Message Studio
API Guide

Version 7.1.1

StrongMail

User Guide

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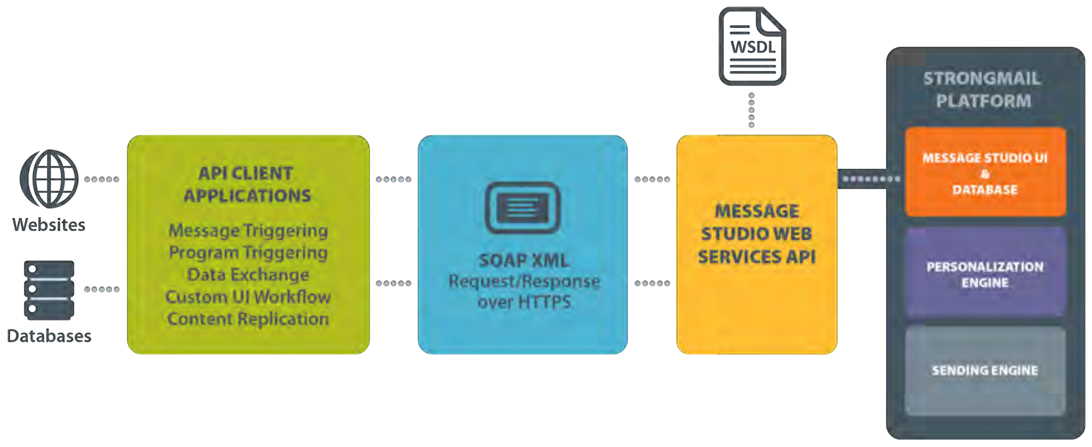
Introduction to Message Studio SOAP API

The StrongMail Message Studio Web Services Application Programming Interface (WS API) provides access to the data, content, and campaign management assets and features that are available in a StrongMail Message Studio instance, allowing developers to build custom messaging applications and closely integrated business systems. For example, developers may leverage the WS API to implement that following types of applications:

- Transactional messaging systems
- Integrations that synchronize or replicate data between StrongMail and other business systems
- Automated content replication systems
- Custom user interfaces to support business-specific workflows for mailing assembly, scheduling, and launch
- Performance reporting and operational status dashboards

A conceptual diagram demonstrating the use of the WS API is shown below.



The StrongMail WS API supports a subset of the functionality of the Message Studio user interface as outlined below.

Triggering Transactional and Lifecycle Marketing Messages

- Adding participants to a program
- Triggering a transactional message send
- Loading, pausing, and resuming transactional mailings

Data Management

- Creating, copying, and deleting data sources, seed lists, suppression lists, and targets.
- Adding, updating, and removing records from data sources.
- Exporting records from data sources.
- Listing available data sources.
- De-duping records from data sources.

Content Management

- Creating, copying. and deleting message templates.
- Testing message templates.
- Validating XSL-based templates.
- Managing message attachments, content blocks, and dynamic content rule.s

Campaign Management

- Creating, copying. and deleting batch and transactional mailings.
- Launching test mailings.
- Launching, pausing, and resuming mailings.
- Retrieving mailing status and performance metrics.
- Closing and archiving mailings.

User, Organization, and System Management

- Retrieving and listing users, roles, and organizations in Message Studio instance.
- Retrieving system information such as bounce, from, reply-to addresses, campaign categorization, and media servers.

When to use the MS API

StrongMail provides three distinct API sets for its product stack:

- Message Studio API
- Email Assembly Server (EAS) Batch API
- Email Assembly Server (EAS) Transactional API

In general, you should build your API client applications using the Message Studio API since it offers a modern standards-based Web services programming interface and the broadest set of capabilities for Message Studio customization and automation. You should avoid using both the Message Studio and EAS APIs together. For example, assets created with EAS APIs will not be available via the Message Studio UI or API.

In some cases, you may need to use the EAS-based APIs:

High Performance Transactional Messaging
If you need to support a very large volume of transactional messages (greater than 500,000 messages per hour), then you may need to use the EAS Transactional API. Please contact StrongMail Solutions Consulting Group to validate the appropriate API for this use case.

EIS/MTA-Only Customers
If you are not using the full Message Studio stack, then you can use the EAS APIs to create and manage mailings. Please refer to the **StrongMail EAS API Reference Guide** for more information.

System requirements

Please make sure you are familiar with the system requirements before beginning.

Hardware requirements

Message Studio API's are lightweight and do not require significant processing power or memory. However, a high-speed Internet connection is recommended for the services to be most effective.

Knowledge requirements

- Some familiarity with SOAP and web services architecture.
- Ability to program in some language.
- Familiarity with XML may be helpful for troubleshooting.

Standards compliance

The StrongMail WS API is in compliance with the following specifications.

Standards name	Website
Simple Object Access Protocol (SOAP) 1.1	http://www.w3.org/TR/2000/NOTE-SOAP-20000508/
Web Service Description Language (WSDL) 1.1	http://www.w3.org/TR/2001/NOTE-wsdl-20010315
WS-I Basic Profile 1.1	http://www.ws-i.org/Profiles/BasicProfile-1.1-2004-08-24.html

Platform maintenance and downtime

The StrongMail platform will usually need to have maintenance downtimes on a recurring schedule. During these downtimes, the StrongMail API is not available. Attempts to create an API session will return a system downtime exception and client applications will need to take the appropriate action, which may include alerts to support staff, integration job queuing, and/or scheduled re-attempts.

Backward compatibility and versioning

StrongMail supports backward compatibility as new versions of the StrongMail WS API are released. The StrongMail WS API is backward compatible in that an application created to work with a given WS API version will continue to work with that same WS API version in future platform releases.

Specifically, the WS API endpoint URL is versioned so that different WS API versions have different endpoint URLs. Your applications will continue to work with the WS API endpoint URLs of previous releases and you have the opportunity to migrate your client applications to the newer WS API version endpoint URLs to leverage enhanced functionality on a schedule that meets your needs.

StrongMail does not guarantee that applications written against one WS API version will work with future API versions, since changes in method signatures and data representations are often required as we continue to enhance the StrongMail platform; however, we strive to keep the WS API consistent from version to version with minimal if any changes required to port applications to newer WS API versions. When an API version is to be deprecated, advance end-of-life notice will be given at least 12 months before support for the API version ends.

Additional resources

Developer Central:
http://spark.strongmail.com/community/developers?view=overview

Code Sharing: **http://spark.strongmail.com/community/developers/code_sharing**

API Q&A: **http://spark.strongmail.com/community/developers/q%26a**

Getting started

Step 1: Obtain the WSDL

First, retrieve and inspect the WSDL for the Message Studio API so that you are familiar with the interface and prepared to start development using the various programming language-specific SOAP libraries.

The WSDL can be found at the following location:

```
https://<hostname>/sm/services/mailing/2009/03/02?wsdl
```

Step 2: Obtain the sample code

Next, you can get a head start on your project by retrieving the sample code bundle and using the common code snippets and patterns that are provided in the bundle.

Sample code is available on the Message Studio server in the following directory:

```
/data1/message_studio/lib/sm/webservice_samples.tar.gz
```

In addition, you can access the code from a browser:

```
https://hostname/sm/webservice_samples.tar.gz
```

where:

hostname is the hostname of your Message Studio server.

Step 3: Obtain a SOAP Client Library for your Development Environment

Use of a SOAP Client Library allows you to more easily generate and process the SOAP XML requests and responses that form the basis of communication with the Message Studio API. StrongMail has tested the following SOAP Client Libraries with its sample code.

Language	Recommended SOAP Client
Java	CXF, Axis2
C#	.NET 3.5
PHP	wsdlInterpreter
Ruby	SOAP4r
Python	Suds

You should use these SOAP Client Libraries to generate the supporting code for your application. For details on how to use or generate the supporting code, refer to the documentation provided for these libraries or browse the StrongMail Spark community site for tips on how to best use these libraries.

Step 4: Walk-through a simple example

The general pattern of a Java-based client application for the Message Studio Web Services is provided below:

- Create a web service object that you will use to make calls in your client application. Creating this service object involves establishing WSDL and XSD references and the organization, user, and password which will be added as part of the SOAP security header to authenticate each API call to the Message Studio Web Service.
- Create a request object and set member values to accomplish a given task.
- Make the desired API call on the service object and pass the request object.
- Parse the response object to extract the desired information or confirm success of an API call.
- Catch any errors that are thrown.
- Continue to create request objects, make calls on service objects, and parse response objects to accomplish the goals of the API client application.

Sample java code

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
*  You may incorporate this Source Code in your application only if    *
*  you own a valid license to do so from StrongMail Systems, Inc.      *
*  and the copyright notices are not removed from the source code.     *
*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* -------------------------------------------------------------------- *
*/

package com.strongmail.webserviceclient.samples;

import com.strongmail.webserviceclient.samples.generated.MailingService;
import com.strongmail.webserviceclient.samples.generated.MailingService_Service;
import com.strongmail.webserviceclient.samples.generated.objects.*;

import org.apache.cxf.binding.soap.SoapMessage;
import org.apache.cxf.configuration.jsse.TLSClientParameters;
import org.apache.cxf.endpoint.Client;
import org.apache.cxf.endpoint.ClientImpl;
import org.apache.cxf.endpoint.Endpoint;
import org.apache.cxf.frontend.ClientProxy;
import org.apache.cxf.interceptor.Fault;
import org.apache.cxf.phase.Phase;
import org.apache.cxf.phase.PhaseInterceptor;
import org.apache.cxf.transport.http.HTTPConduit;
import org.apache.cxf.ws.security.wss4j.WSS4JOutInterceptor;
import org.apache.ws.security.SOAPConstants;
import org.apache.ws.security.handler.WSHandlerConstants;
import org.apache.ws.security.util.WSSecurityUtil;
import org.apache.ws.security.WSConstants;
import org.apache.ws.security.WSPasswordCallback;

import java.util.Scanner;
import java.util.List;
import java.util.ArrayList;
import java.util.Collections;
import java.util.Map;
import java.util.HashMap;
import java.util.Set;
import java.io.File;
import java.io.FileInputStream;
import java.io.IOException;
import java.io.BufferedReader;
import java.io.InputStreamReader;
import java.net.URL;
import java.security.KeyStore;
import java.security.cert.X509Certificate;

import javax.net.ssl.TrustManager;
import javax.net.ssl.TrustManagerFactory;
import javax.net.ssl.X509TrustManager;
import javax.security.auth.callback.Callback;
import javax.security.auth.callback.CallbackHandler;
import javax.security.auth.callback.UnsupportedCallbackException;
import javax.xml.namespace.QName;
import javax.xml.ws.Binding;
import javax.xml.ws.BindingProvider;
import javax.xml.ws.soap.SOAPBinding;
import javax.xml.soap.SOAPException;
import javax.xml.soap.SOAPMessage;
import com.sun.xml.ws.developer.SchemaValidationFeature;
import org.w3c.dom.Element;
import org.w3c.dom.Text;

public class SampleProgram
{
  public static void main(String[] args) throws Exception
  {

    /* Organization, username, password */
    String organization = "admin"; /* Use "/" to specify suborganization. E.g.
admin/subadmin/onemore */
    String username = "admin";
    String password = "admin";

    /* Initialize the service object with the org, username and password details. */
    SampleProgram sample = new SampleProgram();

    try
    {
      MailingService svc = sample.createService(organization, username, password);

      /* Sample for listing users and roles. */
      describeUserListSample(svc);

      /* Sample for listing templates. */
      describeTemplateListSample(svc);

      /* Sample for listing mailings. */
      describeMailingListSample(svc);

      /* Sample for creating a template. */
      describeTemplateCreateSample(svc);
    }
    catch (Exception e)
    {
      System.out.println("Encountered exception: " + e.getMessage());
      throw e;
    }
  }

  private MailingService createService(String organization,
                                       String username,
                                       String password)
    throws Exception
  {
    URL wsdlURL = new URL
("https://priyanka.mazagoankar/sm/services/mailing/2009/03/02?wsdl");

    QName SERVICE_QNAME = new QName(SERVICE_NAMESPACE, SERVICE_NAME);
    /* Create service with schema validation on */
    MailingService_Service mss = new MailingService_Service(wsdlURL, SERVICE_QNAME);
    SchemaValidationFeature feature = new SchemaValidationFeature();
    MailingService svc = mss.getMailingServicePort(feature);

    /* Set endpoint */
    Endpoint endpoint = ClientProxy.getClient(svc).getEndpoint();
    String endpointAddress = endpoint.getEndpointInfo().getAddress();

    ((BindingProvider)svc).getRequestContext().put(BindingProvider.ENDPOINT_ADDRESS_
PROPERTY,
                                                   endpointAddress);

    /* By default do not use MTOM since there is a bug in JAXB library. */
    /* See: https://jaxb.dev.java.net/issues/show_bug.cgi?id=588 */
    Binding binding = ((BindingProvider)svc).getBinding();
    ((SOAPBinding)binding).setMTOMEnabled(false);

    /* Next, create the security headers for authentication. */
    /* WSSE standard username token */
    Map<String, Object> outprops = new HashMap<String, Object>();
    outprops.put(WSHandlerConstants.ACTION, WSHandlerConstants.USERNAME_TOKEN);

    /* Set username and password */
    outprops.put(WSHandlerConstants.USER, username);
    outprops.put(WSHandlerConstants.PASSWORD_TYPE, WSConstants.PW_TEXT);
    outprops.put(WSHandlerConstants.PW_CALLBACK_REF, new ClientPasswordCallbackHandler
(password));

    /* Create client authentication interceptor */
    AuthenticationInterceptor authenticationInterceptor =
      new AuthenticationInterceptor(SERVICE_NAMESPACE_SCHEMA, outprops, organization);
    authenticationInterceptor.setAllowMTOM(false);

    /* Set client to use HTTPS - specify certificate and keystore password (read as JVM
arguments.). */
    ClientImpl client = (ClientImpl)ClientProxy.getClient(svc);
    String keystore = System.getProperty("javax.net.ssl.trustStore");
    String keystorePassword = System.getProperty("javax.net.ssl.trustStorePassword");
    KeyStore ks = KeyStore.getInstance("JKS");
    ks.load(new FileInputStream(keystore), keystorePassword.toCharArray());
    TrustManagerFactory tmf = TrustManagerFactory.getInstance(
      TrustManagerFactory.getDefaultAlgorithm());
    tmf.init(ks);
    TrustManager[] tms = tmf.getTrustManagers();
    TLSClientParameters param = new TLSClientParameters();
    param.setSecureSocketProtocol("SSL");
    param.setTrustManagers(tms);
    HTTPConduit https = (HTTPConduit)client.getConduit();
    https.setTlsClientParameters(param);

    /* Set authetication interceptor into the endpoint in the service object. */
    Endpoint clientEndpoint = client.getEndpoint();
    clientEndpoint.getOutInterceptors().add(authenticationInterceptor);

    return svc;
  }

  private static void describeUserListSample(MailingService svc) throws Exception
  {
    /* List users using the list API with the UserFilter. */
    ListRequest userListRequest = new ListRequest();
    UserFilter userFilter = new UserFilter();
    userFilter.setIsAscending(true);
    userFilter.setPageNumber(0);
    userFilter.setRecordsPerPage(10);
    userFilter.setMaxRecordsPerPage(200);
    userListRequest.setFilter(userFilter);
    ListResponse userListResponse = svc.list(userListRequest);

    /* Get details about each user using the get API call. */
    List<User> users = new ArrayList<User>();
    for (ObjectId id : userListResponse.getObjectId())
    {
      UserId userId = (UserId)id;
      GetRequest getRequest = new GetRequest();
      getRequest.getObjectId().add(userId);
      User user = (User)(svc.get(getRequest).getGetResponse().get(0).getBaseObject());
      users.add(user);
    }

    /* Display all users */
    System.out.println("");
    System.out.println("--------------------------------------------------");
    System.out.println("Users List");
    for (User user : users)
    {
      String roles = "";
      if (user.isIsSuperUser())
      {

        /* User is a super user. */
        roles = "Super User";
      }
      else if (user.isIsAdmin())
      {
        /* User is an admin. */
        roles = "Admin User";
      }
      else
      {
        /* Get the roles assigned to the user from the "access" field. */
        for (User.Access accessInfo : user.getAccess())
        {
          RoleId roleId = accessInfo.getRoleId();
          /* Get details about the role (e.g. its name) using the get API call. */
          GetRequest getRequest = new GetRequest();
          getRequest.getObjectId().add(roleId);
          Role role = (Role)(svc.get(getRequest).getGetResponse().get(0).getBaseObject
());
          roles += role.getName() + " ";
        }
        if (roles == "")
        {
          roles = "<None>";
        }
      }

      System.out.println(user.getFirstName() + " " + user.getLastName() + ". Role(s): "
+ roles);
```

```
    }
  }

  private static void describeTemplateListSample(MailingService svc) throws Exception
  {
    /* List templates using the list API with the UserFilter. */
    ListRequest templateListRequest = new ListRequest();
    TemplateFilter templateFilter = new TemplateFilter();
    templateFilter.setIsAscending(true);
    templateFilter.setPageNumber(0);
    templateFilter.setRecordsPerPage(10);
    templateFilter.setMaxRecordsPerPage(200);
    templateListRequest.setFilter(templateFilter);
    ListResponse templateListResponse = svc.list(templateListRequest);
    /* Get details about each template using the get API call. */
    List<Template> templates = new ArrayList<Template>();
    for (ObjectId id : templateListResponse.getObjectId())
    {
      TemplateId templateId = (TemplateId)id;
      GetRequest getRequest = new GetRequest();
      getRequest.getObjectId().add(templateId);
      Template template = (Template)(svc.get(getRequest).getGetResponse().get
(0).getBaseObject());
      templates.add(template);
    }
    /* Display all templates */
    System.out.println("");
    System.out.println("--------------------------------------------------");
    System.out.println("Templates List");
    for (Template template : templates)
    {
      System.out.println(template.getName());
    }
  }

  private static void describeMailingListSample(MailingService svc) throws Exception
  {
    /* List batch mailings using the list API with the MailingFilter. */
    ListRequest mailingListRequest = new ListRequest();
    MailingFilter mailingFilter = new MailingFilter();
    mailingFilter.setIsAscending(true);
    mailingFilter.setPageNumber(0);
    mailingFilter.setRecordsPerPage(10);
    mailingFilter.setMaxRecordsPerPage(200);
    mailingListRequest.setFilter(mailingFilter);
    ListResponse mailingListResponse = svc.list(mailingListRequest);
    /* Get details about each mailing using the get API call. */
    List<Mailing> mailings = new ArrayList<Mailing>();
    for (ObjectId id : mailingListResponse.getObjectId())
    {
      MailingId mailingId = (MailingId)id;
      GetRequest getRequest = new GetRequest();
      getRequest.getObjectId().add(mailingId);
      Mailing mailing = (Mailing)(svc.get(getRequest).getGetResponse().get
(0).getBaseObject());
      mailings.add(mailing);
    }
    /* Display all batch mailings */
    System.out.println("");
    System.out.println("--------------------------------------------------");
    System.out.println("Mailings List");
    for (Mailing mailing : mailings)
    {
      System.out.println(mailing.getName());
    }
  }

  private static SystemAddressId createAddress(MailingService svc, String type) throws
Exception
  {
    SystemAddress address = new SystemAddress();
    address.setEmailAddress(type+System.currentTimeMillis()+"@sm.com");
    if (type.equalsIgnoreCase("bounce"))
    {
      address.setIsBounce(true);
    }
    else if (type.equalsIgnoreCase("from"))
    {
      address.setIsFrom(true);
    }
      else
    {
      address.setIsReply(true);
    }
    CreateRequest createAddressRequest = new CreateRequest();
    createAddressRequest.getBaseObject().add(address);
    SystemAddressId addressId = (SystemAddressId)(svc.create
(createAddressRequest).getCreateResponse().get(0).getObjectId());
    return addressId;
  }

  private static void describeTemplateCreateSample(MailingService svc) throws Exception
  {
    String name = "Sample_Template_" + System.currentTimeMillis();
    System.out.println("");
    System.out.println("-------------------------------------------------");
    System.out.println("Template create");
    System.out.println("");

    Template sampleTemplate = new Template();

    /* Initialize template meta information and envelope properties. */
    sampleTemplate.setName(name);
    sampleTemplate.setDescription("A Sample Template created via the Message Studio API
sample code");
    sampleTemplate.setIsApproved(true);
    sampleTemplate.setBodyEncoding(Encoding.SEVEN_BIT);
    sampleTemplate.setHeaderEncoding(Encoding.SEVEN_BIT);
    sampleTemplate.setOutputBodyCharSet(CharSet.UTF_8);
    sampleTemplate.setOutputHeaderCharSet(CharSet.UTF_8);

    /* Create and set system addresses for the template (you can use existing ones if
needed). */
    sampleTemplate.setBounceAddressId(createAddress(svc, "bounce"));
    sampleTemplate.setFromAddressId(createAddress(svc, "from"));
    sampleTemplate.setReplyAddressId(createAddress(svc, "reply"));

    /* Set template content and related properties. */
    MessagePart templateContentObject = new MessagePart();
    templateContentObject.setFormat(MessageFormat.HTML);
    templateContentObject.setContent("<html><head>Sample Content</head><body>Hi ##first_
name## ##last_name##!<br/>Welcome to our new users program! You can click <a
href=\"http:www.yourdomain.com/newuser\">here</a> to get a tour of our
services</body</html>");
    sampleTemplate.getMessagePart().add(templateContentObject);

    /* Make a call to the create API. */
    CreateRequest createTemplateRequest = new CreateRequest();
    createTemplateRequest.getBaseObject().add(sampleTemplate);
    TemplateId createdTemplateId = (TemplateId)(svc.create
(createTemplateRequest).getCreateResponse().get(0).getObjectId());

    /* Get details about the just created template using the get API call. */
    GetRequest getRequest = new GetRequest();
    getRequest.getObjectId().add(createdTemplateId);
    Template createdTemplate = (Template)(svc.get(getRequest).getGetResponse().get
(0).getBaseObject());

    System.out.println("Created template '" + createdTemplate.getName() + "'");
  }

  /* Service name constant: defined in WSDL */
  private static String SERVICE_NAME = "MailingService";
  private static String SERVICE_NAMESPACE =
"http://www.strongmail.com/services/2009/03/02";
  private static String SERVICE_NAMESPACE_SCHEMA =
"http://www.strongmail.com/services/2009/03/02/schema";

  class ClientPasswordCallbackHandler implements CallbackHandler
  {
    private String password;

    public ClientPasswordCallbackHandler(String password)
    {
      this.password = password;
    }

    public void handle(Callback[] callbacks)
    throws IOException, UnsupportedCallbackException
    {
    WSPasswordCallback pc = (WSPasswordCallback)callbacks[0];
    pc.setPassword(password);
    }
  }

  class AuthenticationInterceptor extends WSS4JOutInterceptor
  {
    /* Schema namespace */
    private String schemaNS;

    /* Interceptor to set headers: organizationName */
    private PhaseInterceptor phaseInterceptor;

    /* organizationName to login */
    private String organizationName;
    private boolean isSSO;
    public AuthenticationInterceptor(String schemaNS,
    Map<String, Object> properties,
    String orgName)
    {
      super(properties);
      this.schemaNS = schemaNS;
      this.phaseInterceptor = new WSS4JOutInterceptorInternal();
      this.organizationName = orgName;
    }

    public void setOrganizationName(String orgName)
    {
      this.organizationName = orgName;
    }

    public void setUsername(String username)
    {
      getProperties().put(WSHandlerConstants.USER, username);
    }

    public void setPassword(String password)
    {
      getProperties().put(WSHandlerConstants.PW_CALLBACK_REF,
      new ClientPasswordCallbackHandler(password));
    }

    public void handleMessage(SoapMessage message) throws Fault
    {
      super.handleMessage(message);
      message.getInterceptorChain().add(phaseInterceptor);
    }

    /**
    * Set SOAP header before sending out message. Header includes username, password,
    * organizationNamed. This message set organizationName and parent class
    * will set username/password.
    */
    class WSS4JOutInterceptorInternal implements PhaseInterceptor<SoapMessage>
    {
      private static final String ORGANIZATION_TOKEN_ELEMENT_NAME = "OrganizationToken";
      private static final String ORGANIZATION_ELEMENT_NAME = "organizationName";

      public WSS4JOutInterceptorInternal()
      {
        super();
      }

      public void handleMessage(SoapMessage message)
      {
        try
        {
          Element securityHeader = getSecurityHeader(message);

          /* Create <OrganizationToken> and <organizationName> element, */
          /* and set <organizationName> as child of <OrganizationToken> */
          Element e = securityHeader.getOwnerDocument().createElementNS(schemaNS,
                                                                        ORGANIZATION_
TOKEN_ELEMENT_NAME);
          Element e2 = securityHeader.getOwnerDocument().createElementNS(schemaNS,
                                                                        ORGANIZATION_
ELEMENT_NAME);
          Text t = securityHeader.getOwnerDocument().createTextNode(
            organizationName);
          e2.appendChild(t);
          e.appendChild(e2);
          securityHeader.appendChild(e);
        }
        catch (Throwable e)
        {
          e.printStackTrace();
        }
      }

      private Element getSecurityHeader(SoapMessage message) throws SOAPException
      {
        SOAPMessage doc = message.getContent(SOAPMessage.class);
        String actor = (String)getOption(WSHandlerConstants.ACTOR);

        SOAPConstants sc = WSSecurityUtil.getSOAPConstants(doc.getSOAPPart
().getDocumentElement());
        return WSSecurityUtil.getSecurityHeader(doc.getSOAPPart(), actor, sc);
      }

      public Set<String> getAfter()
      {
        return Collections.emptySet();
      }

      public Set<String> getBefore()
      {
        return Collections.emptySet();
      }

      public String getId()
      {
        return WSS4JOutInterceptorInternal.class.getName();
      }

      public String getPhase()
      {
        return Phase.POST_PROTOCOL;
      }

      public void handleFault(SoapMessage message)
      {
      }
    }
  }
}
```

Sample C# code

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
*  You may incorporate this Source Code in your application only if    *
*  you own a valid license to do so from StrongMail Systems, Inc.      *
*  and the copyright notices are not removed from the source code.     *
*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* -------------------------------------------------------------------- *
*/

using System;
using System.Linq;
using System.Text;
using System.Collections.Generic;
using System.Web.Services;
using System.Xml;
using System.IO;
using System.Threading;
using System.Security.Cryptography.X509Certificates;
using Microsoft.Web.Services.Timestamp;
using Microsoft.Web.Services2;
using Microsoft.Web.Services2.Configuration;
using Microsoft.Web.Services2.Security;
using Microsoft.Web.Services2.Security.Tokens;
using Microsoft.Web.Services2.Policy;
using Microsoft.Web.Services2.Referral;

namespace ConsoleApplication1
{
  class SampleProgram
  {

    /* Namespace and endpoint URL: change to your server */
    public const string ns = "http://www.strongmail.com/services/2009/03/02/schema";
    public const string url = "https://127.0.0.1:4443/sm/services/mailing/2009/03/02";

    /* Generated MailingService stub */
    MailingService svc;
    public static void Main(string[] args)
    {

      /* Organization, username, password */
      string organization = "admin"; /* Use "/" to specify suborganization. E.g.
admin/subadmin/onemore */
      string username = "admin";
      string password = "admin";

      /* Initialize the service object with the org, username and password details. */
      MailingService svc = createService(username, password, organization);
      /* Sample for listing users and roles. */
      describeUserListSample(svc);

      /* Sample for listing templates. */
      describeTemplateListSample(svc);

      /* Sample for listing mailings. */
      describeMailingListSample(svc);

      /* Sample for creating a template. */
      describeTemplateCreateSample(svc);
    }
  }

  /* Create a MailingService client with proper headers. */
  private static MailingService createService(string username, string password, string
organization)
  {

    /* Create service and set endpoint */
    MailingService svc = new MailingService();
    svc.Url = url;
    Console.WriteLine("Endpoint: " + svc.Url);

    /* Ignore Certificate by trusting all certificate */
    System.Net.ServicePointManager.CertificatePolicy = new TrustAllCertificatePolicy();

    /* Create security tokens for SOAP header */
    UsernameToken userToken = new UsernameToken(username, password,
PasswordOption.SendPlainText);
    SoapContext requestContext = svc.RequestSoapContext;
    requestContext.Security.Tokens.Add(userToken);

    /* Use filter to set organization token and get rid of timestamp since it does not
work with Java server. */
    MailingServiceOutFilter myfilter = new MailingServiceOutFilter(organization, ns);
    svc.Pipeline.OutputFilters.Insert(0, myfilter);
    return svc;
  }

  private static void describeUserListSample(MailingService svc)
  {

    /* List users using the list API with the UserFilter. */
    ListRequest userListRequest = new ListRequest();
    UserFilter userFilter = new UserFilter();
    userFilter.isAscending = true;
    userFilter.isAscendingSpecified = true;
    userFilter.pageNumber = 0;
    userFilter.pageNumberSpecified = true;
    userFilter.recordsPerPage = 10;
    userFilter.recordsPerPageSpecified = true;
    userListRequest.filter = userFilter;
    ObjectId[] userIds = svc.list(userListRequest).objectId;

    /* Get details about each user using the get API call. */
    User[] users = new User[userIds.Length];
    for (int i = 0; i < userIds.Length; i++)
    {
      UserId userId = (UserId)(userIds[i]);
      ObjectId[] objectIds = new ObjectId[1];
      objectIds[0] = userId;
      User user = (User)(svc.get(objectIds).getResponse[0].baseObject);
      users[i] = user;
    }

    /* Display all users */
    Console.WriteLine("");
    Console.WriteLine("-----------------------------------------------------");
    Console.WriteLine("Users List");
    for (int i = 0; i < users.Length; i++)
    {
      string roles = "";
      if (users[i].isSuperUser)
      {

        /* User is a super user. */
        roles = "Super User";
      }
      else if (users[i].isAdmin)
      {

        /* User is an admin. */
        roles = "Admin User";
      }
      else
      {
        User.Access assignedRoles = users[i].access;

        /* Get the roles assigned to the user from the "access" field. */
        for (int j = 0; j < assignedRoles.Length; j++)
        {
          RoleId roleId = assignedRoles[j].roleId;

          /* Get details about the role (e.g. its name) using the get API call. */
          ObjectId[] objectIds = new ObjectId[1];
          objectIds[0] = roleId;
          Role role = (Role)(svc.get(objectIds).getResponse[0].baseObject);
          roles += role.getName() + " ";
        }
        if (roles == "")
        {
          roles = "<None>";
        }
      }

      Console.WriteLine(users[i].firstName + " " + users[i].lastName + ". Role(s): " +
roles);
    }
  }

  private static void describeTemplateListSample(MailingService svc)
  {

    /* List users using the list API with the TemplateFilter. */
    ListRequest templateListRequest = new ListRequest();
    TemplateFilter templateFilter = new TemplateFilter();
    templateFilter.isAscending = true;
    templateFilter.isAscendingSpecified = true;
    templateFilter.pageNumber = 0;
    templateFilter.pageNumberSpecified = true;
    templateFilter.recordsPerPage = 10;
    templateFilter.recordsPerPageSpecified = true;
    templateListRequest.filter = templateFilter;
    ListResponse templateListResponse = svc.list(templateListRequest);

    /* Get details about each template using the get API call. */
    ObjectId[] templateIds = svc.list(templateListRequest).objectId;
    Template[] templates = new Template[templateIds.Length];
    for (int i = 0; i < templateIds.Length; i++)
    {

      TemplateId templateId = (TemplateId)(templateIds[i]);
      ObjectId[] objectIds = new ObjectId[1];
      objectIds[0] = templateId;
      Template template = (Template)(svc.get(objectIds).getResponse[0].baseObject);
      templates[i] = template;
    }

    /* Display all templates. */
    Console.WriteLine("");
    Console.WriteLine("-------------------------------------------------");
    Console.WriteLine("Templates List");
    for (int i = 0; i < templates.Length; i++)
    {
      Console.WriteLine(templates[i].name);
    }
  }

  private static void describeMailingListSample(MailingService svc)
  {

    /* List users using the list API with the MailingFilter. */
    ListRequest mailingListRequest = new ListRequest();
    MailingFilter mailingFilter = new MailingFilter();
    mailingFilter.isAscending = true;
    mailingFilter.isAscendingSpecified = true;
    mailingFilter.pageNumber = 0;
    mailingFilter.pageNumberSpecified = true;
    mailingFilter.recordsPerPage = 10;
    mailingFilter.recordsPerPageSpecified = true;
    mailingListRequest.filter = mailingFilter;
    ListResponse mailingListResponse = svc.list(mailingListRequest);

    /* Get details about each mailing using the get API call. */
    ObjectId[] mailingIds = svc.list(mailingListRequest).objectId;
    Mailing[] mailings = new Mailing[mailingIds.Length];
    for (int i = 0; i < mailingIds.Length; i++)
    {
      MailingId mailingId = (mailingId)(mailingIds[i]);
      ObjectId[] objectIds = new ObjectId[1];
      objectIds[0] = mailingId;
      Mailing mailing = (Mailing)(svc.get(objectIds).getResponse[0].baseObject);
      mailings[i] = mailing;
    }

    /* Display all mailings. */
    Console.WriteLine("");
    Console.WriteLine("-------------------------------------------------");
    Console.WriteLine("Mailings List");
    for (int i = 0; i < mailings.Length; i++)
    {
      Console.WriteLine(mailings[i].name);
    }
  }

  private static SystemAddressId createAddress(MailingService svc, string type)
  {
    SystemAddress address = new SystemAddress();
    address.emailAddress = type + "@sm.com";
    if (type == "bounce")
    {
      address.isBounce = true;
    }
    else if (type == "from")
    {
      address.isFrom = true;
    }
    else
    {
      address.isReply =true;
    }

    BaseObject[] objects = new BaseObject[1];
    objects[0] = address;
    return (SystemAddressId)(svc.create(objects).createResponse[0].objectId);
  }

  private static void describeTemplateCreateSample(MailingService svc)
  {
    string name = "Sample_Template";
    Console.WriteLine("");
    Console.WriteLine("--------------------------------------------------");
    Console.WriteLine("Template create");
    Console.WriteLine("");
    Template template = new Template();

    /* Initialize template meta information and envelope properties. */
    template.bodyEncoding = Encoding.BASE64;
    template.description = "Template from dotnet";
    template.fromName = "From Name";
    template.headerEncoding = Encoding.EIGHT_BIT;
    template.isApproved = true;
    template.name = templateName;
    template.subject = "template subject from dotnet";
    template.Item = CharSet.ASCII;
    template.Item1 = CharSet.UTF8;

    /* Create and set system addresses for the template (you can use existing ones if
needed). */
    template.bounceAddressId = createAddress(svc, "bounce");
    template.fromAddressId = createAddress(svc, "from");
    template.replyAddressId = createAddress(svc, "reply");

    /* Set template content and related properties. */
    MessagePart messagePart = new MessagePart();
    messagePart.content = "<html><head>Sample Content</head><body>Hi ##first_name##
##last_name##!<br/>Welcome to our new users program! You can click <a
href=\"http:www.yourdomain.com/newuser\">here</a> to get a tour of our
services</body</html>";
    messagePart.format = MessageFormat.HTML;
    messagePart.isXsl = false;
    template.messagePart = new MessagePart[] { messagePart };
    /* Make a call to the create API. */
    BaseObject[] objects = new BaseObject[1];
    objects[0] = template;
    TemplateId createdTemplateId = (TemplateId)(svc.create(objects).createResponse
[0].objectId);

    /* Get details about the just created template using the get API call. */
    ObjectId[] objectIds = new ObjectId[1];
    objectIds[0] = createdTemplateId;
    Template createdTemplate = (Template)(svc.get(objectIds).getResponse[0].baseObject);

    Console.WriteLine("Created template '" + createdTemplate.name + "'");
  }

  /* A policy to trust all certificate */
  public class TrustAllCertificatePolicy : System.Net.ICertificatePolicy
  {
    public TrustAllCertificatePolicy()
    { }
    public bool CheckValidationResult(System.Net.ServicePoint sp,
    X509Certificate cert, System.Net.WebRequest req, int problem)
    {
      return true;
    }
  }

  public class MailingServiceOutFilter : SoapOutputFilter
  {
    private string _ns; /* namespace of organization name */
    private string _organizationName;   /* organization name to login */
    public MailingServiceOutFilter() { }
    public MailingServiceOutFilter(string organizationName, string ns)
    {
      _organizationName = organizationName;
      _ns = ns;
    }

    public override void ProcessMessage(SoapEnvelope envelope)
    {

      /* Add OrganizationName token */
      XmlElement OrgTokenElement = envelope.CreateElement("sm", "OrganizationToken", _
ns);
      XmlElement orgElement = envelope.CreateElement("sm", "organizationName", _ns);

      /* Set organizationName value */
      XmlText orgName = envelope.CreateTextNode(_organizationName);
      orgElement.AppendChild(orgName);
      OrgTokenElement.AppendChild(orgElement);

      /* Remove timestamp token */
      IEnumerator it = envelope.Header.GetEnumerator();
      while(it.MoveNext()){
        XmlElement el = (XmlElement) it.Current;

        if (el.Name.Equals("wsse:Security")) {
          el.AppendChild(OrgTokenElement);

          /* Remove Timestamp */
          XmlNodeList timestamp = el.GetElementsByTagName("wsu:Timestamp");
          el.RemoveChild(timestamp.Item(0));
        }
      }
    }
  }
}
```

XML examples

The following are examples of the XML requests and responses for the calls shown in the Java and C# sample code.

User list request

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
* -------------------------------------------------------------------- *
*/

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Header>
    <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
wssecurity-secext-1.0.xsd" soap:mustUnderstand="1">
      <wsse:UsernameToken xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-wssecurity-secext-1.0.xsd" xmlns:wsu="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd" wsu:Id="UsernameToken-
14858725">
        <wsse:Username xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd">admin</wsse:Username>
          <wsse:Password xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-wssecurity-secext-1.0.xsd" Type="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-username-token-profile-
1.0#PasswordText">admin</wsse:Password>
        </wsse:UsernameToken>
        <OrganizationToken xmlns="http://www.strongmail.com/services/2009/03/02/schema">
          <organizationName>admin</organizationName>
        </OrganizationToken>
    </wsse:Security>
  </soap:Header>
  <soap:Body>
    <list xmlns="http://www.strongmail.com/services/2009/03/02/schema">
      <filter xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="UserFilter">
        <isAscending>true</isAscending>
        <pageNumber>0</pageNumber>
        <recordsPerPage>10</recordsPerPage>
        <maxRecordsPerPage>200</maxRecordsPerPage>
      </filter>
    </list>
  </soap:Body>
</soap:Envelope>
```

User list response

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
* -------------------------------------------------------------------- *
*/

 User List Response
-------------------


<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <listResponse xmlns="http://www.strongmail.com/services/2009/03/02/schema">
      <objectId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:type="UserId">
        <id>1</id>
      </objectId>
    </listResponse>
  </soap:Body>
</soap:Envelope>
```

User get request

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
* -------------------------------------------------------------------- *
*/
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Header>
    <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
wssecurity-secext-1.0.xsd" soap:mustUnderstand="1">
      <wsse:UsernameToken xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-wssecurity-secext-1.0.xsd" xmlns:wsu="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd" wsu:Id="UsernameToken-
14858725">
        <wsse:Username xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd">admin</wsse:Username>
        <wsse:Password xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd" Type="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-username-token-profile-1.0#PasswordText">admin</wsse:Password>
      </wsse:UsernameToken>
      <OrganizationToken xmlns="http://www.strongmail.com/services/2009/03/02/schema">
        <organizationName>admin</organizationName>
      </OrganizationToken>
    </wsse:Security>
  </soap:Header>
```

```
<soap:Body><get xmlns="http://www.strongmail.com/services/2009/03/02/schema"><objectId
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="UserId"><id>1</id></objectId></get></soap:Body></soap:Envelope>
```

User get response

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
* -------------------------------------------------------------------- *
*/
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <getResponse xmlns="http://www.strongmail.com/services/2009/03/02/schema">
      <success>true</success>
      <fault xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:nil="true" />
      <getResponse>
        <baseObject xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="User">
          <modifiedTime>2012-10-14T19:26:52.375-07:00</modifiedTime>
          <objectId xsi:type="UserId"><id>1</id></objectId>
          <version>2</version>
          <description>Default Super User</description>
          <email>admin@strongmail.com</email>
          <firstName>Admin</firstName>
          <isAdmin>true</isAdmin>
          <isSuperUser>true</isSuperUser>
          <lastName>Emp</lastName>
          <login>admin</login>
          <organizationId>
            <id>1</id>
          </organizationId>
        </baseObject>
      </getResponse>
    </getResponse>
  </soap:Body>
</soap:Envelope>
```

Template list request

```
/*
* ---------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                    *
*                                                                        *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.       *
*                                                                        *
*  Visit http://www.strongmail.com for more information                 *
*                                                                        *
* ---------------------------------------------------------------------- *
*/
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Header>
    <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
wssecurity-secext-1.0.xsd" soap:mustUnderstand="1">
      <wsse:UsernameToken xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-wssecurity-secext-1.0.xsd" xmlns:wsu="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd" wsu:Id="UsernameToken-
14858725">
        <wsse:Username xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd">admin</wsse:Username>
        <wsse:Password xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd" Type="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-username-token-profile-1.0#PasswordText">admin</wsse:Password>
      </wsse:UsernameToken>
      <OrganizationToken xmlns="http://www.strongmail.com/services/2009/03/02/schema">
        <organizationName>admin</organizationName>
      </OrganizationToken>
    </wsse:Security>
  </soap:Header>
  <soap:Body>
    <list xmlns="http://www.strongmail.com/services/2009/03/02/schema">
      <filter xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="TemplateFilter">
        <isAscending>true</isAscending>
        <pageNumber>0</pageNumber>
        <recordsPerPage>10</recordsPerPage>
        <maxRecordsPerPage>200</maxRecordsPerPage>
      </filter>
    </list>
  </soap:Body>
</soap:Envelope>
```

Template list response

```
/*
* ---------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                    *
*                                                                        *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.       *
*                                                                        *
*  Visit http://www.strongmail.com for more information                 *
*                                                                        *
* ---------------------------------------------------------------------- *
*/
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <listResponse xmlns="http://www.strongmail.com/services/2009/03/02/schema">
```

```
      <objectId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="TemplateId">
        <id>100</id>
      </objectId>
    </listResponse>
  </soap:Body>
</soap:Envelope>
```

Template get request

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
* -------------------------------------------------------------------- *
*/
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Header>
    <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
wssecurity-secext-1.0.xsd" soap:mustUnderstand="1">
      <wsse:UsernameToken xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-wssecurity-secext-1.0.xsd" xmlns:wsu="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd" wsu:Id="UsernameToken-
14858725">
        <wsse:Username xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd">admin</wsse:Username>
        <wsse:Password xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd" Type="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-username-token-profile-1.0#PasswordText">admin</wsse:Password>
      </wsse:UsernameToken>
      <OrganizationToken xmlns="http://www.strongmail.com/services/2009/03/02/schema">
        <organizationName>admin</organizationName>
      </OrganizationToken>
    </wsse:Security>
  </soap:Header>
  <soap:Body>
    <get xmlns="http://www.strongmail.com/services/2009/03/02/schema">
      <objectId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="TemplateId">
        <id>100</id>
      </objectId>
    </get>
  </soap:Body>
</soap:Envelope>
```

Template get response

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                 *
*                                                                     *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.     *
*                                                                     *
*  Visit http://www.strongmail.com for more information               *
*                                                                     *
* ------------------------------------------------------------------- *
*/
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <getResponse xmlns="http://www.strongmail.com/services/2009/03/02/schema">
      <success>true</success>
      <fault xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:nil="true" />
      <getResponse>
        <baseObject xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="Template">
          <modifiedTime>2012-10-14T20:08:46.233-07:00</modifiedTime>
          <objectId xsi:type="TemplateId"><id>100</id></objectId>
          <version>8</version>
          <createdTime>2012-10-14T20:05:22.284-07:00</createdTime>
          <bodyEncoding>SEVEN_BIT</bodyEncoding>
          <bounceAddressId><id>100</id></bounceAddressId>
          <fromAddressId><id>200</id></fromAddressId>
          <fromName>Dummy From Name</fromName>
          <headerEncoding>SEVEN_BIT</headerEncoding>
          <isApproved>true</isApproved>
          <messagePart>
            <content>&lt;html>
  &lt;head>
    &lt;title>&lt;/title>
  &lt;/head>
  &lt;body style="background-color: white;">
    &lt;br />
    &lt;p> Hi ##name##! We are glad that you subscribed. You personal info is: ID:
##id## and Name: ##name##&lt;br /> Content block token personalization -
##cbToken##&lt;br /> Rules personalization - ##SM_RULE_rule1##&lt;br /> &lt;br /> &lt;br
/> clicktag - simple link &lt;a
href="##ENCLICKTAG##2000##ArgDelimiter####ArgDelimiter####ArgDelimiter##www.google.com"
target="_blank"> Google &lt;/a> to go to the search page.&lt;br /> &lt;br />
shortclicktag - link with one param in it &lt;a
href="-
##ENCLI-
CKTAG##2001##ArgDelimiter####ArgDelimiter####ArgDelimiter##www.yahoo.com?sp=value">
Yahoo &lt;/a> to go to the search page.&lt;br /> &lt;br /> encodedclicktag - link with
some params in it &lt;a
href="-
##ENCLI-
CKTAG##2002##ArgDelimiter####ArgDelimiter####ArgDelimiter##www.hotmail.com?sp=v1&amp;amp;ap=v2">
 Hotmail &lt;/a> to go to the search page.&lt;/p>
  &lt;/body>
 &lt;/html>
            </content>
            <format>HTML</format>
            <isXsl>false</isXsl>
            <namedLinks>
              <url>www.google.com</url>
              <linkId>2000</linkId>
              <trackingTag>ENCLICKTAG</trackingTag>
            </namedLinks>
            <namedLinks>
              <url>www.yahoo.com?sp=value</url>
              <linkId>2001</linkId>
              <trackingTag>ENCLICKTAG</trackingTag>
            </namedLinks>
            <namedLinks>
              <url>www.hotmail.com?sp=v1&amp;amp;ap=v2</url>
              <linkId>2002</linkId>
              <trackingTag>ENCLICKTAG</trackingTag>
            </namedLinks>
          </messagePart>
          <outputBodyCharSet>UTF-8</outputBodyCharSet>
          <outputHeaderCharSet>UTF-8</outputHeaderCharSet>
          <name>tp1</name>
          <organizationId><id>1</id></organizationId>
          <ownerId><id>1</id></ownerId>
          <replyAddressId><id>101</id></replyAddressId>
          <subject>Sample template</subject>
        </baseObject>
      </getResponse>
    </getResponse>
  </soap:Body>
</soap:Envelope>
```

Mailing list request

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
* -------------------------------------------------------------------- *
*/
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Header>
    <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
wssecurity-secext-1.0.xsd" soap:mustUnderstand="1">
      <wsse:UsernameToken xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-wssecurity-secext-1.0.xsd" xmlns:wsu="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd" wsu:Id="UsernameToken-
14858725">
        <wsse:Username xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd">admin</wsse:Username>
        <wsse:Password xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd" Type="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-username-token-profile-1.0#PasswordText">admin</wsse:Password>
      </wsse:UsernameToken>
      <OrganizationToken xmlns="http://www.strongmail.com/services/2009/03/02/schema">
        <organizationName>admin</organizationName>
      </OrganizationToken>
    </wsse:Security>
  </soap:Header>
  <soap:Body>
    <list xmlns="http://www.strongmail.com/services/2009/03/02/schema">
```

```
      <filter xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="MailingFilter">
        <isAscending>true</isAscending>
        <pageNumber>0</pageNumber>
        <recordsPerPage>10</recordsPerPage>
        <maxRecordsPerPage>200</maxRecordsPerPage>
      </filter>
    </list>
  </soap:Body>
</soap:Envelope>
```

Mailing list response

```
/*
* --------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                   *
*                                                                       *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.       *
*                                                                       *
*  Visit http://www.strongmail.com for more information                 *
*                                                                       *
* --------------------------------------------------------------------- *
*/
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <listResponse xmlns="http://www.strongmail.com/services/2009/03/02/schema">
      <objectId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="MailingId">
        <id>101</id>
      </objectId>
      <objectId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="MailingId">
        <id>200</id>
      </objectId>
    </listResponse>
  </soap:Body>
</soap:Envelope>
```

Mailing get request

```
/*
* --------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                   *
*                                                                       *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.       *
*                                                                       *
*  Visit http://www.strongmail.com for more information                 *
*                                                                       *
* --------------------------------------------------------------------- *
*/
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Header>
    <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
wssecurity-secext-1.0.xsd" soap:mustUnderstand="1">
      <wsse:UsernameToken xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-wssecurity-secext-1.0.xsd" xmlns:wsu="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd" wsu:Id="UsernameToken-
14858725">
```

```
        <wsse:Username xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd">admin</wsse:Username>
        <wsse:Password xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd" Type="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-username-token-profile-1.0#PasswordText">admin</wsse:Password>
      </wsse:UsernameToken>
      <OrganizationToken xmlns="http://www.strongmail.com/services/2009/03/02/schema">
        <organizationName>admin</organizationName>
      </OrganizationToken>
    </wsse:Security>
  </soap:Header>
  <soap:Body>
    <get xmlns="http://www.strongmail.com/services/2009/03/02/schema">
      <objectId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="MailingId">
        <id>101</id>
      </objectId>
    </get>
  </soap:Body>
</soap:Envelope>
```

Mailing get response

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
* -------------------------------------------------------------------- *
*/
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <getResponse xmlns="http://www.strongmail.com/services/2009/03/02/schema">
      <success>true</success>
      <fault xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:nil="true" />
      <getResponse>
        <baseObject xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="StandardMailing">
          <modifiedTime>2012-10-14T20:10:24.798-07:00</modifiedTime>
          <objectId xsi:type="StandardMailingId"><id>101</id></objectId>
          <version>7</version>
          <bodyEncoding>SEVEN_BIT</bodyEncoding>
          <bounceAddressId><id>100</id></bounceAddressId>
          <isApproved>true</isApproved>
          <isCompliant>true</isCompliant>
          <fieldDelimiter>::</fieldDelimiter>
          <format>HTML</format>
          <fromAddressId><id>200</id></fromAddressId>
          <fromName>Dummy From Name</fromName>
          <headerEncoding>SEVEN_BIT</headerEncoding>
          <lastGoodStatus>INITIATING_SAVING</lastGoodStatus>
          <mailingClassId><id>1</id></mailingClassId>
          <name>m1</name>
          <priority>NORMAL</priority>
          <outputBodyCharSet>UTF-8</outputBodyCharSet>
          <outputHeaderCharSet>UTF-8</outputHeaderCharSet>
          <replyAddressId><id>101</id></replyAddressId>
          <rowDelimiter>_sm_row_delim_
          </rowDelimiter>
          <serverErrorCode>0</serverErrorCode>
          <status>COMPLETED</status>
          <subject>Sample template</subject>
          <templateId><id>100</id></templateId>
          <type>ONE_TIME</type>
          <createdTime>2012-10-14T20:09:18.610-07:00</createdTime>
          <description></description>
          <organizationId><id>1</id></organizationId>
          <ownerId><id>1</id></ownerId>
          <eliminateDuplicates>true</eliminateDuplicates>
          <includedTargetId><id>100</id></includedTargetId>
        </baseObject>
      </getResponse>
    </getResponse>
  </soap:Body>
</soap:Envelope>
```

Template create request

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                 *
*                                                                     *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.     *
*                                                                     *
*  Visit http://www.strongmail.com for more information               *
*                                                                     *
* ------------------------------------------------------------------- *
*/
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Header>
    <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
wssecurity-secext-1.0.xsd" soap:mustUnderstand="1">
      <wsse:UsernameToken xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-wssecurity-secext-1.0.xsd" xmlns:wsu="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd" wsu:Id="UsernameToken-
14858725">
        <wsse:Username xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd">admin</wsse:Username>
        <wsse:Password xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd" Type="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-username-token-profile-1.0#PasswordText">admin</wsse:Password>
      </wsse:UsernameToken>
      <OrganizationToken xmlns="http://www.strongmail.com/services/2009/03/02/schema">
        <organizationName>admin</organizationName>
      </OrganizationToken>
    </wsse:Security>
  </soap:Header>
  <soap:Body>
    <create xmlns="http://www.strongmail.com/services/2009/03/02/schema">
      <baseObject xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="Template">
        <description>A Sample Template created via the Message Studio API sample
code</description>
        <bodyEncoding>SEVEN_BIT</bodyEncoding>
        <bounceAddressId><id>17300</id></bounceAddressId>
        <fromAddressId><id>17301</id></fromAddressId>
        <headerEncoding>SEVEN_BIT</headerEncoding>
        <isApproved>true</isApproved>
        <messagePart>
          <content>&lt;html>&lt;head>Sample Content&lt;/head>&lt;body>Hi ##first_name##
##last_name##!&lt;br/>Welcome to our new users program! You can click &lt;a
href="http:www.yourdomain.com/newuser">here&lt;/a> to get a tour of our
services&lt;/body&lt;/html></content>
          <format>HTML</format>
          <isXsl>false</isXsl>
        </messagePart>
        <outputBodyCharSet>UTF-8</outputBodyCharSet>
        <outputHeaderCharSet>UTF-8</outputHeaderCharSet>
        <name>Sample_Template_1350498788685</name>
        <replyAddressId><id>17302</id></replyAddressId>
      </baseObject>
    </create>
  </soap:Body>
</soap:Envelope>
```

Template create response

```
/*
* --------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                   *
*                                                                       *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                       *
*  Visit http://www.strongmail.com for more information                *
*                                                                       *
* --------------------------------------------------------------------- *
*/
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <createResponse xmlns="http://www.strongmail.com/services/2009/03/02/schema">
      <success>true</success>
      <fault xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:nil="true" />
      <createResponse>
        <objectId xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="TemplateId">
          <id>200</id>
        </objectId>
      </createResponse>
    </createResponse>
  </soap:Body>
</soap:Envelope>
```

FAQ

What programming languages can I use with the APIs?
If a specific programming language and associated SOAP client library adhere to the SOAP version 1.2 standard as defined by the W3C, then the resulting client applications should work correctly.

What protocols are used for the APIs?
The Message Studio API uses HTTPS (SSL, port 443) by default while the EAS APIs uses HTTP (port 80).

Can I use the APIs over a VPN?
Yes, you can use a VPN with the APIs.

Does an API user need to be created in the Message Studio UI?
The user connecting via the API must be created in the MS UI. StrongMail recommends creating a dedicated API admin user for each organization, generating a cryptic password, and assigning to the application and then using it exclusively for application.

General notes

- When Creating Targets, use “Advanced Mode” so you have full control for defining and retrieving the SQL query that the target is based on.
- Cache results returned from the API to reduce the load you place on the API. For example, when managing a transactional message, instead of issuing a `get()` to return the mailing handle every time, put code in place to refresh the mailing handle cache when an error is received from the API.
- For every object/asset, there is an associated `ObjectID`, which is used to identify the object type. For example, for an `InternalDataSource` there is an `InternalDataSourceId`. If you need to identify an object by its ID, use the `get()` operation. You set the `InternalDataSourceId` in the `GetRequest` so the server knows to fetch an IDS, not another type of object. For most of the operations, an `ObjectId` of a certain type is required.
- All operations take some kind of request object and return a response object. If an `ObjectId` is needed to do an operation (such as `cancel()`, `close()`, etc), then you need to create a request first and set the `ObjectId` inside the request. This makes the operations signature consistent.
- Every operation can have only one request.

Known conditions

- C#/.NET issues - If you are using C#, the generated C# code will need to be modified. Change:

  ```
  System.Web.Services.Protocols.SoapHttpClientProtocol
  ```

  to

  ```
  Microsoft.Web.Services2.WebServicesClientProtocol
  ```

- Using the API with templates that use View in Mobile or Social Plugins - The `get()` API fails if the template contains View in Mobile or Facebook tags. A fix for this issue is scheduled for the 7.2 release.
- Inability to Insert or Update an Unsubscribe field - Using the `upsertRecords()` call fails if the target field is an unsubscribe field (regardless whether it is a user-defined unsubscribe field or the system-generated unsubscribe field). In

addition, `addRecords()` calls will fail with a "Nonexistent column names" error if a value for an unsubscribe field is included. A fix for this issue is scheduled for the 7.2 release.

Security considerations

Securing API communications with SSL

Communications between your client application and the StrongMail WS API can be secured by using the Secure Sockets Layer (SSL) protocol for HTTP requests and responses. This is a standard approach for securing internet-based communications and was designed to prevent eavesdropping, tampering, and message forgery. It secures communications over the internet by cryptographic methods based on a 128-bit encryption and is a standard approach for securing SOAP-based Web service transactions.

User authentication

If you already have a Message Studio account, you can use the credentials from that account to access web services. Your access permissions to the application through web services mirrors your access from the UI.

For instance, if you don’t have the ability to create mailings within a particular organization in the UI, you will not be able to create mailings within that organization using web services. For more information about users and access privileges, please read the **Message Studio User Guide**.

In most cases, StrongMail recommends you make API calls as a super-user, which will provide access to the entire system.

Note:

Remember that the organization in the SOAP header indicates the organization where you are performing the operation. For example, if you want to create a mailing in the admin organization, then you must log into (through the SOAP header) the admin organization. If you then want to create a mailing in the IDB organization, you will log into (through the SOAP header) the IDB organization.

User credentials

To access Message Studio via API, you will need the same account information as you need to log into the UI. Make sure you have the Organization name, User name, and password. The Organization provides the context for the action you're performing through the API - whatever action you are taking is based on the user logging in.

Notes:

In most cases, StrongMail recommends you make API calls as a super-user, which will provide access to the entire system.

Remember that the organization in the SOAP header indicates the organization where you are performing the operation. For example, if you want to create a mailing in the admin organization, then you must log into (through the SOAP header) the "admin" organization. If you then want to create a mailing in the "IDB" organization, you will log into (through the SOAP header) the "IDB" organization.

All communication is similar to the login process for the UI.

SOAP uses the organization, login name, and password provided in this security header to authenticate a user to the application.

Security header

Access to Message Studio's API is granted based on the contents of the security header, which is required for every call into the server. All communication is over https, which provides encryption and requires a self-signed SSL certificate.

Message Studio API is stateless. This means that every SOAP requests into Message Studio must include a security header that provides the user credentials. Every request is treated as follows:

- Login.
- Perform single action.
- Logout (explicit).

Sample SOAP header

The following is an example of the security tags you need to place in the header of each SOAP request. You will want to replace the username, password and organization with your personal login information.

The sub-organization ID is optional and identifies the organization or sub-organization you are accessing.

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
*  You may incorporate this Source Code in your application only if    *
*  you own a valid license to do so from StrongMail Systems, Inc.      *
*  and the copyright notices are not removed from the source code.     *
*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* ------------------------------------------------------------------- *
*/
<soap:Header>
  <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
wssecurity-secext-1.0.xsd" soap:mustUnderstand="1">
    <wsse:UsernameToken xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-
wss-wssecurity-secext-1.0.xsd" xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/ oasis-
200401-wss-wssecurity-utility-1.0.xsd" wsu:Id="UsernameToken-9243153">
      <wsse:Username xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis- 200401-
wss-wssecurity-secext-1.0.xsd">admin</wsse:Username>
      <wsse:Password xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis- 200401-
wss-wssecurity-secext-1.0.xsd" Type="http://docs.oasis-open.org/wss/2004/01/oasis-
200401-wss-username-token-profile-1.0#PasswordText">mypassword</wsse:Password>
    </wsse:UsernameToken>
    <OrganizationToken xmlns=”http://www.strongmail.com/services/2009/03/02/schema”>
      <organizationName>IDB</organizationName>
      <subOrganizationId>
        <id>2601</id>
      </subOrganizationID>
    </OrganizationToken>
  </wsse:Security>
</soap:Header>
```

Firewall

You can limit Web service access to the APIs by modifying your iptables configuration to only allow certain IPs to access the Web services port. To do this:

1. Edit the iptable configuration file:

```
vi /etc/sysconfig/iptables
```

2. Before the REJECT line, add ACCEPT lines to allow access. For example, the following lines allow users from IP 192.168.21.165 to connect the Web services port (4443) and rejects all other IPs:

```
iptables -A RH-Firewall-1-INPUT -s 192.168.21.165 -p tcp -- dport 4443 -j
ACCEPT
-A RH-Firewall-1-INPUT -j REJECT --reject-with icmp-host-prohibited
```

3. Restart the iptables service:

```
service iptables restart
```

iptables example

Here is an example of a complete iptables configuration, with a single IP (192.168.21.165) allowed access to the Web services port.

```
# Generated by iptables-save v1.3.5 on Thu Feb 19 20:40:26 2009 *filter
:INPUT ACCEPT [0:0]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [10240089:5452482095] :RH-Firewall-1-INPUT - [0:0]
-A INPUT -j RH-Firewall-1-INPUT
-A FORWARD -j RH-Firewall-1-INPUT
-A RH-Firewall-1-INPUT -i lo -j ACCEPT
-A RH-Firewall-1-INPUT -p icmp -m icmp --icmp-type any -j ACCEPT
-A RH-Firewall-1-INPUT -p esp -j ACCEPT
-A RH-Firewall-1-INPUT -p ah -j ACCEPT
-A RH-Firewall-1-INPUT -d 227.0.0.152 -p udp -m udp --dport 5353 -j ACCEPT -A
RH-Firewall-1-INPUT -p udp -m udp --dport 631 -j ACCEPT
-A RH-Firewall-1-INPUT -p tcp -m tcp --dport 631 -j ACCEPT
-A RH-Firewall-1-INPUT -m state --state RELATED,ESTABLISHED -j ACCEPT
-A RH-Firewall-1-INPUT -s 192.168.21.35 -p tcp -m tcp --dport 22 -j ACCEPT
-A RH-Firewall-1-INPUT -s 10.0.0.0/23 -p tcp -m tcp --dport 22 -j ACCEPT
-A RH-Firewall-1-INPUT -p tcp -m state --state NEW -m tcp --dport 25 -j
ACCEPT -A RH-Firewall-1-INPUT -p tcp -m state --state NEW -m tcp --dport 80 -
j ACCEPT -A RH-Firewall-1-INPUT -p tcp -m state --state NEW -m tcp --dport
443 -j ACCEPT -A RH-Firewall-1-INPUT -p tcp -m state --state NEW -m tcp --
dport 9000 -j ACCEPT -A RH-Firewall-1-INPUT -s 192.168.21.87 -p udp -m udp --
dport 161 -j ACCEPT
-A RH-Firewall-1-INPUT -s 10.0.3.0/25 -p udp -m udp --dport 161 -j ACCEPT
-A RH-Firewall-1-INPUT -s 10.0.185.0/27 -p udp -m udp --dport 161 -j ACCEPT
-A RH-Firewall-1-INPUT -s 192.168.21.165 -p tcp -m tcp --dport 9443 -j ACCEPT
-A RH-Firewall-1-INPUT -s 192.168.21.187 -p tcp -m tcp --dport 4443 -j ACCEPT
-A RH-Firewall-1-INPUT -s 192.168.21.84 -p tcp -m tcp --dport 5432 -j ACCEPT
-A RH-Firewall-1-INPUT -j REJECT --reject-with icmp-host-prohibited
COMMIT
# Completed on Thu Feb 19 20:40:26 2009
```

Development environments

StrongMail recommends Java CXF for the Message Studio web services. This section provides information about setting up your CXF development environment.

Java CXF

By generating your Java stubs with CXF, you can quickly build and develop Message Studio services.

Generating client stubs

The WSDL can be directly translated to a set of Java classes that provide helper classes to hold parameter values, serialize the values as XML, and make the necessary HTTP requests to the SOAP server. This is done using the `wsdl2java` tool, which is part of the Apache CXF open source web services framework.

You can also use optional arguments to the `wsdl2java` tool to customize the generated code, as well as to generate an Ant based makefile to build your application.

Note

The wsdl2java options and output referenced here assume use of Apache CXF 2.1.3. If you are using a different version of CXF or a different web services framework altogether, the command options and results may be different.

StrongMail recommends running the following command to generate the Java code:

```
wsdl2java -b bindingClient.xjb -d . -p
http://www.strongmail.com/services/2009/03/92=com.strongmail.
webserviceclient.samples.cxf.generated -p
http://www.strongmail.com/services/2009/03/02/schema=
com.strongmail.webserviceclient.samples.cxf.generated.objects -p
http://www.w3.org/2001/XMLSchema=
com.strongmail.webserviceclient.samples.cxf.generated.objects.xmlschema -sn
MailingService -validate -wv 1.1 MailingService.wsdl
```

These options provide you the following:

- `-b` *`binding`*: This option specifies an external binding file. `bindingClient.xjb` is available in the `webservices_samples/cxf` directory.
- `-d` *`output_directory`*: This option specifies the directory into which the Java code is written. If this is not explicitly specified, the files will be placed in the directory from which the `wsdl2java` command is invoked.
- `-p` *`path`*: This option specifies a subdirectory to place generated files for the named package.
- `-sn` *`webservice`*: This option specifies the name of the web service.

- `-validate`: This option validates the WSDL before generating the code.
- `-wv` *`version`*: This option specifies the version of the WSDL.

The generated code directory structure is:

Directory	**Description**
com/strongmail/webserviceclient/samples/cxf/generated	This directory contains a the generated MailingService interface and the MailingService_Service implementation. The MailingService interface defines all methods you can call. It also contains Java classes representing the fault definitions.
com/strongmail/webserviceclient/samples/cxf/generated/objects	This directory contains a Java class implementation for each type defined in the XSD.

Constructing a SOAP client

Once you have generated the client stubs using wsdl2java, you can begin constructing a SOAP client. The sample code creates a service in two steps, which makes it easy to set different headers for different organizations in subsequent calls:

1. Create a raw service for a given endpoint. You can specify an endpoint or use the one in the WSDL. At this point, the created service won't add headers to operations.
2. Apply the authentication interceptor to the service to set username, password, and organization (and optionally, the sub-organization). After these two steps, a service will automatically add the same header to each operation. If you want to change the header to log into a different organization, you just need to re-apply the interceptor with new login information.

See these methods for the code:

- `ClientSetup.java: public MailingService createService(File wsdlFile, String endpointAddress) throws Exception;`
- `SampleProgram.java: public static MailingService createService ();`
- `ClientSetup.java: public void applyInterceptor(MailingService svc, String username, String password, String organizationName, Long subOrganizationId) throws Exception;`

Security token requirements

A security token header must be passed with every API call. This header needs to contain username, password and organization (which is the same information needed in order to login to the Message Studio UI).

In CXF, you set security by using an interceptor. The interceptor will be implicitly called when you call each operation. The benefit of this approach is that you only need to set login information once, instead of passing it to each operation call.

Since the security header is defined by WS-Security specification and is handled automatically by the CXF library, you only need to pass in the properties to the interceptor.

The following code is required to pass Message Studio API authentication which uses WS-Security SOAP headers. You can use the following code to set up the interceptor.

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
*  You may incorporate this Source Code in your application only if    *
*  you own a valid license to do so from StrongMail Systems, Inc.      *
*  and the copyright notices are not removed from the source code.     *
*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* -------------------------------------------------------------------- *
*/

/* WSSE standard username token */
Map<String, Object> outprops = new HashMap<String, Object>();
outprops.put(WSHandlerConstants.ACTION, WSHandlerConstants.USERNAME_TOKEN);

/* Set username and password */
outprops.put(WSHandlerConstants.USER, username);
outprops.put(WSHandlerConstants.PASSWORD_TYPE, WSConstants.PW_TEXT);
outprops.put(WSHandlerConstants.PW_CALLBACK_REF, newClientPasswordCallbackHandler
(password));

/* Create client interceptor AuthenticationInterceptor */
authenticationInterceptor = new AuthenticationInterceptor(schemaNS, outprops,
organizationName, null);
```

The following code is included in the sample code (`AuthenticationInterceptor.java`) and extends the CXF interceptor. It sets the `UsernameToken` (username and password) by calling the parent CXF interceptor. Since the `OrganizationToken` (`organizationName/ subOrganizationId`) is not standard, but defined by StrongMail, you need to handle them manually. You can do this by defining an inner class and adding it to the interceptor chains.

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                 *
*                                                                     *
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*  and the copyright notices are not removed from the source code.    *
*                                                                     *
*  Distributing our source code outside your organization             *
*  is strictly prohibited                                             *
*                                                                     *
* ------------------------------------------------------------------- *
*/

package com.strongmail.webserviceclient.samples.cxf;
import org.apache.cxf.binding.soap.SoapMessage;
import org.apache.cxf.interceptor.Fault;
import org.apache.cxf.phase.Phase;
import org.apache.cxf.phase.PhaseInterceptor;
import org.apache.cxf.ws.security.wss4j.WSS4JOutInterceptor;
import org.apache.ws.security.SOAPConstants;
import org.apache.ws.security.handler.WSHandlerConstants;
import org.apache.ws.security.util.WSSecurityUtil;
import org.w3c.dom.Element;
import org.w3c.dom.Text;
import java.util.Collections;
import java.util.Map;
import java.util.Set;
import javax.xml.soap.SOAPException;
import javax.xml.soap.SOAPMessage;
public class AuthenticationInterceptor extends WSS4JOutInterceptor {

  /** Schema name space */
  private String schemaNS;

  /** Interceptor to set headers: organizationName and subOrganizationId */
  private PhaseInterceptor phaseInterceptor;

  /** organizationName and subOrganizationId to login */
  private String organizationName;
  private Long subOrganizationId;
  public AuthenticationInterceptor(String schemaNS, Map<String, Object> properties,
String orgName, Long subOrganizationId)
  {
    super(properties);
    this.schemaNS = schemaNS;
    this.phaseInterceptor = new WSS4JOutInterceptorInternal();
    this.organizationName = orgName;
    this.subOrganizationId = subOrganizationId;
  }

  public void setOrganizationName(String orgName) {
    this.organizationName = orgName;
  }

  public void setSubOrganizationId(Long subOrganizationId) {
    this.subOrganizationId = subOrganizationId;
  }

  public void setUsername(String username) {
    getProperties().put(WSHandlerConstants.USER, username);
  }

  public void setPassword(String password) {
    getProperties().put(WSHandlerConstants.PW_CALLBACK_REF, new
ClientPasswordCallbackHandler(password));
  }

  public void handleMessage(SoapMessage message) throws Fault {
    super.handleMessage(message);
    message.getInterceptorChain().add(phaseInterceptor);
  }

  /**
  * Set SOAP header before sending out message.
  * Header includs username, password, organizationName and optionally
subOrganizationId.
  * This message set organizationName and subOrganizationId, and parent class will set
username/password.
  */

  class WSS4JOutInterceptorInternal implements PhaseInterceptor<SoapMessage> {
    private static final String ORGANIZATION_TOKEN_ELEMENT_NAME = "OrganizationToken";
    private static final String ORGANIZATION_ELEMENT_NAME = "organizationName";
    private static final String SUB_ORGANIZATION_ID_ELEMENT_NAME = "subOrganizationId";
    private static final String ID_ELEMENT_NAME = "id";

    public WSS4JOutInterceptorInternal() {
      super();
    }

    public void handleMessage(SoapMessage message) {
      try {
        Element securityHeader = getSecurityHeader(message);

        /* Create <OrganizationToken> and <organizationName> element, */
        /* and set <organizationName> as child of <OrganizationToken> */
        Element e = securityHeader.getOwnerDocument().createElementNS(schemaNS,
ORGANIZATION_TOKEN_ELEMENT_NAME);
        Element e2 = securityHeader.getOwnerDocument().createElementNS(schemaNS,
ORGANIZATION_ELEMENT_NAME);
        Text t = securityHeader.getOwnerDocument().createTextNode(organizationName);
        e2.appendChild(t);
        e.appendChild(e2);

        /* Create <subOrganizationId> if necessary. It is also child of
<OrganizationToken> if (subOrganizationId != null) /*
        {
          Element e3 = securityHeader.getOwnerDocument().createElementNS( schemaNS, SUB_
ORGANIZATION_ID_ELEMENT_NAME);
          Element e4 = securityHeader.getOwnerDocument().createElementNS(schemaNS, ID_
ELEMENT_NAME);
          Text t2 = securityHeader.getOwnerDocument().createTextNode(
subOrganizationId.toString());
          e4.appendChild(t2);
          e3.appendChild(e4);
          e.appendChild(e3);
        }
        securityHeader.appendChild(e);
      }
      catch (Throwable e)
      {
        e.printStackTrace();
      }
    }
    private Element getSecurityHeader(SoapMessage message) throws SOAPException {
      SOAPMessage doc = message.getContent(SOAPMessage.class);
      String actor = (String)getOption(WSHandlerConstants.ACTOR);
      SOAPConstants sc = WSSecurityUtil.getSOAPConstants(doc.getSOAPPart
().getDocumentElement());
      return WSSecurityUtil.getSecurityHeader(doc.getSOAPPart(), actor, sc);
    }
    public Set<String> getAfter()
    {
      return Collections.emptySet();
    }
    public Set<String> getBefore()
    {
      return Collections.emptySet();
    }
    public String getId()
    {
      return WSS4JOutInterceptorInternal.class.getName();
    }
    public String getPhase()
    {
      return Phase.POST_PROTOCOL;
    }
    public void handleFault(SoapMessage message) {
    /*nothing */
    }
  }
}
```

C#

C# is a multi-paradigm programming language that has an object-oriented syntax.

Generating client stubs

Stubs for a C# implementations may be generated from the provided WSDL/XSD files, as follows:

```
wsdl /l:CS /protocol:SOAP MailingService.wsdl MailingServiceSchema.xsd
```

Once the stubs have been generated, a change must be made to one of the generated files. In the generated file `MailingService.cs`, you must update the MailingService class definition so that it extends the class:

```
Microsoft.Web.Services2.WebServicesClientProtocol
```

instead of the class:

```
System.Web.Services.Protocols.SoapHttpClientProtocol
```

Constructing a SOAP client

The following function can be used to create and return a service:

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
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*  Visit http://www.strongmail.com for more information                *
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*  and the copyright notices are not removed from the source code.     *
*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* -------------------------------------------------------------------- *
*/

public const string url = "https://192.168.29.160:4443/sm/services/mailing/2009/03/02";
private static MailingService createService() {
  /* Create service and set endpoint */
  MailingService svc = new MailingService(); svc.Url = url;

  /* Ignore Certificate by trusting all certificate */
  System.Net.ServicePointManager.CertificatePolicy = new TrustAllCertificatePolicy();

  /* Create security tokens for SOAP header */
  UsernameToken userToken = new UsernameToken("admin@strongmail.com", "admin",
PasswordOption.SendPlainText);
  SoapContext requestContext = svc.RequestSoapContext;
  requestContext.Security.Tokens.Add(userToken);

  /* Use filter to set organization token and get rid of timestamp since it does not
work with Java server. */
  MailingServiceOutFilter myfilter = new MailingServiceOutFilter("admin", ns);
  svc.Pipeline.OutputFilters.Insert(0, myfilter);
  return svc;
}
```

After creating the mailing service, you can call operation’s on it. For example:

```
MailingService svc = createService()
```

Security token requirements A security token header must be passed with every API call. This header needs to contain username, password and organization (which is the same information needed in order to login to the Message Studio UI).

The default Microsoft implementation of a security header token already supports username and password, so once you have created a `MailingService` instance, it is straight-forward to add username and password to its header:

```
MailingService svc = new MailingService();
UsernameToken userToken = new UsernameToken("admin@strongmail.com", "admin",
PasswordOption.SendPlainText);
SoapContext requestContext = svc.RequestSoapContext;
requestContext.Security.Tokens.Add(userToken);
```

However, you must also add an organization to the header, which must be done manually. In addition, by default Microsoft adds a timestamp to the header which is not handled correctly by the Java server-side code and which will cause your API calls to fail if it is not removed.

Therefore, you must remove the Microsoft timestamp manually. You can take care of both of these items by defining a custom filter and adding the desired code within its `ProcessMessage()` method. For example:

```
MailingServiceOutFilter myfilter = new MailingServiceOutFilter("myOrg");
svc.Pipeline.OutputFilters.Insert(0, myfilter);
```

Then, the `ProcessMessage()` method might be:

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                 *
*                                                                     *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.     *
*                                                                     *
*  Visit http://www.strongmail.com for more information               *
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*  and the copyright notices are not removed from the source code.    *
*                                                                    *
*  Distributing our source code outside your organization            *
*  is strictly prohibited                                            *
*                                                                    *
* ------------------------------------------------------------------ *
*/

/* Set internal namespace field */
_ns = http://www.strongmail.com/services/2009/03/02/schema;
public override void ProcessMessage(SoapEnvelope envelope) {

  /* Add OrganizationName token */
  XmlElement OrgTokenElement = envelope.CreateElement("sm", "OrganizationToken", _ns);
  XmlElement orgElement = envelope.CreateElement("sm", "organizationName", _ns);

  /* Set organizationName value */
  XmlText orgName = envelope.CreateTextNode(_organization);
  orgElement.AppendChild(orgName);
  OrgTokenElement.AppendChild(orgElement);

  /* Remove timestamp */
  IEnumerator it = envelope.Header.GetEnumerator();
  while(it.MoveNext()){
    XmlElement el = (XmlElement) it.Current;
    if (el.Name.Equals("wsse:Security")) {
      el.AppendChild(OrgTokenElement);

      /* Remove Timestamp */
      XmlNodeList timestamp = el.GetElementsByTagName("wsu:Timestamp");
      el.RemoveChild(timestamp.Item(0));
    }
  }
}
```

Constructing a SOAP client

To create the SOAP client, you will need the following script:

```
/*
* ------------------------------------------------------------------ *
*  STRONGMAIL SYSTEMS                                                *
*                                                                    *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.    *
*                                                                    *
*  Visit http://www.strongmail.com for more information              *
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*  and the copyright notices are not removed from the source code.   *
*                                                                    *
*  Distributing our source code outside your organization            *
*  is strictly prohibited                                            *
*                                                                    *
* ------------------------------------------------------------------ *
*/

public static MailingServiceStub createService() {

  /* Read key store, key store password, wsdl file location and endpoint address */
  /* Endpoint address will replace the one in WSDL file  */
  System.out.println("Store: " + System.getProperty("javax.net.ssl.trustStore"));
  System.out.println("Password: " + System.getProperty
("javax.net.ssl.trustStorePassword"));
  System.out.println("endpoiont: " + System.getProperty("endpoint.address"));

  /* File */
  wsdlFile = new File(System.getProperty("wsdl"));
  String endpoint = System.getProperty("endpoint.address");
  System.getProperty("services.namespace");
  String schemaNs = System.getProperty("services.namespace.schema");
  try {

    /* Create service */
    MailingServiceStub stub = new MailingServiceStub(endpoint);

    /* Add security header */
    /* username/password/organization are the same as UI login. */
    OMFactory fac = OMAbstractFactory.getOMFactory();
    OMNamespace omNs = fac.createOMNamespace(WSSE_NAMESPACE,"wsse");
    OMNamespace smSchemaNS= fac.createOMNamespace(schemaNs, "smschema");

    /* Create Security and UsernameToken */
    OMElement security = fac.createOMElement("Security", omNs);
    OMElement token = fac.createOMElement("UsernameToken", omNs);

    /* Set username */
    OMElement username = fac.createOMElement("Username", omNs);
    OMText usernametext = fac.createOMText("admin@strongmail.com");
    username.addChild(usernametext);

    /* Set password */
    OMElement password = fac.createOMElement("Password", omNs);
    password.addAttribute("Type", PASSWORD_TYPE, null);
    OMText passtext = fac.createOMText("admin");
    password.addChild(passtext);
    token.addChild(username);
    token.addChild(password);
    security.addChild(token);

    /* Add OrganizationToken */
    OMElement orgtoken = fac.createOMElement("OrganizationToken", smSchemaNS);
    OMElement orgname = fac.createOMElement("organizationName", smSchemaNS);
    OMText orgtext = fac.createOMText("admin");
    orgname.addChild(orgtext);
    orgtoken.addChild(orgname);
    security.addChild(orgtoken);
    stub._getServiceClient().addHeader(security); return stub;
  }
  catch (Exception e) {
    e.printStackTrace();
    System.exit(1);
  }
  return null;
}
```

Security token requirements

A security token header must be passed with every API call. This header needs to contain username, password and organization (which is the same information needed in order to login to the Message Studio UI).

The following code is required to pass Message Studio API authentication which uses WS-Security SOAP headers. This code is included in the sample code, and is available in `Sample.Program.java`; refer to the `createService` method.

```
/*
* ---------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                    *
*                                                                        *
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*                                                                        *
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*  and the copyright notices are not removed from the source code.       *
*                                                                        *
*  Distributing our source code outside your organization                *
*  is strictly prohibited                                                *
*                                                                        *
* ---------------------------------------------------------------------- *
*/

/* Create service */
MailingServiceStub stub = new MailingServiceStub(endpoint);

/* Add security header */
/* username/password/organization are the same as UI login. */
OMFactory fac = OMAbstractFactory.getOMFactory();
OMNamespace omNs = fac.createOMNamespace(WSSE_NAMESPACE, "wsse");
OMNamespace smSchemaNS = fac.createOMNamespace(schemaNs, "smschema");

/* Create Security and UsernameToken */
OMElement security = fac.createOMElement("Security", omNs);
OMElement token = fac.createOMElement("UsernameToken", omNs);

/* Set username */
OMElement username = fac.createOMElement("Username", omNs);
OMText usernametext = fac.createOMText("admin");
username.addChild(usernametext);

/* Set password */
OMElement password = fac.createOMElement("Password", omNs);
password.addAttribute("Type", PASSWORD_TYPE, null);
OMText passtext = fac.createOMText("admin");
password.addChild(passtext);
token.addChild(username);
token.addChild(password);
security.addChild(token);

/* Add OrganizationToken */
OMElement orgtoken = fac.createOMElement("OrganizationToken", smSchemaNS);
OMElement orgname = fac.createOMElement("organizationName", smSchemaNS);
```

```
OMText orgtext = fac.createOMText("admin");
orgname.addChild(orgtext);
orgtoken.addChild(orgname);

/* If you need to log in to a suborganization, then uncomment */
/* the following block, and change the string "100" to be a */
/* string containing the id of the suborganization you want. */
OMElement subOrgId = fac.createOMElement("subOrganizationId", smSchemaNS); OMElement id
= fac.createOMElement("id", smSchemaNS);
OMText subOrgIdText = fac.createOMText("100");
id.addChild(subOrgIdText);
subOrgId.addChild(id);
orgtoken.addChild(subOrgId);
security.addChild(orgtoken); stub._getServiceClient().addHeader(security);
```

Ruby

Ruby is a general purpose object-oriented programming language that is often used to develop web services.

The information provided in this section assumes that you will be developing Ruby code in a Windows environment.

In preparing your development environment, you should do the following:

1. Install `ruby186-25.exe` (one click ruby installer) onto your Windows machine. You can get that from here:
   http://rubyforge.org/frs/download.php/29263/ruby186-26.exe

2. Install `ruby-gnome2-0.16.0-1-i386-mswin32.exe` (one click installer) onto your Windows machine. You can get that from here:
   http://rubyforge.org/frs/download.php/29263/ruby186-26.exe

3. Install `httpclient-2.1.2` onto the Message Studio server. You can get that from here:
   http://dev.ctor.org/download/httpclient-2.1.2.tar.gz

4. Install soap4r1.5.8 and it's pre-requisite onto the Message Studio server.
   http://dev.ctor.org/download/soap4r-1.5.8.tar.gz

Generating client stubs

Create the SOAP wrappers from Message Studio WSDL. This should create all of the required client ruby classes used to communicate with StrongMail SOAP server.

1. `$ cd <path>\lib`

2. `$ ruby <soap4r1.5.8 path>/wsdl2ruby.rb --type client --wsdl <url to wsdl>`

Constructing a SOAP client

Use the following code to construct the SOAP client.

```
def self.sm_service(opts={})
# create the service
obj = MailingService.new(opts[:endpoint_url])
# run ruby with -d to see SOAP wiredumps.
obj.wiredump_dev = STDERR if $DEBUG
# attach auth header handler obj.headerhandler << SM::WsseAuthHeader.new()
obj end
```

Security token requirements A security token header must be passed with every API call. This header needs to contain username, password and organization (which is the same information needed in order to login to the Message Studio UI).

The following code is the StrongMail security class file (`sm_security.py`) and is required to pass Message Studio API authentication which uses WS-Security SOAP headers.

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                 *
*                                                                     *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.     *
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*  is strictly prohibited                                             *
*                                                                     *
* ------------------------------------------------------------------- *
*/

#
# Use header handler to set the authentication headers in each # request.
#
class WsseAuthHeader < SOAP::Header::SimpleHandler
NAMESPACE = 'http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity- secext-
1.0.xsd'
USERNAME = 'admin@strongmail.com'
PASSWORD = 'admin'
ORGANIZATION = 'admin'
SM_SCH = "http://www.strongmail.com/services/2009/03/02/schema"
Header = XSD::QName.new(NAMESPACE, 'Security') OrgToken = XSD::QName.new(SM_SCH,
'OrganizationToken')
def initialize()
super(Header)
end

#
```

```
# Callback method called by soap4r on each request
# to insert the header.
#

def on_simple_outbound
pwd = SOAP::SOAPElement.new(XSD::QName.new(nil, "Password"))
pwd.text = "admin"
pwd.extraattr["Type"] = "http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
username-token-profile-1.0#PasswordText"
{
  "UsernameToken" => {
  "Username" => USERNAME,
  "Password" => pwd,
  },
  OrgToken => {
    XSD::QName.new(SM_SCH, 'organizationName') => ORGANIZATION, XSD::QName.new(SM_SCH,
'subOrganizationId') => "",
  },
}
end
end
```

To use this code, you will need to edit the file:

1. Make sure USERNAME,PASSWORD, and ORGANIZATION is set to appropriate values in:
   `lib/sm-utils.rb (line#10)`

2. Make sure the SOAP property file contains the following line:
   ```
   client.protocol.http.ssl_config.verify_mode =
   OpenSSL::SSL::VERIFY_NONE
   ```

Reference

This section provides basic information on Message Studio assets, and detailed information on the API operations.

Message Studio assets

The Message Studio UI is divided into functional areas that include a series of assets that are available for a mailing. Each of these assets has a specific role in the creation of a mailing.

This section provides a brief description of each asset and lists the operations that are supported for each asset. For more information about a specific asset, please read the **Message Studio User Guide**.

For more information about a specific operation, please read **Operations**.

Data sources

A data source is the database where recipient data is stored. Recipient data may be stored in the internal PostgreSQL database that is included with Message Studio.

Or, the data may be stored in an external database (IBM DB2, Microsoft SQL, mySQL, Oracle, PostgreSQL, Sybase, or Teradata).

Supported operations - Internal data source

`addRecords()`	`get()`
`copy()`	`getStatistics()`
`create()`	`list()`
`dedupeRecords()`	`removeRecords()`
`delete()`	`update()`
`exportRecords()`	

Supported operations - External data source

`addRecords()`	`getStatistics()`
`cancelRefreshRecords()`	`list()`
`create()`	`refreshRecords()`
`delete()`	`removeRecords()`
`exportRecords()`	`update()`
`get()`	

Target

A target is a SQL query that identifies the recipients for a specific mailing. A mailing can include one or more targets. You also have the ability to exclude a target from a mailing.

Supported operations

`copy()`	`exportRecords()`
`create()`	`get()`
`delete()`	`update()`

Seed list

Seed lists are used to send mailings to email addresses that are not in your data sources. Com- mon uses include sending messages to a test list (such as an internal department list or ISP lists) or for use with StrongDelivery Tools' Mailbox Monitor.

Supported operations

`addRecords()`	`get()`
`copy()`	`list()`
`create()`	`removeRecords()`
`delete()`	`update()`
`exportRecords()`	

Suppression list

Suppression lists instruct Message Studio to prevent the sending of a mailing to specific domains, email addresses, or accounts that may be included in a target.

Supported operations

`addRecords()`	`get()`
`copy()`	`list()`
`create()`	`removeRecords()`
`delete()`	`update()`
`exportRecords()`	

Template

Templates are the files that define the format and content of the message and may be designed in HTML or Text.

Supported operations

`copy()`	`importMessagePart()`
`create()`	`list()`
`delete()`	`test()`
`get()`	`validateXSL()`

Content blocks

Content blocks are text files that define a series of tokens that are associated with specific con- tent, and may be linked to a recipient's profile. Content blocks are used to personalize mailings.

Supported operations

`copy()`	`get()`
`create()`	`list()`
`delete()`	

Attachment

With Message Studio you can add attachments to a specific template or to a mailing. You can upload the attachment directly to Message Studio.

Supported operations

- `create()`
- `delete()`
- `get()`
- `importContent()`
- `list()`

Dynamic content

Message Studio includes a rules-based personalization engine. This engine allows you to create rules based on the target list. Using logical comparisons, you create rules where the target field meets the comparison and causes some action to be taken on the template.

Supported operations

- `copy()`
- `create()`
- `delete()`
- `get()`
- `list()`

Batch mailing

Standard mailings are mailings that are sent to a specific target and are launched manually (or through the API). Standard mailings can be set up as one-time mailings or recurring mailings.

One-time mailings are mailings that are associated with one-time events, such as a one-time promotion.

Recurring mailings are mailings that share a common template, but that are sent out on a regularly scheduled basis, such as a welcome email for a new subscription.

Supported operations

- `cancel()`
- `close()`
- `copy()`
- `create()`
- `delete()`
- `get()`
- `getStatistics()`
- `list()`
- `load()`
- `pause()`
- `resume()`
- `send()`
- `txnSend()`
- `update()`

Transactional mailing

Transactional mailings are created and managed in conjunction with your Web server to provide mailings based on pre-determined events (such as, when a customer makes a purchase or changes their password). When the event occurs, your Web server makes an API send call to the server. In most cases you create the transactional mailing either through the UI or through the API.

Supported operations

`cancel()`	`list()`
`close()`	`load()`
`copy()`	`pause()`
`create()`	`resume()`
`delete()`	`send()`
`get()`	`txnSend()`
`getStatistics()`	`update()`

System information

This section describes the system information that is accessible through the API.

Organization

An organization is an entity that represents ownership of business assets and data. For example, an organization owns different data sources, message templates, and mailings.

Supported operations

`get()`	`list()`

User

There are three types of users:

- Super User - A super user has all available permissions across all organizations.
- Administrator - An administrator has all available permissions within one organization. An admin can also copy templates and content blocks between organizations they "own" and its sub-organizations.
- User - A user's permissions are determined by their role and access privileges, which establishes the user's rights or permissions to view or modify data or take actions.

Supported operations

`get()`	`list()`

Role

A role is a collection of permissions that is assigned to a user from the Access screen. A role belongs to a single organization, but is available across that organization’s sub-organizations.

Supported operations

`get()`	`list()`

Campaign

Campaigns are used to categorize different mailings into a single campaign, which can be used when viewing reports for multiple mailings that are similar.

Supported operations

`get()`	`list()`

System address

There are three types of system addresses:

- Bounce - The bounce address is the email address associated with the mailbox where receiving MTAs route asynchronous failures.
- From - The from address identifies the sender of the email, by email address and name.
- Reply - The reply address is the email address where the recipient’s MTA should deliver replies to the mailing.

Supported operations

`get()`	`list()`

Media Server

With Message Studio, you can create connections to internal or external media servers that host media required for a specific template. Message Studio can leverage the StrongMail tracking server (either onboard or offboard) as a media server.

Supported operations

`get()`	`list()`

Web Analytics

Message Studio includes support for web analytics tags and is pre-configured for Coremetrics, Google Analytics, and Omniture. Through the UI, you can also create custom web analytics tags.

Supported operations

`get()`	`list()`

Mailing class

By assigning a mailing class to a mailing, you are instructing the StrongMail MTA to use a specific set of IP addresses for delivering the email. Before assigning a mailing class with the mailing, make sure you have configured a virtual server group on the StrongMail MTA.

Supported operations

`get()`	`list()`

API operations

This section provides details on each of the operations available in the API:

- addRecords
- cancel
- cancelRefreshRecords
- close
- copy
- create
- dedupeRecords
- delete
- exportRecords
- fetchLinks
- get
- getRecords
- getStatistics
- importContent
- importMessagePart
- launch
- list
- load
- pause
- refreshRecords
- removeRecords
- resume
- schedule
- send
- test
- txnSend
- update
- upsertRecord
- validateXsl

`addRecords()`

Use the `addRecords()` operation to add recipient information to one of the supported assets.

Supported assets

The following list shows the Message Studio assets that are supported for the `addRecords()` operation:

External data sources	Seed list
Internal data sources	Suppression list

Recommendations

- In most cases, you should add records to your external data source directly to your database and not through the API. StrongMail does not recommend adding records to your external data source through the API or the UI.
- Before adding records to a data source, you should check the `Data-SourceOperationStatus` to make sure it is `IDLE`. Possible status indicators include:
  - `IDLE`: Indicates there is no operation in progress.
  - `IMPORTING`: Indicates someone is adding records to the data source, either through the API or UI.
  - `REFRESHING`: Indicates an external data source is currently refreshing the local copy.

Code sequence

1. `list`*`(filter)`*
2. `addRecords`*`(request)`*

Sample code

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                 *
*                                                                     *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.     *
*                                                                     *
*  Visit http://www.strongmail.com for more information               *
*                                                                     *
*  You may incorporate this Source Code in your application only if   *
*  you own a valid license to do so from StrongMail Systems, Inc.     *
*  and the copyright notices are not removed from the source code.    *
*                                                                     *
*  Distributing our source code outside your organization             *
*  is strictly prohibited                                             *
*                                                                     *
* ------------------------------------------------------------------- *
*/

/*
* Add records using a file to the datasource created in crea- teIDS().
*
* @param dataSourceId the data source ID where records will be added to.
* @param dataFile the file that will be uploaded
* @throws Exception any exception
*/

public void addRecordsUsingFile(InternalDataSourceId data- SourceId, File dataFile)
throws Exception {

  /* Create request */
  AddDataSourceRecordsRequest addRecordsRequest = new AddDataSourceRecordsRequest();
  addRecordsRequest.setDataSourceId(dataSourceId);
  addRecordsRequest.setDataSourceId(dataSourceId);
  addRecordsRequest.setContainsFieldNames(true);
  addRecordsRequest.setFieldDelimiter(",");

  /* Set data handler to read data from the file */
  InputStream is = new FileInputStream(dataFile);
  DataHandler dh = new DataHandler(new Attach- mentDataSource("text/plain", is));
  addRecordsRequest.setDataSourceRecordsAttachment(dh);

  /* Make call */
  service.addRecords(addRecordsRequest);
}
```

Supported requests

The `addRecords()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
External data source	`AddDataSourceRecordsRequest`
Internal data source	`AddDataSourceRecordsRequest`
Seed list	`AddSeedListRecordsRequest`
Suppression list	`AddSuppressionListRecordsRequest`

Response

`addRecordsResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unrecognizedObjectTypeFault`

`unexpectedFault`

`invalidObjectFault`

`concurrentModificationFault`

cancel()

Use the `cancel()` operation to cancel a mailing that is in progress. Cancelled is a permanent state.

Supported assets

The following list shows the Message Studio assets that are supported for the `cancel()` operation:

Batch mailing	Transactional mailing

Recommendations

None.

Code sequence

1. `list` *`(filter)`* -> returns `object_ids`
2. `cancel` *`(request)`*

Sample code

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                 *
*                                                                     *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.     *
*                                                                     *
*  Visit http://www.strongmail.com for more information               *
*                                                                     *
*  You may incorporate this Source Code in your application only if   *
*  you own a valid license to do so from StrongMail Systems, Inc.     *
*  and the copyright notices are not removed from the source code.    *
*                                                                     *
*  Distributing our source code outside your organization             *
*  is strictly prohibited                                             *
*                                                                     *
* ------------------------------------------------------------------- *
*/

/*
* Cancel a Standard Mailing. *
* @param mailingId the ID of the Mailing that will be closed
* @return if close operation is successful
* @throws Exception any exception */

public boolean cancel(MailingId mailingId) throws Exception {
  CancelRequest request = new CancelRequest();
  request.setMailingId(mailingId);
  return service.cancel(request).isSuccess();
}
```

Supported requests

The `cancel()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Batch mailing	`CancelRequest`
Transactional mailing	`CancelRequest`

Response

`cancelResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unexpectedFault`

cancelRefreshRecords()

Use the `cancelRefreshRecords()` operation to cancel a local copy `refresh()`.

Supported assets

The following list shows the Message Studio assets that are supported for the `cancelRefreshRecords()` operation:

External data sources

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `cancelRefreshRecords`*`(request)`*

Sample code

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                 *
*                                                                     *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.     *
*                                                                     *
*  Visit http://www.strongmail.com for more information               *
*                                                                     *
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*  you own a valid license to do so from StrongMail Systems, Inc.     *
*  and the copyright notices are not removed from the source code.    *
*                                                                     *
*  Distributing our source code outside your organization             *
*  is strictly prohibited                                             *
*                                                                     *
* ------------------------------------------------------------------- *
*/

/*
* Cancel the refresh of External Data Source records. *
* @param edsId the EDS ID to be cancelled.
* @return if cancel is successful
* @throws Exception any exception */

public boolean cancelRefreshRecords(ExternalDataSourceId edsId) throws Exception {
  CancelRefreshRecordsRequest request = new CancelRefreshRecordsRequest();
  request.setDataSourceId(edsId);
  return service.cancelRefreshRecords(request).isSuccess();
}
```

Supported requests

The `cancelRefreshRecords()` operation supports a single object. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. Table 1 maps the functional area to the object/request.

Functional area	Object/Request
External data source	`CancelRefreshRecordsRequest`

Response

`cancelRefreshRecordsResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unexpectedFault`

`close()`

Use the `close()` operation to close out a transactional mailing. Closing a transactional mailing puts it into a completed state. Completed is a permanent state.

Supported assets

The following list shows the Message Studio assets that are supported for the `close()` operation:

Transactional mailing

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `close`*`(request)`*

Sample code

```
/*
* ------------------------------------------------------------------ *
*  STRONGMAIL SYSTEMS                                                *
*                                                                    *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.    *
*                                                                    *
*  Visit http://www.strongmail.com for more information              *
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*  you own a valid license to do so from StrongMail Systems, Inc.    *
*  and the copyright notices are not removed from the source code.   *
*                                                                    *
*  Distributing our source code outside your organization            *
*  is strictly prohibited                                            *
*                                                                    *
* ------------------------------------------------------------------ *
*/

/*
* Close a Transactional Mailing. *
* @param mailingId the ID of the Mailing that will be closed
* @return if close operation is successful
* @throws Exception any exception */

public boolean close(TransactionalMailingId mailingId) throws Exception {
  CloseRequest request = new CloseRequest();
  request.setMailingId(mailingId);
  return service.close(request).isSuccess();
}
```

Supported requests

The `close()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. Table 1 maps the functional area to the object/request.

Functional area	Object/Request
Batch mailing	`CloseRequest`
Transactional mailing	`CloseRequest`

Response

`closeResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unexpectedFault`

copy()

Use the `copy()` operation to copy as asset. Copy supports copying a single asset and giving it a new name, or copying a single asset to an organization within the same organization tree. Copying to another organization requires super-user or admin permissions.

Supported assets

The following list shows the Message Studio assets that are supported for the `copy()` operation:

- Internal data sources
- Target
- Suppression list
- Seed list
- Template
- Content blocks
- Dynamic content
- Batch mailing
- Transactional mailing

Recommendations

None.

Code sequence

1. `list(`*`filter`*`)`
2. `copy(`*`request`*`)`

Sample code

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
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*  you own a valid license to do so from StrongMail Systems, Inc.      *
*  and the copyright notices are not removed from the source code.     *
*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* -------------------------------------------------------------------- *
*/

/*
* Copy a data source using a new name.
*
* @param dataSourceId the data source ID that will be copied
* @param newName the name of new data source
* @return the new InternalDataSource ID
* @throws Exception any exception
*/

public InternalDataSourceId copy- DataSource(InternalDataSourceId dataSourceId, String
newName) throws Exception{

  /* Create copy request */
  CopyDataSourceRequest request = new CopyDataSourceRequest();
  request.setFromId(dataSourceId);
  request.setNewName(newName);
  return (InternalDataSourceId) service.copy(request).getObjectId();
}
```

Supported requests

The `copy()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Internal data source	`CopyDataSourceReques`
Target	`CopyTargetRequest`
Suppression list	`CopySuppressionListRequest`
Seed list	`CopySeedListRequest`
Template	`CopyTemplateRequest`
Content block	`CopyContentBlockRequest`
Dynamic content	`CopyRuleRequest`
Batch mailing	`CopyMailingRequest`
Transactional mailing	`CopyMailingRequest`

Response

`copyResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unrecognizedObjectTypeFault`

`unexpectedFault`

`invalidObjectFault`

`create()`

Use the `create()` operation to create any of the supported assets within Message Studio. This is a batch operation that allows you to pass multiple objects in a single call.

Supported assets

The following list shows the Message Studio assets that are supported for the `create()` operation:

- External data source
- Internal data source
- Target
- Seed list
- Suppression list
- Template
- Content block
- Attachment
- Dynamic content
- Batch mailing
- Transactional mailing
- Tracking tags

Recommendations

Creating a mailing or template with `isApproved=true`, triggers validation checks. All objects must have all necessary attributes for launching or the server will return a fault.

Code sequence

1. instantiate object
2. set parameters
3. `create`*`(array_of_objects)`*

Sample code

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
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*  you own a valid license to do so from StrongMail Systems, Inc.      *
*  and the copyright notices are not removed from the source code.     *
*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* -------------------------------------------------------------------- *
*/
```

```
/*
* Create a Transactional Mailing.
*
* @param mailingName the name of the mailing
* @param templateId the template used for the mailing
* @param targetId the target used for the mailing
* @return TransactionalMailnigId
* @throws Exception any exception
*/

public TransactionalMailingId createTransactionalMailing(String mailingName, TemplateId
templateId, TargetId targetId) throws Exception {
  TransactionalMailing mailing = new TransactionalMailing();
  setMailingCommonFields(mailing, mailingName, bounceId, fromId, replyId, templateId);
  mailing.setDescription("TransactionalMailing from CXF");
  mailing.setType(MailingType.TRANSACTIONAL);
  mailing.setTargetId(targetId);
  mailing.setMessageType(MessageType.EMAIL);

  /* mailing.setMailingConfig(null); */
  /* Read only */
  /* mailing.getRecordStructure(); */
  /* Read only */

  return (TransactionalMailingId) helper.create(mailing);
}

private void setMailingCommonFields(Mailing mailing, String mailingName, SystemAddressId
bounceId, SystemAddressId fromId, SystemAddressId replyId, TemplateId templateId) {
  mailing.setBodyEncoding(Encoding.BASE_64);
  mailing.setBounceAddressId(bounceId);
  mailing.setCampaignId(null);
  mailing.setFieldDelimiter("::");
  mailing.setFromAddressId(fromId);
  mailing.setFromName("From Name");
  mailing.setHeaderEncoding(Encoding.EIGHT_BIT);
  mailing.setIsApproved(true);
  mailing.setIsCompliant(true);
  mailing.setName(mailingName);
  mailing.setOutputBodyCharSet(CharSet.UTF_8);
  mailing.setOutputBodyCharSetToken(null);

  /* can only set either charset or token */
  mailing.setOutputHeaderCharSet(CharSet.ASCII);
  mailing.setOutputHeaderCharSetToken(null);
  mailing.setPriority(MailingPriority.NORMAL);
  mailing.setReplyAddressId(replyId);
  mailing.setRowDelimiter("\n");
  mailing.setSubject("mailing subject");
  mailing.setTemplateId(templateId);
  mailing.getFormat().add(MessageFormat.HTML);
  mailing.getHeader().add("mailing header");
}
```

Supported requests

The `create()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

You must pass in an array of objects for the `create()` operation. The array of objects may be defined as a single asset or as multiple assets to be created.

Functional area	Request Object	Special Base Object
External data source	`CreateRequest`	`ExternalDataSource`
Internal data source	`CreateRequest`	`InternalDataSource`
Target	`CreateRequest`	`Target`
Seed list	`CreateRequest`	`SeedList`
Suppression list	`CreateRequest`	`SuppressList`
Template	`CreateRequest`	`Template`
Content blocks	`CreateRequest`	`ContentBlock`
Attachment	`CreateRequest`	`Attachment`
Dynamic content	`CreateRequest`	`Rule`
Batch mailing	`CreateRequest`	`Mailing`
Transactional mailing	`CreateRequest`	`Trans-actionalMailing`

Response

`BatchCreateResponse`

The `BatchCreateResponse` will include one or more `CreateResponses` depending on the number of base objects you passed into the operation.

Faults

This operation does not throw a fault, instead the `FaultDetail` is wrapped in the response. Any faults will be returned in the `BatchCreateResponse`, you will need to check each individual `CreateResponse` for the exception. The following faults may be returned:

`AuthorizationFaultDetail`

`InvalidObjectFaultDetail`

`ObjectNotFoundFaultDetail`

`UnexpectedFaultDetail`

`UnrecognizedObjectTypeFaultDetail`

Recommended defaults

When you set up a mailing, there are several parameters that you will need to define. In Message Studio, some of these parameters have default values. If you are not sure what value to use, you may consider using the defaults listed below.

Templates

Before a mailing can be sent, the template must have the following elements. You can set these elements against the template or against the mailing:

- `bounceAddressID`
- `fromAddressId`
- `fromName`

In addition, you will have to set the following elements; again, these can be set against the template or against the mailing, but must be set. You may want to use the suggested values for the defaults:

- `bodyEncoding`: 7bit
- `headerEncoding`: 7bit
- `outputBodyCharSet`: UTF-8
- `outputHeaderCharSet`: UTF-8

All templates must be approved (`isApproved`) in order for a mailing to launch.

Standard mailing recommendations

Before a mailing can be sent, the mailing must have the following elements (plus, the ones mentioned above). You may want to use the suggested values for the defaults:

- `priority`: normal
- `rowDelimiter`: _sm_row_delim_\n
- `fieldDelimiter`: ::

In most cases, you will want to include the `mailingClassId`, which identifies the IP addresses the MTA should use to send the mailing.

Other notes:

- All mailings must include the compliancy check (`isCompliant`) to be launched.
- All mailings must be approved (`isApproved`) to be launched.

Tracking tags

Support is provided for the following tracking tags:

- NONE
- ENOPENTAG
- OPENTAG
- CLICKTAG
- SHORTCLICKTAG
- ENCLICKTAG
- UNSUBSCRIBETAG
- SHORTUNSUBSCRIBETAG
- ENUNSUBSCRIBETAG
- FTAFTAG
- ENFTAFTAG
- SHARETAG
- ENSHARETAG
- VIEWINBROWSERTAG
- ENVIEWINBROWSERTAG

Tx mailing recommendations

Before a mailing can be loaded, it must have the following elements (plus, the ones mentioned above in the Templates section). You may want to use the suggested values for the defaults:

- `priority`: normal
- `rowDelimiter`: _sm_row_delim_\n
- `fieldDelimiter`: ::

Other notes:

- All mailings must include the compliancy check (`isCompliant`) to be loaded.
- All mailings must be approved (`isApproved`) to be loaded.

SMS mailings

When you create a transactional mailings over SMS, you must set output character set to either ASCII or an ASCII-based character set. SMS does not support any other character sets.

`dedupeRecords()`

Use the `dedupeRecords()` operation to remove duplicate recipient records from an internal data source. Choose between one and four fields in the data source, if all the data in the specified fields match, Message Studio removes the record.

Supported assets

The following list shows the Message Studio assets that are supported for the `dedupeRecords` operation:

Internal data sources

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `dedupeRecords`*`(request)`*

Sample code

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                 *
*                                                                     *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.     *
*                                                                     *
*  Visit http://www.strongmail.com for more information               *
*                                                                     *
*  You may incorporate this Source Code in your application only if   *
*  you own a valid license to do so from StrongMail Systems, Inc.     *
*  and the copyright notices are not removed from the source code.    *
*                                                                     *
*  Distributing our source code outside your organization             *
*  is strictly prohibited                                             *
*                                                                     *
* ------------------------------------------------------------------- *
*/

/*
* Remove duplicate records for a data source based on field "name".
* If duplicate records are found, keep the latest ones. *
* @param idsId the InternalDataSourceId that will be deduped
* @return if dedupe is successful
* @throws Exception any exception */

public boolean dedupeRecords(InternalDataSourceId idsId) throws Exception {
  DedupeDataSourceRecordsRequest request = new DedupeDataSourceRecordsRequest();
  request.setDataSourceId(idsId);
  request.setOption(DataSourceDedupeOption.KEEP_NEWEST);
  request.getMatchField().add("name");
  return service.dedupeRecords(request).isSuccess();
}
```

Supported requests

The `dedupeRecords()` a single object. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Internal data source	`DedupeDataSourceRecordsRequest`

Response

`dedupeRecordsResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unrecognizedObjectTypeFault`

`unexpectedFault`

`dedupeRecordsResponse`

delete()

Use the `delete()` operation to delete one or more assets from the database. This is a batch operation that allows you to pass multiple ids in a single call.

Supported assets

The following list shows the Message Studio assets that are supported for the `delete()` operation:

Internal data source	Content block
External data source	Attachment
Target	Dynamic content
Seed list	Standard mailing
Suppression list	Transactional mailing
Template	

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `delete`*`(array_of_ids)`*

Sample code

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
*  You may incorporate this Source Code in your application only if    *
*  you own a valid license to do so from StrongMail Systems, Inc.      *
*  and the copyright notices are not removed from the source code.     *
*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* -------------------------------------------------------------------- *
*/

/*
* Delete an object
*
* @param objectId the objectId that will be deleted
* @throws Exception any exception
```

```
*/

public void delete(ObjectId objectId) throws Exception {
  List<ObjectId> objectIds = new ArrayList<ObjectId>();
  objectIds.add(objectId);
  delete(objectIds);
}
```

Supported requests

The `delete()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

You must pass in an array of objects for the `delete()` operation. The array of objects may be defined as a single asset or as multiple assets to be deleted.

Functional area	Object/Request	Specific Base Object
External data source	`DeleteRequest`	`ExternalDataSourceId`
Internal data source	`DeleteRequest`	`InternalDataSourceId`
Target	`DeleteRequest`	`TargetId`
Seed list	`DeleteRequest`	`SeedListId`
Suppression list	`DeleteRequest`	`SuppressListId`
Template	`DeleteRequest`	`TemplateId`
Content blocks	`DeleteRequest`	`ContentBlockId`
Attachment	`DeleteRequest`	`AttachmentId`
Dynamic content	`DeleteRequest`	`RuleId`
Batch mailing	`DeleteRequest`	`MailingId`
Transactional mailing	`DeleteRequest`	`TransactionalMailingId`

Response

`BatchDeleteResponse`

The `BatchDeleteResponse` will include one or more `DeleteResponses` depending on the number of base objects you passed into the operation.

Faults

This operation does not throw a fault, instead the `FaultDetail` is wrapped in the response. Any faults will be returned in the `BatchDeleteResponse`, you will need to check each individual `DeleteResponse`for the exception. The following faults may be returned:

- `AuthorizationFaultDetail`
- `ConcurrentModificationFaultDetail`
- `ObjectNotFoundFaultDetail`
- `UnexpectedFaultDetail`
- `UnrecognizedObjectTypeFaultDetail`

exportRecords()

Use the `exportRecords()` operation to export the contents of the specified asset to file. You must specify a field delimiter and a row delimiter.

Supported assets

The following list shows the Message Studio assets that are supported for the `exportRecords()` operation:

- Internal data sources
- External data sources
- Target
- Seed list
- Suppression list

Recommendations

Before exporting records to a data source, you should check the `DataSourceOperationStatus` to make sure it is `IDLE`; otherwise, only a partial records set will be exported. Possible status indicators include:

- `IDLE`: Indicates there is no operation in progress.
- `IMPORTING`: Indicates someone is adding records to the data source, either through the API or UI.
- `REFRESHING`: Indicates an external data source is currently refreshing the local copy.

Code sequence

1. `list`*`(filter)`*
2. `exportRecords`*`(request)`*

Sample code

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
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*                                                                      *
* ----------------------------------------------------------------------- *
*/

/*
* Export data source records to a file.
* @param dataSourceId the data source to be exported
* @param toFile the file to be written
* @throws Exception any exception
*/

public void exportRecords(DataSourceId toFile) throws Exception {

  /* Create and fill in request */
  ExportDataSourceRecordsRequest request DataSourceRecordsRequest();
  request.setDataSourceId(dataSourceId);
  request.setFieldDelimiter("|");
  request.setRowDelimiter("\n");

  /* Export regular records. Use true to export malformed records. */

  request.setUseMalformedRecords(false);
  to dataSourceId, File = new Export-

  /* Wait for data source status to be idle before exporting */
  waitForIdle(dataSourceId);

  /* Make call and save data to file */
  ExportRecordsResponse response = service.exportRecords(request);
  InputStream is = response.getData().getInputStream();
  OutputStream os = new FileOutputStream(toFile);
  IOUtils.copy(is, os);
}
```

Supported requests

The `exportRecords()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Internal data source	`ExportDataSourceRecordsRequest`
External data source	`ExportDataSourceRecordsRequest`
Target	`ExportTargetRecordsRequest`
Seed list	`ExportSeedListRecordsRequest`
Suppression list	`ExportSuppressionListRecordsRequest`

Response

`exportRecordsResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unrecognizedObjectTypeFault`

`unexpectedFault`

fetchLinks()

Use the `fetchlinks()` operation to fetch all the URLs from message template or content block content, so that you can insert tracking tags in them.

Supported assets

The following list shows the Message Studio assets that are supported for the `fetchlinks()` operation:

Template	Content block

Recommendations

None.

Code sequence

1. Initialize the `template` or `contentBlock` object to be sent to the `create()` API, or, for an edit operation, fetch the `template` or `contentBlock` object using `list(filter)`
2. Call `fetchLinks(request)` using the `template` or `contentBlock` object to fetch the list of URLs in the form of `NamedLink` objects.
3. Modify the tracking tags in the URLs and set them in the `namedLinks` property of the `template` or `contentBlock`
4. Save the `template` or `contentBlock`.

Sample code

```
/*
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*  is strictly prohibited                                              *
*                                                                      *
* -------------------------------------------------------------------- *
*/

private List<NamedLink> fetchLinksForTemplate(Template template, MessageFormat format)
throws Exception {
  List<NamedLink> links = new ArrayList<NamedLink>();
  FetchLinksTemplateRequest request = new FetchLinksTemplateRequest();
  request.setTemplate(template); request.setMessageFormat(format);
  FetchLinksResponse response = service.fetchLinks(request);
  List<FetchLinkResponse> individualLinkResponse = response.getFetchLinkResponse();

  if (individualLinkResponse != null && individualLinkResponse.size() 0)
  {
    for (FetchLinkResponse individualLink : individualLinkResponse)
    {
      links.add(individualLink.getNamedLink());
    }
  }

  return links;
}

private List<NamedLink> fetchLinksForContentBlock(ContentBlock contentBlock) throws
Exception {
  List<NamedLink> links = new ArrayList<NamedLink>();
  FetchLinksContentBlockRequest request = new FetchLinksContentBlockRequest();
  request.setContentBlock(contentBlock);
  FetchLinksResponse response = service.fetchLinks(request);
  List<FetchLinkResponse> individualLinkResponse = response.getFetchLinkResponse();

  if (individualLinkResponse != null && individualLinkResponse.size() > 0)
  {
    for (FetchLinkResponse individualLink : individualLinkResponse)
    {
      links.add(individualLink.getNamedLink());
    }
  }
  return links;
}

private void insertTrackingTagsInTemplate() {

/*
* Assuming the template object is ready, in create/edit operation.         *
* The following call will fetch all URLs in the form of named link objects *
* for the HTML message part of this template.                              */

  List<NamedLink> links = this.fetchLinksForTemplate(template, MessageFormat.HTML);

/* By default, each a CLICKTAG will be assigned to each url. The assigment */
/* can be changed as follows. */

  Map<String, TrackingTag> urlToTagMap = new HashMap<String, TrackingTag>();
  urlToTagMap.put("http://www.somedomain.com/link1", TrackingTag.ENCLICKTAG);
  urlToTagMap.put("http://www.somedomain.com/link2", TrackingTag.UNSUBSCRIBETAG);

  for (int i = 0 ; i < links.size() ; i ++)
  {
    if (urlToTagMap.get(links.get(i).getUrl()) != null)
    {
      links.get(i).setTrackingTag(urlToTagMap.get(links.get(i) .getUrl()));
      links.get(i).setName("link" + (i+1));
    }

/* Other properties like web analytics, link name, etc can also be set in the */
/* named link object.  */
  }
```

```
/* Assign the updated links to the message part. */
  template.getMessagePart().get(0).getNamedLinks().clear();
  template.getMessagePart().get(0).getNamedLinks().addAll(links);

/* Then save the contentBlock object the edit/create api. */
}

private void insertTrackingTagsInContentBlock() {

  /* Assuming the contentBlock object is ready, in create/edit operation. */

  List<NamedLink> links = this.fe- tchLinksForContentBlock(contentBlock);

/* By default, each a CLICKTAG will be assigned to each url. The assignment can be */
/* changed as follows. */

  Map<String, TrackingTag> urlToTagMap = new HashMap<String, Track- ingTag>();
  urlToTagMap.put("http://www.somedomain.com/link1", TrackingTag.ENCLICKTAG);
  urlToTagMap.put("http://www.somedomain.com/link2", TrackingTag.UNSUBSCRIBETAG);
  for (int i = 0 ; i < links.size() ; i ++)
  {
    if (urlToTagMap.get(links.get(i).getUrl()) != null)
    {
      links.get(i).setTrackingTag(urlToTagMap.get(links.get(i).getUrl()));
      links.get(i).setName("link" + (i+1));
    }

/* Other properties like web analytics, link name etc can also be set in the named */
/* link object. */

  }

/* Assign the updated links to the message part. */

  contentBlock.getNamedLinks().clear();
  contentBlock.getNamedLinks().addAll(links);

/* Then save the contentBlock object the edit/create api.  */
  }
}
```

Supported requests

The `fetchlinks()` operation supports two objects: `Template` and `ContentBlock`. When using the API, you must pass the appropriate object as an argument into the operation.

Functional area	**Object/Request**
Template	`NamedLink/fetchLinks()`
Content block	`NamedLink/fetchLinks()`

Response

`FetchLinksResponse`

Faults

`AuthorizationFaultDetail`

`InvalidObjectFaultDetail`

`ObjectNotFoundFaultDetail`

`UnexpectedFaultDetail`

`UnrecognizedObjectTypeFaultDetail`

get()

Use the `get()` operation to return the `objectID` of a specified asset. In most cases, you will use the `list()` operation to identify a set of assets, and then use the `get()` operation to return the `objectID`.

Supported assets

The following list shows the Message Studio assets that are supported for the `get()` operation:

Organization	Target
User	Seed list
Role	Suppression list
Campaign	Template
System address	Content block
Media server	Attachment
Web analytics	Dynamic content
Mailing class	Batch mailing
External data source	Transactional mailing
Internal data source	

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `get`*`(array_of_ids)`*

Sample code

```
/*
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*                                                                      *
* ------------------------------------------------------------------- *
```

```
*/

/**
* Get a list of objects based on give IDs. *
* @param objectIds list of IDs that user want to a get
* @return list of BaseObjects
* @throws Exception any exception
*/

public List<BaseObject> get(List<? extends ObjectId> objectIds) throws Exception {

/* Create request and set objectIds */
  GetRequest request = new GetRequest();
  request.getObjectId().addAll(objectIds);

/* Create list of BaseObject with the same size as list of IDs */

  List<BaseObject> result = new ArrayList<BaseObject>(objectIds.size());

/* Make call */

  BatchGetResponse batchGetResponse = service.get(request);

/* Go through each response inside batch response and get the object if it is successful
*/
/* Print out error message if any object is not retrieved successfully */
/* and set the object to null. */

  for (int i = 0; i < objectIds.size(); i++)
  {
    if (batchGetResponse.getSuccess().get(i))
    {
      result.add(batchGetResponse.getGetResponse().get(i).getBaseObject());
    }
    else {
      FaultDetail faultDetail = batchGetResponse.getFault().get(i);
      System.out.println(faultDetail.getFaultCode() + ": " + fault-
Detail.getFaultMessage());
      result.add(null);
    }
  }
  return result;
}
```

Supported requests

The `get()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

You must pass in an array of objects for the `get()` operation. The array of objects may be defined as a single asset or as multiple assets.

Functional area	Object/Request	Specific Base Object
Organization	`GetRequestt`	`OrganizationId`
User	`GetRequest`	`UserId`
Role	`GetRequest`	`RoleId`
Campaign	`GetRequest`	`CampaignId`
System address	`GetRequest`	`SystemAddressId`
Media server	`GetRequest`	`MediaServerId`
Web analytics	`GetRequest`	`WebAnalyticsId`
Mailing class	`GetRequest`	`MailingClassId`
External data source	`GetRequest`	`ExternalDataSourceId`
Internal data source	`GetRequest`	`InternalDataSourceId`
Target	`GetRequest`	`TargetId`
Seed list	`GetRequest`	`SeedListId`
Suppression list	`GetRequest`	`SuppressListId`
Template	`GetRequest`	`TemplateId`
Content blocks	`GetRequest`	`ContentBlockId`
Attachment	`GetRequest`	`AttachmentId`
Dynamic content	`GetRequest`	`RuleId`
Batch mailing	`GetRequest`	`MailingId`
Transactional mailing	`GetRequest`	`TransactionalMailingId`

Response

`BatchGetResponse`

The `BatchGetResponse` will include one or more `GetResponses` depending on the number of base objects you passed into the operation.

Faults

This operation does not throw a fault, instead the `FaultDetail` is wrapped in the response. Any faults will be returned in the `BatchGetResponse`, you will need to check each individual `GetResponse` for the exception. The following faults may be returned:

`AuthorizationFaultDetail`

`ObjectNotFoundFaultDetail`

`UnexpectedFaultDetail`

`UnrecognizedObjectTypeFaultDetail`

getRecords()

Use the getRecords() operation to retrieve up to ten records matching a specified match criteria. The API will accept a list of fields to be matched for retrieving the records. Each of the match fields specified should either be the primary key field or an Email Address field or an SMS Address field. The API will support retrieving up to a maximum of 10 records. It will error out if more than 10 records are matched. This API is only supported for internal data sources. The response may contain no records if the match fields do not match any record in the data source. In other words, the presence of the dataSourceRecords field is optional in the response.

Supported assets

The following list shows the Message Studio assets that are supported for the getRecords() operation:

Internal data sources

Recommendations

None.

Sample code

```
/*
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*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* -------------------------------------------------------------------- *
*/

/* Get records using the getRecords API. */

public void getRecord(InternalDataSourceId dataSourceId) throws Exception
{

/* Wait for data source status to be idle before adding */
  helper.waitForIdle(dataSourceId);

/* Use primary key (id) to fetch the records */

  GetDataSourceRecordsRequest getRecordRequest1 = new GetDataSourceRecordsRequest();
  getRecordRequest1.setDataSourceId(dataSourceId);
  NameValuePair idCol = new NameValuePair();
  idCol.setName("id");
  idCol.setValue("903");
  getRecordRequest1.getMatchFields().add(idCol);
  GetDataSourceRecordsResponse getRecordsResponse1 = (GetDataSourceRecordsResponse)
service.getRecords(getRecordRequest1);
  if (getRecordsResponse1.getDataSourceRecord() != null &&
getRecordsResponse1.getDataSourceRecord().size() > 0)
  {
    for (DataSourceRecord record : getRecordsResponse1.getDataSourceRecord())
    {
      printDataSourceRecord(record);
    }
  }

/* Wait for data source status to be idle before adding */
  helper.waitForIdle(dataSourceId);

/* Use the email field to fetch the records */
  GetDataSourceRecordsRequest getRecordRequest2 = new Get- DataSourceRecordsRequest();
  getRecordRequest2.setDataSourceId(dataSourceId);
  NameValuePair emailCol = new NameValuePair();
  emailCol.setName("email_address");
  emailCol.setValue("email_for_cxf_upsert-updated@cxf.com");
  getRecordRequest2.getMatchFields().add(emailCol);
  GetDataSourceRecordsResponse getRecordsResponse2 = (GetDataSourceRecordsResponse)
service.getRecords(getRecordRequest2);
  if (getRecordsResponse2.getDataSourceRecord() != null &&
getRecordsResponse2.getDataSourceRecord().size() > 0)
  {
    for (DataSourceRecord record : getRecordsResponse2.getDataSourceRecord())
    {
      printDataSourceRecord(record);
    }
  }
}
```

Request

```
/*
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*                                                                     *
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*                                                                     *
*                                                                     *
* ------------------------------------------------------------------- *
*/

<xs:complexType name="GetDataSourceRecordsRequest">
  <xs:complexContent>
    <xs:extension base="tns:GetRecordsRequest">
      <xs:sequence>
        <xs:element name="dataSourceId" type="tns- :DataSourceId"/>
        <xs:element name="matchFields" type="tns- :NameValuePair"
maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Response

```
/*
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*                                                                      *
*                                                                      *
* -------------------------------------------------------------------- *
*/

<xs:complexType name="GetDataSourceRecordsResponse">
  <xs:complexContent>
    <xs:extension base="tns:GetRecordsResponse">
      <xs:sequence>
        <xs:element name="dataSourceRecord" type="tns- :DataSourceRecord"
maxOccurs="unbounded" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
  Faults
</xs:complexType>
```

Faults

The API does not allow the following scenarios and throws an `InvalidObjectFault` exception:

- The specified data source (`dataSourceId`) is not of type: Internal.
- A non-existent column is specified in the match fields.
- A column specified in the match fields is neither the primary key, nor an email address field nor an SMS address field.
- A column is specified more than once in the match fields.
- The response contains more than 10 records that satisfy the match criteria.

getStatistics()

Use the `getStatistics()` operation to return basic statistics about a particular asset. For example, when you run a `getStatistics()` operation on a data source you can request the following:

- total number of invalid email addresses
- total number of malformed records
- total number of records
- total number of unsubscribed recipients
- time of the last data refresh

For a mailing, you can request the following report data:

- serial number of the launched mailing
- amount of elapsed time since the mailing launched
- launch time
- completion time
- number of deferred deliveries
- number of successful deliveries
- number of failed deliveries
- number of invalid email addresses included in the target
- number of sent emails (this successful deliveries + failed deliveries) I number of targeted recipients
- total number of clicks
- total number of complaints
- total number of opens
- total number of unsubscribes
- number of clicks by unique recipients
- number of complaints by unique recipients
- number of opens by unique recipients
- number of unsubscribes by unique recipients

Supported assets

The following list shows the Message Studio assets that are supported for the `getStatistics()` operation:

Internal data sources	Batch mailing
External data sources	Transactional mailing

Recommendations

None.

Code sequence

1. `list(filter)`
2. `getStatistics(request)`

Sample code

```
/*
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*                                                                       *
* -------------------------------------------------------------------- *
*/

/**
* Retrieve and print out a data source.
*
* @param dataSoruceId the data source ID that will be retrieved and printed.
* @throws Exception any exception
*/

public void getAndPrintStatistics(DataSourceId dataSourceId) throws Exception {

  /* Create request */
  GetDataSourceStatisticsRequest request = new GetDataSourceStatisticsRequest();
  request.setDataSourceId(dataSourceId);

  /* Make call */
  GetDataSourceStatisticsResponse response = (GetDataSourceStatisticsResponse)
service.getStatistics(request);
  System.out.println("\nStatistics for data source " + dataSourceId.getId());
  System.out.println("Total records: " + response.ge- tTotalRecords());
  System.out.println("Total invalid records: " + response.getTotalInvalidRecords());
  System.out.println("Total malformed records: " + response.getTotalMalformedRecords());
  System.out.println("Total unsub records: " + response.getTotalUnsubscribedRecords());
}
```

Supported requests

The `getStatistics()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Internal data source	`GetDataSourceStatisticsRequest`
External data source	`GetDataSourceStatisticsRequest`
Batch mailing	`GetMailingStatisticsRequest`
Transactional mailing	`GetMailingStatisticsRequest`

Response

`getStatisticsResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unrecognizedObjectTypeFault`

`unexpectedFault`

importContent()

Use the `importContent()` operation to import the actual attachment after you create an attachment using the `create()` operation.

Supported assets

The following list shows the Message Studio assets that are supported for the `importContent()` operation:

Attachment

Recommendations

None.

Code sequence

1. `list(filter)`
2. `importContent(request)`

or

1. `create (array_of_objects)`
2. `importContent (request)`

Sample code

```
/*
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*                                                                           *
* ------------------------------------------------------------------------ *
*/

/**
* Import attachment.
*
* @param attachmentId the AttachmentId that will be imported to.
* @param attachmentFile the attachment file that will be imported.
* @return if the importing operation is successful.
* @throws Exception any exception
*/

public boolean importContent(AttachmentId attachmentId, File attachmentFile) throws
Exception {
  ImportAttachmentContentRequest request = new ImportAttachmentContentRequest();
  request.setAttachmentId(attachmentId);
  request.setFileName(attachmentFile.getName());

/* Set content */

  InputStream is = new FileInputStream(attachmentFile);
  DataHandler dh = new DataHandler(new ByteArrayDataSource(is, "application/octet-
stream"));
  request.setContent(dh);
  return service.importContent(request).isSuccess();
}
}
```

Supported requests

The `importContent()` a single object. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Attachment	`ImportAttachmentContentRequest`

Response

`importContentResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unrecognizedObjectTypeFault`

`unexpectedFault`

importMessagePart()

Use the `importMessagePart()` operation to import the actual template content.

Supported assets

The following list shows the Message Studio assets that are supported for the `importMessagePart()` operation:

Template

Recommendations

None.

Code sequence

1. `list`*(filter)*
2. `importMessagePart`*(request)*

or

1. `create` *(array_of_objects)*
2. `importMessagePart` *(request)*

Sample code

```
/*
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*                                                                      *
* ------------------------------------------------------------------- *
*/

/**
* Import @param added to message part using a zip file and media server.   *
* templateId the template that message part will be @param the image files.*
* mediaServerId the media server that is used to store @param zipFile the   *
* zip file that contains HTML and image files. @param folderName the        *
* directory to unzip the zip file * @return if the importing operation is   *
* successful @throws Exception any exception                                *
```

```
*/

public boolean importMessagePart(TemplateId templateId, MediaServerId mediaServerId,
File zipFile, String folderName) throws Exception {

/* Create request */
  ImportMessagePartRequest request = new Import- MessagePartRequest();
  request.setFolderName(folderName);
  request.setIsXsl(false);
  request.setMediaServerId(mediaServerId);
  request.setTemplateId(templateId);

/* Set zip file */
  InputStream is = new FileInputStream(zipFile);
  DataHandler dh = new DataHandler(new ByteArrayDataSource(is, "application/octet-
stream"));
  request.setZipFile(dh);
  return service.importMessagePart(request).isSuccess();
}
```

Supported requests

The `importMessagePart()` a single object. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Attachment	`ImportMessagePartRequest`

Response

`importMessagePartResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unexpectedFault`

`launch()`

Use the `launch()` operation to launch an approved mailing.

Supported assets

The following list shows the Message Studio assets that are supported for the launch ()operation:

Batch mailing

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `launch`*`(request)`*

Sample code

```
/*
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*                                                                       *
* -------------------------------------------------------------------- *
*/

/*
* Launch a Standard Mailng.                                             *
* @param mailingId the ID of Standard Mailing that will be launched    *
* @return if launch operation is successful                            *
* @throws Exception any exception                                       *
*/
public boolean launchMailing(StandardMailingId mailingId) throws Exception {
  LaunchRequest request = new LaunchRequest();
  request.setMailingId(mailingId);
  return service.launch(request).isSuccess();
}
```

Supported requests

The `launch()` a single object. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Batch mailing	`LaunchRequest`

Response

`launchResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unexpectedFault`

`list()`

Use the `list()` operation to query Message Studio for a list of ids associated with a specific or series of specific assets. The `list()` operation requires you to set a filter that will return the ids of specific assets. You will basically set a series of conditions that you expect the returned list to conform to; for example, the sample code below searches all system addresses for a specific email address.

Supported assets

The following list shows the Message Studio assets that are supported for the `list()` operation:

Organization	Target
User	Seed list
Role	Suppression list
Campaign	Template
System address	Content block
Media server	Attachment
Web analytics	Dynamic content
Mailing class	Batch mailing
External data source	Transactional mailing
Internal data source	

Recommendations

Each `listRequest` takes a filter and there is one filter for each object type. Then, you can set one or more conditions for each filter. There are two condition types:

- scalar - used for a single value.
- array - used for a list of values, such as mailing types, or mailing status.

Each condition has an operator, such as `EQUAL` and a value. Based on the condition, a value may be a string, id, integer, or boolean. In one filter, you can set multiple conditions.

This may include page number, number of records per page, ordering type, or order by fields for each filter. If you do not choose to set these, the default values will be `pagenumber=0` (first page), `number of records=10` per page, and ascending order. The max number of records you can set is 200.

Code sequence

1. `list(`*`filter)`*

Sample code

Sample 1: Filter system addresses by type and a specific email address

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                 *
*                                                                     *
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*                                                                     *
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*  and the copyright notices are not removed from the source code.    *
*                                                                     *
*  Distributing our source code outside your organization             *
*  is strictly prohibited                                             *
*                                                                     *
* ------------------------------------------------------------------- *
*/

/*
* List SystemAddress by type (bounce/from/reply) and email address.   *
* There is no filter by email address, so we need to get all address  *
* for one type and filter them again.                                 *
*                                                                     *
* @param type the SystemAddressType to filter on                      *
* @param emailAddress the email address to match                      *
* @return the SystemAddress that belongs to the type and matches      *
* the email address                                                   *
* @throws Exception any exception                                     *
*/

public SystemAddress listByEmailAddress(SystemAddressType type, String emailAddress)
throws Exception {

/* Create and set attribute for filter  */

  SystemAddressFilter filter = new SystemAddressFilter();
  helper.setFilter(filter);

/* Create type condition */

  ScalarStringFilterCondition typeCondition = new ScalarStringFilterCondition();
  typeCondition.setOperator(FilterStringScalarOperator.EQUAL);

/* Set type condition value */

  if (type.equals(SystemAddressType.BOUNCE))
    {
    typeCondition.setValue(SystemAddressType.BOUNCE.value());
    }
  else if (type.equals(SystemAddressType.FROM))
    {
      typeCondition.setValue(SystemAddressType.FROM.value());
    }
    else if (type.equals(SystemAddressType.REPLY))
    {
      typeCondition.setValue(SystemAddressType.REPLY.value());
    }
    filter.setTypeCondition(typeCondition);

/* Create request and make call */
    ListRequest request = new ListRequest();
    request.setFilter(filter);
    List<ObjectId> addressIds = service.list(request).getObjectId();

/* Go through all addresses to get the one that matches email address. */

    for (ObjectId each: addressIds)
    {
      SystemAddress address = (SystemAddress) helper.get((SystemAddressId) each);
      if (address.getEmailAddress().equals(emailAddress))
      {
          return address;
      }
    }
    return null;
  }
}
```

Sample 2: Lists mailings by name and returns one mailing if the name is matched.

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
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*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* -------------------------------------------------------------------- *
*/

/*
* List mailings by name: this should return one mailng if name is matched.
*
* @param name the mailing name to be listed
* @throws Exception any exception
*/

public void listByName(String name) throws Exception {
  MailingFilter filter = new MailingFilter();
  helper.setFilter(filter);

/* Create name condition */
  ScalarStringFilterCondition nameCondition = new ScalarStringFilterCondition();
  nameCondition.setOperator(FilterStringScalarOperator.EQUAL);
  nameCondition.setValue(name);
  filter.setNameCondition(nameCondition);

/* Set the filter to request */
  ListRequest request = new ListRequest();
  request.setFilter(filter);

/* Make call and print results */
  printListResponse(service.list(request));
}
```

Sample 3: Lists mailings in a specific organization.

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
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*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* -------------------------------------------------------------------- *
*/

/**
* List maiilng in an organization: this can be done using an empty filter.
* The organization is the one from header.
* @throws Exception any exception
*/
public void listByOrganization() throws Exception {

/* Create empty filter: no conditions */

  MailingFilter filter = new MailingFilter(); helper.setFilter(filter);

/* Set the filter to request */

  ListRequest request = new ListRequest();
  request.setFilter(filter);

/* Make call and print results */

  printListResponse(service.list(request));
}
```

Sample 4: Lists mailings by type and status.

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
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*  and the copyright notices are not removed from the source code.    *
*                                                                     *
*  Distributing our source code outside your organization             *
*  is strictly prohibited                                             *
*                                                                     *
* ------------------------------------------------------------------- *
*/

/**
* List mailings by mailing type and status.
*
* @throws Exception any exception
*/

public void listByTypeAndStatus() throws Exception {

/* Create a mailing filter and set attribute and order by list */
  MailingFilter filter = new MailingFilter(); helper.setFilter(filter);
filter.getOrderBy().add(MailingOrderBy.NAME); filter.getOrderBy().add
(MailingOrderBy.MODIFIED_TIME);

/* Create status condition: status in (ACTIVE, EDITIN, COMPLETED) */
  ArrayStringFilterCondition statusCondition = new ArrayStringFilterCondition();
  statusCondition.setOperator(FilterArrayOperator.IN);
  statusCondition.getValue().add(MailingStatus.ACTIVE.value());
  statusCondition.getValue().add(MailingStatus.EDITING.value());
  statusCondition.getValue().add(MailingStatus.COMPLETED.value());
  filter.setStatusCondition(statusCondition);

/* Create Type Condition: type in (RECURRING, TRANSACTIONAL) */
  ArrayStringFilterCondition typeCondition = new ArrayStringFilterCondition();
  typeCondition.setOperator(FilterArrayOperator.IN);
  typeCondition.getValue().add(MailingType.RECURRING.value());
  typeCondition.getValue().add(MailingType.TRANSACTIONAL.value());
  filter.setTypeCondition(typeCondition);

/* Set the filter to request */
  ListRequest request = new ListRequest();
  request.setFilter(filter);

/* Make call and print results */
  printListResponse(service.list(request));
}

private void printListResponse(ListResponse response) throws Exception {
  List<ObjectId> mailingIds = response.getObjectId();
  System.out.println("\nList Response:");
  for (ObjectId each: mailingIds) {
    Mailing mailing = (Mailing) helper.get(each);
    System.out.println("\t" + each.getId() + " " + mail- ing.getName());
  }
}
}
```

Supported requests

The `list()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request	Specific Base Object
Organization	`ListRequest`	`OrganizationId`
User	`ListRequest`	`UserId`
Role	`ListRequest`	`RoleFilter`
Campaign	`ListRequest`	`CampaignFilter`
System address	`ListRequest`	`SystemAddressFilter`
Media server	`ListRequest`	`MediaServerFilter`
Web analytics	`ListRequest`	`WebAnalyticsFilter`
Mailing class	`ListRequest`	`MailingClassFilter`
External data source	`ListRequest`	`ExternalDataSourceFilter`
Internal data source	`ListRequest`	`InternalDataSourceFilter`
Target	`ListRequest`	`TargetFilter`
Seed list	`ListRequest`	`SeedListFilter`
Suppression list	`ListRequest`	`SuppressListFilter`
Template	`ListRequest`	`TemplateFilter`
Content blocks	`ListRequest`	`ContentBlockFilter`
Attachment	`ListRequest`	`AttachmentFilter`
Rule	`ListRequest`	`RuleFilter`
Batch mailing	`ListRequest`	`MailingFilter`
Transactional mailing	`ListRequest`	`TransactionalMailingFilter`

Response

`listResponse`

Faults

`unrecognizedObjectTypeFault`

`unexpectedFault`

`invalidObjectFault`

`load()`

Use the `load()` operation to load an approved transactional mailing.

Supported assets

The following list shows the Message Studio assets that are supported for the `load()` operation:

Transactional mailing

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `load`*`(request)`*

Sample code

```
/*
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*  and the copyright notices are not removed from the source code.     *
*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* -------------------------------------------------------------------- *
*/

/**
* Load a Transactional Mailing.
* @param mailingId the ID of Transactional Mailing that will be loaded
* @return if load operation is successful
* @throws Exception any exception
*/
public boolean loadMailing(TransactionalMailingId mailingId) throws Exception {
  LoadRequest request = new LoadRequest();
  request.setMailingId(mailingId);
  return service.load(request).isSuccess();
}
```

Supported requests

The *`load()`* a single object. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Transactional mailing	`loadRequest`

Response

`loadResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unexpectedFault`

`pause()`

Use the `pause()` operation to pause a standard or transactional mailing. Pausing allows you to update template, content, or headers. You cannot modify the schema when you pause a mailing. Paused mailings can be resumed.

Supported assets

The following list shows the Message Studio assets that are supported for the `pause()` operation:

Batch mailing	Transactional mailing

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `pause`*`(request)`*

Sample code

```
/*
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*                                                                     *
* ------------------------------------------------------------------- *
*/

/**
* Pause a standard or transactional mailing. *
* @param mailingId the ID of the Mailing that will be paused
* @return if close operation is successful
* @throws Exception any exception */

public boolean pause(MailingId mailingId) throws Exception {
  PauseRequest request = new PauseRequest();
  request.setMailingId(mailingId);
  return service.pause(request).isSuccess();
}
```

Supported requests

The `pause()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Batch mailing	`PauseRequest`
Transactional mailing	`PauseRequest`

Response

`pauseResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unexpectedFault`

`refreshRecords()`

Use the `refreshRecords()` operation to refresh the local copy of an external data source.

Supported assets

The following list shows the Message Studio assets that are supported for the `refreshRecords()` operation:

External data source

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `refreshRecords`*`(request)`*

Sample code

```
/*
* -------------------------------------------------------------------- *
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*                                                                      *
* -------------------------------------------------------------------- *
*/

/**
* Refresh External Data Source records.
*
* @param edsId the EDS ID to be refreshed.
* @return if refresh is successful
* @throws Exception any exception
*/

public boolean refreshRecords(ExternalDataSourceId edsId) throws Exception {
  RefreshRecordsRequest request = new RefreshRecordsRequest();
  request.setDataSourceId(edsId);
  return service.refreshRecords(request).isSuccess();
}
```

Supported requests

The `refreshRecords()` a single object. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
External data source	`RefreshRecordsRequest`

Response

`refreshRecordsResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unexpectedFault`

`concurrentModificationFault`

`removeRecords()`

Use the `removeRecords()` operation to remove recipient data from a data source, seed list, or suppression list.

Supported assets

The following list shows the Message Studio assets that are supported for the `removeRecords()` operation:

Internal data source	Seed list
External data source	Suppression list

Recommendations

In most cases, you should delete records from your external data source directly from your database and not through the API. StrongMail does not recommend deleting records from your external data source through the API or the UI.

Code sequence

1. `list`*`(filter)`*
2. `removeRecords`*`(request)`*

Sample code

```
/*
* ------------------------------------------------------------------ *
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*                                                                     *
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*  is strictly prohibited                                             *
*                                                                     *
* ------------------------------------------------------------------ *
*/

/**
* Remove one record that was created in addRecordsInline() from the SeedList.
*
* @param seedListId the SeedListId whose record will be removed.
* @return the number of record that was removed.
* @throws Exception any exception
*/
```

```
public int removeRecordsInline(SeedListId seedListId) throws Exception {
  RemoveSeedListRecordsRequest request = new RemoveSeedListRecordsRequest();
  request.setSeedListId(seedListId);
  request.getAddress().add("seed1@seed.cxf.com");
  return service.removeRecords(request).getRecordsRemoved();
}
```

Supported requests

The `removeRecords()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Internal data source	`RemoveDataSourceRecordsRequest`
External data source	`RemoveDataSourceRecordsRequest`
Seed list	`RemoveSeedListRecordsRequest`
Suppression list	`RemoveSuppressionListRequest`

Response

`removeRecordsResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unrecognizedObjectTypeFault`

`unexpectedFault`

`concurrentModificationFault`

`resume()`

Use the `resume()` operation to resume delivery of a paused mailing. If you made modifications to the mailing content or headers, the modifications are used when the mailing is resumed.

Supported assets

The following list shows the Message Studio assets that are supported for the `resume()` operation:

Batch mailing	Transactional mailing

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `resume`*`(request)`*

Sample code

```
/*
* ------------------------------------------------------------------- *
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*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* ------------------------------------------------------------------- *
*/

/**
* Resume a standard or transactional mailing. *
* @param mailingId the ID of Mailing that will be closed
* @return if close operation is successful
* @throws Exception any exception */

public boolean resume(MailingId mailingId) throws Exception {
  ResumeRequest request = new ResumeRequest();
  request.setMailingId(mailingId);
  return service.resume(request).isSuccess();
}
```

Supported requests

The `resume()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Batch mailing	`ResumeRequest`
Transactional mailing	`ResumeRequest`

Response

`resumeResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unexpectedFault`

schedule()

Use the `schedule()` operation to schedule a mailing to launch at a specific interval.

Supported assets

The following list shows the Message Studio assets that are supported for the `schedule()` operation:

Batch mailing

Recommendations

None.

Code sequence

1. `create` *(mailing)* --> set the schedule in the mailing while saving it
2. `schedule` *(request)*

Sample code

```
/*
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*                                                                       *
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*  is strictly prohibited                                               *
*                                                                       *
* -------------------------------------------------------------------- *
*/

mailing.setType(MailingType.RECURRING);

/* Set schedule: daily recurrence with every two days */

SchedulableMailing.Schedule.Recurrence.DailyRecurrence daily = new
SchedulableMailing.Schedule.Recurrence.DailyRecurrence();
daily.setInterval(2);
SchedulableMailing.Schedule.Recurrence recurrence = new
SchedulableMailing.Schedule.Recurrence();
recurrence.setEndAfterXMailings(100); /* launch 100 mailing */
recurrence.setDailyRecurrence(daily);
SchedulableMailing.Schedule schedule = new SchedulableMailing.Schedule();
schedule.setRecurrence(recurrence); /* one hour later */
schedule.setStartDateTime(new Date(System.currentTimeMillis() + 3600000));
```

```
mailing.setSchedule(schedule);
...
/* Now call the create mailing API to save the mailing and collect the */
/* mailingId from the create API.*/
/* Finally, schedule the mailing using its mailing id.*/
ScheduleRequest request = new ScheduleRequest();
request.setMailingId(mailingId);
service.schedule(request);
```

Supported requests

The `schedule()` a single object. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	**Object/Request**
Batch mailing	`schedule()`

Response

`ScheduleResponse`

Faults

`AuthorizationFaultDetail`

`InvalidObjectFaultDetail`

`ObjectNotFoundFaultDetail`

`UnexpectedFaultDetail`

`UnrecognizedObjectTypeFaultDetail`

`send()`

The `send()` operation has been deprecated. Please use the **`txnsend()`** call to trigger the sending of messages for a transactional mailing. The `txnsend()` operation provides better send performance.

Use the `send()` operation to send a test transactional email; `send()` delivers a payload that includes the recipient data identified in the schema for the transactional mailing. The maximum payload size is 255KB.

Supported assets

The following list shows the Message Studio assets that are supported for the `send()` operation:

Transactional mailing

Code sequence

1. `list`*`(filter)`*
2. `send`*`(request)`*

Response

`sendResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unexpectedFault`

test()

Use the `test()` operation to test the dynamic content within a template or mailing by sending a test mailing. For more information, please read the **Message Studio User Guide**.

Supported assets

The following list shows the Message Studio assets that are supported for the `test()` operation:

Template	Batch mailing

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `test`*`(request)`*

Sample code

```
/*
* ----------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                      *
*                                                                          *
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*                                                                          *
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*                                                                          *
*  Distributing our source code outside your organization                 *
*  is strictly prohibited                                                  *
*                                                                          *
* ----------------------------------------------------------------------- *
*/

/**
* Test template for it dynamic content.
* Email will be sent and tokens in the template will be replaced with values.
*
* @param templateId the TemplateId that will be sent out.
* @return if the test request is sent successfully.
* @throws Exception any exception
*/

public boolean testTemplate(TemplateId templateId) throws Exception {
  TestTemplateRequest request = new TestTemplateRequest();
  request.setSubjectPrefix("Subject Prefix: ");
  request.setTemplateId(templateId);
  request.setTestListId(null);
  request.setUseMultiPart(false);
  request.getAddress().add("test_address@testtemplate.com");
  request.getFormat().add(MessageFormat.HTML);

/* Make sure you have these two tokens in your template */
  NameValuePair pair1 = new NameValuePair(); pair1.setName("EMAIL");
  pair1.setValue("testemail@testtemplate.com");
  request.getTokenValue().add(pair1);
  NameValuePair pair2 = new NameValuePair();
  pair2.setName("NAME");
  pair2.setValue("testemail name");
  request.getTokenValue().add(pair2);
  return service.test(request).isSuccess();
}
```

Supported requests

The `test()` operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	**Object/Request**
Template	`TestRemplateRequest`
Batch mailing	`TestMailingRequest`

Response

`testResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unrecognizedObjectTypeFault`

`unexpectedFault`

`invalidObjectFault`

`txnSend()`

There are three methods that can be used for sending transactional messages:

1. `txnSend()` This method is recommended for moderate voume/frequency transactional mailing applications. The frequency of `txnSend()` requests should not exceed 500,000 per hour.

2. Create transactional mailings through the Message Studio API and then use the EAS `send()` API for very high volume/frequency applications.

3. `send()` This method is still supported but has been deprecated due to performance constraints.

Supported assets

The following list shows the Message Studio assets that are supported for the `txnSend()` operation:

Transactional mailing

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `txnSend`*`(request)`*

Sample code

The following method uses name/value pairs, which take a string that contains all data to send the transactional email.

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
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*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* ------------------------------------------------------------------ *
*/

/**
* Fetch the handle for a tx mailing, that is to be used in the txnSend API. *
* @param mailingId
* @return mailing handle
* @throws Exception
*/

public String getTxnMailingHandle(TransactionalMailingId mailingId) throws Exception {

/* Create request and set mailingId */
  GetTxnMailingHandleRequest request = new GetTxnMailingHandleRequest();
  request.setMailingId(mailingId);
  return service.getTxnMailingHandle(request).getHandle();
}

public boolean txnSend(String mailingHandle) throws Exception {

/* Create request and set mailingId */
  TxnSendRequest request = new TxnSendRequest();
  request.setHandle(mailingHandle);

/* Create record based on the target created in TargetSample */
  SendRecord record = new SendRecord();
  NameValuePair pair1 = new NameValuePair();
  pair1.setName("ID");
  pair1.setValue("10");
  record.getField().add(pair1);
  NameValuePair pair2 = new NameValuePair();
  pair2.setName("EMAIL_ADDRESS");
  pair2.setValue("sample1@cxf.sample.com");
  record.getField().add(pair2);
  NameValuePair pair3 = new NameValuePair();
  pair3.setName("NAME");
  pair3.setValue("First Last");
  record.getField().add(pair3);

/* Add record and make call */
  request.getSendRecord().add(record);
  boolean success = false;
  try
  {
    success = service.txnSend(request).isSuccess();
  }
  catch (BadHandleFault e)
  {
    System.out.println("Encountered a BadHandleFault. " + e.getFaultInfo
().getFaultMessage());
    System.out.println("This indicates that the handle being used to attempt the txnSend
call is incorrect.");
    System.out.println("Please ensure that you send the correct handle using the
getTxnMailingHandle() API.");
  }
  return success;
}
```

Supported requests

The `txnSend()` a single object. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Transactional mailing	`TxnSendRequest`

Response

boolean success

Faults

`BadHandleFault`

See also
[send()](#)

`update()`

Use the `update()` operation to edit and update the content of the specified asset. For example, you could do any of the following (and more):

- rename an asset
- change a target's query
- modify a content block

Supported assets

The following list shows the Message Studio assets that are supported for the `update ()` operation:

Internal data sources	Content blocks
External data sources	Attachment
Target	Rule
Seed list	Batch mailing
Suppression list	Transactional mailing
Template	

Recommendations

- Updating a mailing or template to `isApproved=true`, triggers validation checks. All objects must have all necessary attributes for launching or the server will return a fault.
- The following table lists the fields that are read-only fields and cannot be updated:

Asset	Read-only fields
Data source	`objectId`, `createdTime`, `operationStatus`, `modifiedTime` (from BaseObject), `version` (from BaseObject), `organizationId`, `ownerId`.
Target	`objectId`, `totalRecords`, `retargetingDataSourceId`, `createdTime`, `modifiedTime` (from BaseObject), `version` (from BaseObject),`organizationId`, `ownerId`.
Seed list	`objectId`, `totalRecords`, `createdTime`, `modifiedTime` (from BaseObject), `version` (from BaseObject), `organizationId`, `ownerId`
Suppression list	`objectId`, `totalRecords`, `createdTime`, `modifiedTime` (from BaseObject), `version` (from BaseObject), `organizationId`, `ownerId`
Template	`objectId`, `createdTime`, `modifiedTime` (from BaseObject), `version` (from BaseObject), `organizationId`, `ownerId`

Content block	`objectId`, `size`, `createdTime`, `modifiedTime` BaseObject), `version` (from BaseObject), `organizationId`, `ownerId`
Attachment	`objectId`, `size`, `createdTime`, `modifiedTime` BaseObject), `version` (from BaseObject), `organizationId`, `ownerId`
Rule	`objectId`, `createdTime`, `modifiedTime` (from BaseObject), `version` (from BaseObject), `organizationId`, ownerId
Batch & trans-actional mailings.	`objectId`, `createdTime`, `modifiedTime` (from BaseObject), `version` (from BaseObject), `organizationId`, `ownerId`, `for-mat`, `parentId`, `lastGoodStatus`, `serverErrorCode`, `serve-rErrorMessage`, `status`

Code sequence

1. `list`*`(filter)`*
2. `get` *`(object_ids)`*
3. `update`*`(array_of_objects)`*

Sample code

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                 *
*                                                                     *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.     *
*                                                                     *
*  Visit http://www.strongmail.com for more information               *
*                                                                     *
*  You may incorporate this Source Code in your application only if   *
*  you own a valid license to do so from StrongMail Systems, Inc.     *
*  and the copyright notices are not removed from the source code.    *
*                                                                     *
*  Distributing our source code outside your organization             *
*  is strictly prohibited                                             *
*                                                                     *
* ------------------------------------------------------------------- *
*/

/**
* Update an data source with new name.
*
* @param dataSourceId the data source ID whose name will be updated
* @param newName the new name for the data source
* @throws Exception any exception
*/
public void updateDataSourceName(DataSourceId dataSourceId, String newName) throws
Exception {

/* Get the data source first */
  List<ObjectId> dataSourceIds = new ArrayList<ObjectId>(1);
  dataSourceIds.add(dataSourceId);
  DataSource dataSource = (DataSource) help- er.get(dataSourceIds).get(0);

/* Change name and update */
  dataSource.setName(newName);
  helper.update(dataSource);
}
```

Supported requests

The *`update()`* operation supports multiple objects, which means this single operation is used to perform a similar operation on different objects. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

You must pass in an array of objects for the `update()` operation. The array of objects may be defined as a single asset or as multiple assets to be updated.

Functional area	Object/Request	Specific Base Object
External data source	`updateRequest`	`ExternalDataSource`
Internal data source	`updateRequest`	`InternalDataSource`
Target	`updateRequest`	`Target`
Seed list	`updateRequest`	`SeedList`
Suppression list	`updateRequest`	`SuppressList`
Template	`updateRequest`	`Template`
Content blocks	`updateRequest`	`ContentBlock`
Attachment	`updateRequest`	`Attachment`
Rule	`updateRequest`	`Rule`
Batch mailing	`updateRequest`	`Mailing`
Transactional mailing	`updateRequest`	`TransactionalMailing`

Response

`BatchUpdateResponse`

The `BatchUpdateResponse` will include one or more `UpdateResponse`s depending on the number of base objects you passed into the operation.

Faults

This operation does not throw a fault, instead the `FaultDetail` is wrapped in the response. Any faults will be returned in the `BatchUpdateResponse`, you will need to check each individual `UpdateResponse` for the exception. The following faults may be returned:

```
AuthorizationFaultDetail
InvalidObjectFaultDetail
ObjectNotFoundFaultDetail
StaleObjectFaultDetail
UnexpectedFaultDetail
UnrecognizedObjectTypeFaultDetail
```

Tracking tags

Support is provided for the following tracking tags:

- None
- OPENTAG
- ENOPENTAG
- CLICKTAG
- SHORTCLICKTAG
- ENCLICKTAG
- UNSUBSCRIBETAG
- SHORTUNSUBSCRIBETAG I ENUNSUBSCRIBETAG
- FTAFTAG
- ENFTAFTAG
- SHARETAG
- ENSHARETAG
- VIEWINBROWSERTAG
- ENVIEWINBROWSERTAG

upsertRecord()

Use the `upsertRecord()` operation to do a single record add or update in one step. This API is only supported for internal data sources.

Supported assets

The following list shows the Message Studio assets that are supported for the `upsertRecord()` operation:

Internal data sources

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `copy`*`(request)`*

Sample code

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
*  You may incorporate this Source Code in your application only if    *
*  you own a valid license to do so from StrongMail Systems, Inc.      *
*  and the copyright notices are not removed from the source code.     *
*                                                                      *
*  Distributing our source code outside your organization              *
*  is strictly prohibited                                              *
*                                                                      *
* -------------------------------------------------------------------- *
*/

public void upsertRecord(InternalDataSourceId dataSourceId) throws Exception
{
  addSampleRecordForUpsert(dataSourceId);

/* Wait for data source status to be idle before adding */
  helper.waitForIdle(dataSourceId);

/* A non-existent record, which will get added. */
  UpsertDataSourceRecordsRequest upsertRequest1 = new UpsertDataSourceRecordsRequest();
  upsertRequest1.setDataSourceId(dataSourceId);
  DataSourceRecord newRecord = new DataSourceRecord();
  NameValuePair idCol = new NameValuePair();
  idCol.setName("id");
  idCol.setValue("903");
  newRecord.getField().add(idCol);
  NameValuePair emailCol = new NameValuePair();
  emailCol.setName("email_address");
  emailCol.setValue("email_for_cxf_upsert3@cxf.com");
  newRecord.getField().add(emailCol);
  NameValuePair nameCol = new NameValuePair();
  nameCol.setName("name");
  nameCol.setValue("cxf_name_for_upsert3");
  newRecord.getField().add(nameCol);
  upsertRequest1.getDataSourceRecord().add(newRecord);
  service.upsertRecord(upsertRequest1);

/* Wait for data source status to be idle before adding */
  helper.waitForIdle(dataSourceId);

/* An existing record, which will get updated. */
  UpsertDataSourceRecordsRequest upsertRequest2 = new UpsertDataSourceRecordsRequest();
  upsertRequest2.setDataSourceId(dataSourceId);
  DataSourceRecord updateRecord = new DataSourceRecord();
  idCol = new NameValuePair();
  idCol.setName("id");
  idCol.setValue("901");
  updateRecord.getField().add(idCol);
  emailCol = new NameValuePair();
  emailCol.setName("email_address");
  emailCol.setValue("email_for_cxf_upsert-updat- ed@cxf.com");
  updateRecord.getField().add(emailCol);
  upsertRequest2.getDataSourceRecord().add(updateRecord);
  service.upsertRecord(upsertRequest2);
}
```

Request

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                 *
*                                                                     *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.     *
*                                                                     *
*  Visit http://www.strongmail.com for more information               *
*                                                                     *
* ------------------------------------------------------------------- *
*/

<xs:complexType name="UpsertDataSourceRecordsRequest">
  <xs:complexContent>
    <xs:extension base="tns:UpsertRecordsRequest">
      <xs:sequence>
        <xs:element name="dataSourceId" type="tns- :DataSourceId"/>
        <xs:element name="dataSourceRecord" type="tns- :DataSourceRecord"
maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Response

```
/*
* ------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                  *
*                                                                      *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.      *
*                                                                      *
*  Visit http://www.strongmail.com for more information                *
*                                                                      *
* ------------------------------------------------------------------- *
*/
<xs:complexType name="UpsertRecordsResponse">
  <xs:complexContent>
    <xs:extension base="tns:Response">
      <xs:sequence>
        <xs:element name="success" type="xs:boolean"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Faults

The API does not allow the following scenarios and throws an `InvalidObjectFault`:

- No `dataSourceRecord` specified in the request.
- More than one `dataSourceRecord` specified in the request.
- A non-existent column in specified in the input record.
- A system column in specified in the input record.
- A column is specified more than one in the input record.

`validateXsl()`

Use the `validateXsl()` operation to validate the XSL in an XSL template.

Supported assets

The following list shows the Message Studio assets that are supported for the `validateXsl()` operation:

Template

Recommendations

None.

Code sequence

1. `list`*`(filter)`*
2. `validateXsl`*`(request)`*

Sample code

```
/*
* -------------------------------------------------------------------- *
*  STRONGMAIL SYSTEMS                                                   *
*                                                                       *
*  Copyright 2012 StrongMail Systems, Inc. - All rights reserved.       *
*                                                                       *
*  Visit http://www.strongmail.com for more information                 *
*                                                                       *
*  You may incorporate this Source Code in your application only if     *
*  you own a valid license to do so from StrongMail Systems, Inc.       *
*  and the copyright notices are not removed from the source code.      *
*                                                                       *
*  Distributing our source code outside your organization               *
*  is strictly prohibited                                               *
*                                                                       *
* -------------------------------------------------------------------- *
*/
/**
* Validate if a template's xsl content is valid.
*
* @param templateId the TemplateId whose XSL content will be validated.
* @return if the content is valid XSL
* @throws Exception any exception
*/

public boolean validateXsl(TemplateId templateId) throws Exception {
  ValidateXslRequest request = new ValidateXslRequest();
  request.setMessageFormat(MessageFormat.HTML);
  request.setTemplateId(templateId);
  return service.validateXsl(request).isValid();
}
```

Supported requests

The `validateXsl()` a single object. When writing for the API, you will need to pass the appropriate object as an argument into the operation.

Each object is associated with a functional area of the Message Studio UI, and is also mapped to a specific SOAP request. The following table maps the functional area to the object/request.

Functional area	Object/Request
Template	`ValidateXslRequest`

Response

`validateXslResponse`

Faults

`objectNotFoundFault`

`authorizationFault`

`unexpectedFault`

Error handling

When you pass SOAP calls using the API, Message Studio may return one of the faults below:

Fault	Definition
`authorizationFault`	Occurs when log into Message Studio (through the SOAP header) with a user that does not have the appropriate permissions to execute the operation.
`concurrentModificationFault`	Occurs when a different user modifies an asset between the time you perform the `get()` and the `update()`.
`objectNotFoundFault`	Occurs when you attempt to access an asset that does not exist within Message Studio. For example, if you call an operation on an `objectId` that doesn't exist within Message Studio.
`invalidObjectFault`	Occurs when an object that was passed into the operation includes a parameter with an invalid value.
`staleObjectFault`	Occurs when the server has a new copy than the one held by the API. You must re-get the same object before performing any operation.
`unexpectedFault`	Occurs when an error, other than the ones listed here, occurs.
`unrecognizedObjectTypeFault`	Occurs when you pass the wrong kind of object to the operation. For example, if you tried to perform a `refreshRecords()` operation on a mailing instead of on an external data source.

Resources

The Message Studio web service is organized as a set of objects defined in the XSD file, and a set of operations defined in the WSDL file. This new API uses the same authentication and authorization model as Message Studio.

HTML description

Once you have installed StrongMail and Message Studio 5.2, you can get an HTML description of the service file by using:

```
https://hostname:4443/sm/services/
```

where:

hostname is the hostname of your Message Studio server.

This page also includes the service endpoint URL.

WSDL

The WSDL is available from the following location:

```
https://hostname:4443/sm/services/mailing/2009/03/02?wsdl
```

where:

hostname is the hostname of your Message Studio server.

XSD

The XSD is available from the following location:

```
https://hostname:4443/s-
m/services/mailing/2009/03/02?xsd=MailingServiceSchema.xsd
```

where:

hostname is the hostname of your Message Studio server.

All required parameters for each operation are defined in the XSD. Make sure that you review these parameters and are familiar with the required parameters. Optional parameters will have `minOccurs=”0”`; any other value for `minOccurs` indicates a required parameter. If `minOccurs` is not specified, it defaults to 1 and is required.

Action status

When you call an action, you must wait for a specific status to make sure the action has suc- cessfully completed before calling another action for the same mailing. The following table indi- cates the actions you can call and the status you must wait for before calling a second action:

Action	**Wait for**
Pause	PAUSED
Load	ACTIVE
Cancel	CANCELED
Resume	ACTIVE
Launch	ACTIVE
Close	COMPLETED

Mailing status is defined in the MailingServiceSchema.xsd, MailingStatus type.

Network considerations

By default, the Message Studio web service runs on port 4443. This is configured during Message Studio installation.

Sample code

Sample code is available on the Message Studio server in the following directory:

```
/data1/message_studio/lib/sm/webservice_samples.tar.gz
```

In addition, you can access the code from a browser:

```
https://hostname/sm/webservice_samples.tar.gz
```

where:

hostname is the hostname of your Message Studio server.