

## Lab - Researching RFCs

### Objectives

#### Part 1: RFC Editor

- Navigate to the RFC Editor.
- Search for RFCs using keywords.
- Find RFCs by status.
- Search for humorous RFCs.

#### Part 2: Publishing RFCs

### Background / Scenario

Request for Comments (RFCs) were created by Steve Crocker to help record notes on development of Advanced Research Projects Agency Network (ARPANET) in 1969 and eventually evolved into an official collection of memorandum that describes topics that are mainly related to the Internet and the TCP/IP protocol suite. Today the RFCs are managed by the IETF. There are currently over 6,000 RFCs, and the complete list is available at <http://www.ietf.org/download/rfc-index.txt>.

In this lab, you will learn how an RFC is published today by IETF. Additionally, you will also identify a few well-known RFCs that are used in your network. You can also find a few non-technical RFCs that can provide information or engineering humor.

### Required Resources

Device with Internet access

### Part 1: RFC Editor

RFCs started as a collection of memorandum on the development of the first Internet (ARPANET). In this collection, only a few RFCs are considered as Internet standards. Most of the RFCs describe experimental protocols. Some of the RFCs are only informational. The main purpose of RFCs is to stimulate comment and discussion.

#### Step 1: Navigate to the RFC Editor.

All the published RFCs are available for access at <http://www.rfc-editor.org>. The RFC Editor is an RFC repository maintained by the IETF.

At the top banner of this page, you can click any of the links, and these links direct you to the different searches, databases, and information. A link to **IETF HOME** is also included within this blue banner.

After an RFC is located, you have access to the full text of the document.

## Step 2: Search for RFCs using keywords.

- Open a browser and navigate to <http://www.rfc-editor.org>. On the RFC Editor Homepage, you can search and retrieve RFCs and other information related to the Internet. In the **Finding and Retrieving RFCs, etc.** pane, these links can help you search for RFCs using different methods. Clicking **Search for an RFC and its meta-data** link displays a list of RFCs after inputting your search parameters, such as number, author, title, or keyword.

# RFC *Editor*

## Homepage

<a href="#">RFC-ED HOME</a>	<a href="#">NEWS</a>	<a href="#">RFC DATABASE</a>	<a href="#">RFC SEARCH</a>	<a href="#">RFC ERRATA</a>	<a href="#">I-D SEARCH</a>	<a href="#">IETF HOME</a>
-----------------------------	----------------------	------------------------------	----------------------------	----------------------------	----------------------------	---------------------------

**Finding and Retrieving RFCs, etc.**

- [Search for an RFC and its meta-data](#)
- [Bulk retrieval of RFCs and meta-data](#)
- [Official Internet Protocol Standard RFCs](#)
- [Get RFC text by status](#) (Proposed Standard, Draft Standard, etc.)
- [Most recent RFCs published](#)

**[RFC \(Request for Comments\) series](#)**  
ISSN 2070-1721

Contains technical and organizational documents about the Internet, including the technical specifications and policy documents produced by the Internet Engineering Task Force ([IETF](#)).

**[RFC Editor](#)**

Funded by the [Internet Society](#) to edit and publish RFCs online. The RFC Editor maintains the master repository of RFCs as well as RFC meta-data, which can be [searched](#) online. The search results include the meta-data, links to the RFC text itself,

- Input the word, **pop**, to search for POP. Click **Search** to continue.

RFC Number (or Subseries Number):

Title/Keyword:

☐ Show Abstract    ☐ Show Keywords

Look for **Post Office Protocol – Version 3** in the list. The associated RFC number is **RFC 1939**. This RFC is also an Internet standard, as indicated by the STD number in the **Number** column.

After an RFC is published and assigned a number, it cannot be changed and the RFC number is never used again for a newer RFC. For example, in the **More Info** column, RFC 1939 has made the previous RFC 1725 obsolete. The information in RFC 1725 has not been modified, but it has been replaced with the information from RFC 1939. RFC 1939 has been updated by RFC 1957, RFC 2449, and RFC 6186, as indicated in the **More Info** column. If you click any of these links, the full text of the RFC displays.

Refer to the **Status** column and locate the **Proposed Standard** status. They may be technically sound, but require further testing and validation.

Refer to the **Status** column and locate the **Informational** status. Informational RFCs can be anything from technical to humorous. For example, RFC 0035 (Network Meeting) provides an insight into the development of a network protocol in the early days of the Internet.

Number	Files	Title	Authors	Date	More Info	Status
<a href="#">RFC 937</a>	<a href="#">ASCII</a> , <a href="#">PDF</a>	<b>Post Office Protocol: Version 2</b>	M. Butler, J. Postel, D. Chase, J. Goldberger, J.K. Reynolds	February 1985	Obsoletes <a href="#">RFC 918</a>	Historic
<a href="#">RFC 1725</a>	<a href="#">ASCII</a> , <a href="#">PDF</a>	<b>Post Office Protocol - Version 3</b>	J. Myers, M. Rose	November 1994	Obsoletes <a href="#">RFC 1460</a> , Obsoleted by <a href="#">RFC 1939</a> , <a href="#">Errata</a>	Internet Standard (changed from Draft Standard)
<a href="#">RFC 1734</a>	<a href="#">ASCII</a> , <a href="#">PDF</a>	<b>POP3 AUTHentication command</b>	J. Myers	December 1994	Obsoleted by <a href="#">RFC 5034</a>	Proposed Standard
<a href="#">RFC 1939</a> part of <a href="#">STD 53</a>	<a href="#">ASCII</a> , <a href="#">PDF</a>	<b>Post Office Protocol - Version 3</b>	J. Myers, M. Rose	May 1996	Obsoletes <a href="#">RFC 1725</a> , Updated by <a href="#">RFC 1957</a> , <a href="#">RFC 2449</a> , <a href="#">RFC 6186</a> , <a href="#">Errata</a>	Internet Standard

### Step 3: Find RFCs by status.

To find a list of RFCs that are either Internet Standards (STD) or by their status, perform the following tasks:

- Navigate back to the RFC Editor Homepage.
- Click the **Official Internet Protocol Standard RFCs** link in the left column. You will find a list of official standard RFCs followed by proposed standards. Each RFC link leads to the full RFC text.

Official Internet Protocol Standards							
This page contains the current lists of							
<ul style="list-style-type: none"> <li><a href="#">Internet Standards</a></li> <li><a href="#">Draft Standards</a> [Note: This maturity level was retired by RFC 6410: "Any protocol or service that is currently at the abandoned Draft Standard maturity level will retain that classification, absent explicit actions."]</li> <li><a href="#">Proposed Standards</a></li> </ul>							
<a href="#">[Show]</a> / Hide retired STD numbers on this page <a href="#">[Show]</a> / Hide obsoleted RFCs on this page							
Internet Standards							
STD #	Number	Files	Title	Authors	Date	More Info	Status
<a href="#">STD 3</a>	<a href="#">RFC 1122</a>	<a href="#">ASCII</a> , <a href="#">PDF</a>	<b>Requirements for Internet Hosts - Communication Layers</b>	R. Braden, Ed.	October 1989	Updates <a href="#">RFC 793</a> , Updated by <a href="#">RFC 1349</a> , <a href="#">RFC 4379</a> , <a href="#">RFC 5884</a> , <a href="#">RFC 6093</a> , <a href="#">RFC 6298</a> , <a href="#">RFC 6633</a> , <a href="#">RFC 6864</a> , <a href="#">Errata</a>	Internet Standard
<a href="#">STD 3</a>	<a href="#">RFC 1123</a>	<a href="#">ASCII</a> , <a href="#">PDF</a>	<b>Requirements for Internet Hosts - Application and Support</b>	R. Braden, Ed.	October 1989	Updates <a href="#">RFC 822</a> , <a href="#">RFC 952</a> , Updated by <a href="#">RFC 1349</a> , <a href="#">RFC 2181</a> , <a href="#">RFC 5321</a> , <a href="#">RFC 5966</a> , <a href="#">Errata</a>	Internet Standard
<a href="#">STD 5</a>	<a href="#">RFC 950</a>	<a href="#">ASCII</a> , <a href="#">PDF</a>	<b>Internet Standard Subnetting Procedure</b>	J.C. Mogul, J. Postel	August 1985	Updates <a href="#">RFC 792</a> , Updated by <a href="#">RFC 6918</a>	Internet Standard

## Step 4: Search for humorous RFCs.

Engineering humor can also be found in the RFCs, such as RFC 1300 (Remembrances of Things Past). An Internet search engine can be used to find information on RFCs.

- Search the Internet for “engineering humor rfc” to see more examples of whimsical RFCs. What did you find?
- Search for RFC 2795. What is the subject of this RFC?  
What company does the author of this RFC work for?

## Part 2: Publishing RFCs

The late Dr. Jonathan Postel maintained and managed the archiving of RFCs for 28 years (RFC 2468). Today, RFCs are a collection of documents published and managed by IETF. IETF is a large, open, international community of network designers, operators, vendors, and researchers related to the Internet and the Internet protocol suite.

Anyone can submit a proposal to the RFC Editor for possible publication. The proposal is initially published as an Internet-Draft (I-D). After review by the community and if it is approved by an RFC Editor, it will enter the same publishing process as IETF submission. For more details regarding independent submission, see <http://www.rfc-editor.org/indsubs.html>.

For proposals that may become Internet Standard or Best Current Practice and some Experimental or Informational RFCs, these submissions are published as Internet-Drafts. The Internet-Drafts are made available for informal review and comments. The Internet-Drafts have no formal status, and they are subject to change or removal at any time. They can be found at <http://www.rfc-editor.org/>.

- Navigate to <http://www.rfc-editor.org>.
- Click **I-D SEARCH** at the top of the Homepage. Under the heading **Search Internet-Drafts and RFCs**, input **6man** into the **Name/number/title:** field. Click **Search** to continue. This will display a list of the current Internet-Drafts related to 6man.

The list of results provides links to the full text of the I-Ds and other useful information. As an example, **6man** is a Working Group that submitted multiple drafts. To find out more information about this Working Group, click **Active WGs** on the left panel under the heading Working Groups.

The screenshot shows the IETF datatracker website. The search bar contains '6man'. The search results are displayed in a table under the heading 'Active Internet-Drafts'. The table has columns for 'Add', 'Document', 'Title', and 'Date'. The results show three drafts related to the 6man working group.

Add	Document	Title	Date
<a href="#">draft-boucadiar-6man-64-flag-bit-01</a>	IPv6 Multicast Address With Embedded IPv4 Multicast Address	2014-08-20	I-D Exists
<a href="#">draft-boucadiar-6man-prefix-routing-reco-03</a>	IPv6 Prefix Length Recommendation for Forwarding	2014-09-24	I-D Exists
<a href="#">draft-chakrabarti-nordmark-6man-efficient-nd-06</a>	IPv6 Neighbor Discovery Optimizations for Wired and Wireless Networks	2014-07-04	I-D Exists

The Active IETF Working Groups page displays. The IETF Working Group's (WG) primary function is to develop IETF specifications and guidelines. Many of these specifications and guidelines are intended to become standards or recommendations. By scrolling the page, you see a list of Active Working Groups in different development areas for technology related to networking. The **6man** Working Group can be found listed in the Internet Area. This working group is responsible for maintenance and advancement of the IPv6 protocol specifications and addressing architecture.

- c. Click **6man** to view the complete list of current proposals and other information for this Working Group.

After the I-D has received significant community review and is considered useful, stable, and well-understood by the community, it should become a Proposed Standard. The full text of the Proposed Standard can be found by searching in the [RFC-Editor](#). The Proposed Standard may become an Internet Standard after significant implementation and successful operational experience.

**Note:** Only a few RFCs published by IETF will become Internet standards.

### Reflection

1. Why are RFCs important for Internet standards and history?
  
  
  
  
  
  
  
  
  
  
2. What are the advantages of RFCs as a collaborative effort?