

Web Push Server

TsgcWSAPIServer_WebPush — RFC 8030 Web Push server, VAPID-signed (RFC 8292) push to all major browser push services.

Overview

TsgcWSServer_API_WebPush is a component that provides functionality for handling WebPush subscriptions. WebPush is a protocol for delivering real-time notifications to web applications that run in the browser. This component can be used to manage subscriptions and send notifications to subscribed clients. Find below the properties, events, and methods provided by TsgcWSServer_API_WebPush class, along with code examples that demonstrate how to use them.

At a glance

COMPONENT CLASS

TsgcWSAPIServer_WebPush

STANDARDS / SPEC

Web Push Protocol — RFC 8030

TRANSPORTS

TCP, TLS

PLATFORMS

Windows, macOS, Linux, iOS, Android

FRAMEWORKS

VCL, FireMonkey, Lazarus / FPC

EDITION

Standard / Professional / Enterprise

Features

- Native Delphi implementation with full ANSI/Unicode support.

Technical specification

Standards & specs	Web Push Protocol — RFC 8030 · VAPID — RFC 8292
Component class	<code>TsgcWSAPIServer_WebPush</code> (unit <code>sgcWebSocket_Server_API_WebPush</code>)
Frameworks	VCL, FireMonkey, Lazarus / FPC
Platforms	Windows, macOS, Linux, iOS, Android

Main properties

The principal published / public properties used to configure and drive the component. Consult the online help for the full list.

<code>Server</code>	WebSocket/HTTP server this API component is attached to; its HTTP listener is used to serve the Web Push endpoints (subscription, service worker, VAPID public key).
<code>WebPush</code>	Options container for Web Push configuration: VAPID keys, client TLS/log settings and the built-in HTTP endpoints served by the component.
<code>Version</code>	Read-only string that returns the <code>sgcWebSockets</code> library version compiled into the component.

Main methods

The principal public methods exposed by the component.

<code>SendNotification()</code>	Encrypts and POSTs a Web Push notification to a single subscription endpoint using the configured VAPID credentials.
<code>BroadcastNotification()</code>	Sends the same notification to every subscription currently held in the internal Subscriptions list.
<code>KeepAlive()</code>	Inherited helper that writes a keepalive/ping frame to a single WebSocket connection so idle links stay open through proxies.

Public events

The component exposes the following published events; consult the online help for full event-handler signatures.

OnWebPushSendNotificationException

TsgcWSAPIServer_WebPush › Events ›
OnWebPushSendNotificationException

OnWebPushSubscription

Fires when a browser POSTs to the Subscription endpoint after calling `PushManager.subscribe()`; receive the endpoint, p256dh key and auth secret to persist server-side.

OnWebPushUnsubscription

TsgcWSAPIServer_WebPush › Events ›
OnWebPushUnsubscription

Quick Start

Drop the component on a form, configure the properties below and activate it. The snippet that follows shows the typical **TsgcWebPush_Client** configuration sourced from the online help.

About this scenario. The TsgcWebPush_Client is a class that allows you to send a notification once you obtain the subscription details.

Delphi (VCL / FireMonkey)

```
procedure SendWebPushNotification;
var
  oSubscription: TsgcHTTP_API_WebPush_PushSubscription;
  oWebPush: TsgcWebPush_Client ;
begin
  oSubscription := TsgcHTTP_API_WebPush_PushSubscription.Create;
  try
    oSubscription.Endpoint := 'endpoint';
    oSubscription.PublicKey := 'public key';
    oSubscription.AuthSecret := 'authentication secret';
    oWebPush := TsgcHTTP_API_WebPush_Client.Create(nil);
    try
      oWebPush.VAPID.PEM.PrivateKey.Text := 'private_key_pem';
      oWebPush.VAPID.DER.PrivateKey := 'private_key';
      oWebPush.VAPID.DER.PublicKey := 'public_key';
      oWebPush.SendNotification(oSubscription, '{"title": "eSeGeCe Notification", "body": "H
    finally
      oWebPush.Free;
    end;
  finally
    oSubscription.Free;
  end;
end;
```

C++ Builder

```
void SendWebPushNotification()
{
    TsgcHTTP_API_WebPush_PushSubscription* oSubscription = new TsgcHTTP_API_WebPush_PushSubs
try
{
    oSubscription->Endpoint = "endpoint";
    oSubscription->PublicKey = "public key";
    oSubscription->AuthSecret = "authentication secret";
    TsgcHTTP_API_WebPush_Client* oWebPush = new TsgcHTTP_API_WebPush_Client(NULL);
try
{
    oWebPush->VAPID->PEM->PrivateKey->Text = "private_key_pem";
    oWebPush->VAPID->DER->PrivateKey = "private_key";
    oWebPush->VAPID->DER->PublicKey = "public_key";
    oWebPush->SendNotification(oSubscription, "{\"title\": \"eSeGeCe Notification\"",
}
__finally
{
    oWebPush->Free();
}
}
__finally
{
    oSubscription->Free();
}
}
```

.NET (C#)

```
public void SendWebPushNotification()
{
    var oSubscription = new TsgcHTTP_API_WebPush_PushSubscription();
    oSubscription.Endpoint = "endpoint";
    oSubscription.PublicKey = "public key";
    oSubscription.AuthSecret = "authentication secret";
    var oWebPush = new TsgcWebPush_Client();
    oWebPush.VAPID.PEM.PrivateKey.Text = "private_key_pem";
    oWebPush.VAPID.DER.PrivateKey = "private_key";
    oWebPush.VAPID.DER.PublicKey = "public_key";
    oWebPush.SendNotification(oSubscription, "{\"title\": \"eSeGeCe Notification\", \"body\""}
}
```

Sources used to build this document

Every external claim links back to a primary source. The online-help references decode the canonical deep-link the company maintains for this component.

Primary standard / spec — Web Push Protocol — RFC 8030 datatracker.ietf.org/doc/html/rfc8030

Primary standard / spec — VAPID — RFC 8292 datatracker.ietf.org/doc/html/rfc8292

Online help — component page www.egegece.com/help/sgcWebSockets/Components/APIs/Server_API/WebPush/Server/TsgcWSAPIServer_WebPush.htm

Delphi demo project (in the sgcWebSockets package) `Demos\20.HTTP_Protocol\11.WebPush_Notifications`

Component page www.egegece.com/products/websockets/server-apis/webpush/

Product page www.egegece.com/products/websockets/

Document scope. This document covers the publicly-documented surface of the Web Push Server component shipped with sgcWebSockets. For full property, method and event reference consult the online help linked above.