is xml2rfc?

- xml2rfc is a tool that lets you convert an XML source file into a text, HTML, nroff, or expanded XML file
- It's an easy way to create an Internet-Draft in the proper format.
- It handles boilerplate text and reference text
- The tool is available at
 - <https://xml2rfc.tools.ietf.org/>

How much XML do I need to know?

- XML uses start and end tags, which are nested and matching, and they are case-sensitive.
- Some basic knowledge of XML required.
- e.g. processing instruction, entity tags etc.

How do I use the rfc element to create an Internet-Draft?

- Use the category attribute to indicate the intended category of your draft
- Use the ipr attribute to indicate the relevant IPR
 - ipr='trust200902'
 - This is appropriate for most drafts, where the entire content of the draft is written by the draft's authors, or all authors of other material have given explicit permission to use their work.
 - ipr='noModificationTrust200902'
 - This is appropriate for drafts where the authors wish to place the additional condition that if the draft is published as an RFC, it must have no changes other than formatting. An example might be a document published by another organization that permits copying but not modification.
 - ipr='noDerivativesTrust200902'
 - This is appropriate for drafts not intended to be published as RFCs.
- Use the docName attribute to indicate the filename.
- If the document potentially updates or obsoletes any RFCs, use the updates and obsoletes attributes to indicate the relevant RFC number

An Example

For example, putting it together:

```
<rfc
  category="info"
  ipr="trust200902"
  docName="draft-ietf-wgname-topic-00"
  updates="1234, 1235"
  obsoletes="1236">
```

How do I make a cross-reference to another section?

- Make sure the section you want to reference has an anchor attribute. For example:

```
<section title="Security Considerations" anchor="sec_cons">
```

Then, refer to it with an xref element:

```
See <xref target="sec_cons" />.
```

which yields the text output:

See Section 9.

How do I put in a reference?

- A set of online citation libraries are maintained on xml.resource.org
- To make use of the citation libraries

Define an ENTITY at the top:

```
<!ENTITY rfc2119 SYSTEM  
"http://xml.resource.org/public/rfc/bibxml/reference.RFC.2119.xml">
```

and use `&rfc2119;` in the references section.

How do I cite a reference?

- All references are cited textually in the same manner -- by using xref elements where the target corresponds to the anchor of the reference element:

```
<xref target="RFC2119" />
```

Yields

[RFC2119]

Two types of reference

- Normative references specify documents that must be read to understand or implement the technology in the new RFC, or whose technology must be present for the technology in the new RFC to work.
- An informative reference is not normative; rather, it only provides additional information. For example, an informative reference might provide background or historical information. Informative references are not required to implement the technology in the RFC.

Creating list

<t>Here is text introducing the first pair.

```
<list style="format %d">
```

```
<t>First req.</t>
```

```
<t>Second req.</t>
```

```
</list>
```

```
</t>
```

Output:

Here is text introducing the first pair.

1. First req.

2. Second req

How do I get different kinds of lists?

- `<list style="format (%d)">`
 - (1)
 - (2)
 - (3)
- `<list style="format (%c)">`
 - (a)
 - (b)
 - (c)
- `<list style="format REQ%d:">`
 - REQ1:
 - REQ2:
 - REQ3:

How do I get indentation?

<t>The locations of IETF meetings in 2007 were:

<list>

<t>Prague</t>

<t>Chicago</t>

<t>Vancouver</t>

</list>

</t>

yields the following text output:

The locations of IETF meetings in 2007 were:

Prague

Chicago

Vancouver

What is CDATA for?

- A CDATA block is left alone by xml2rfc. It does not try to parse XML inside of a CDATA block.
 - `<artwork>` can be used way to include preformatted text

```
<figure><artwork><![CDATA[
```

Here is a figure that mentions XML elements such as `<xref>`.

```
]]></artwork></figure>
```

How do I insert a table?

- The `texttable` element is used for creating tables;
 - `ttcol` elements to define the columns
 - `c` elements to hold the contents of each cell. For example

Continued..

```
<texttable anchor="table_ex" title="IETF
Meetings in 2005"> <ttr>
  <thead>
    <tr>
      <th align="center">IETF
      #</th>
      <th align="center">City</th>
      <th align="center"># of Attendees</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td align="center">62</td>
      <td align="center">Minneapolis</td>
      <td align="center">1133</td>
    </tr>
    <tr>
      <td align="center">63</td>
      <td align="center">Paris</td>
      <td align="center">1450</td>
    </tr>
    <tr>
      <td align="center">64</td>
      <td align="center">Vancouver</td>
      <td align="center">1240</td>
    </tr>
  </tbody>
</ttr>
<postamble>Data from
http://www.ietf.org/meetings/past.meetings.html
</postamble> </texttable>
```

Continued..

IETF #	City	# of Attendees
62	Minneapolis	1133
63	Paris	1450
64	Vancouver	1240

Data from <http://www.ietf.org/meetings/past.meetings.html>

Table 1: IETF Meetings in 2005

How to generate IETF in text, html, pdf format etc

- The IEF draft can be generated by accessing following website
<https://xml2rfc.tools.ietf.org/>
- We have the browse the XML source file and the Xml2rfc tool can generate draft in Draft TXT and HTML from XML source.
- FAQ
 - <https://xml2rfc.tools.ietf.org/xml2rfcFAQ.html>

Thank You