



# WP INSTALLATION MANUAL

## Synopsis

This document gives you all the information you need to successfully install WonderPhone.

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## 1. What is WonderPhone

WonderPhone(WP) is a new SIP platform which enables Softphone clients to be used instead of physical terminals. Datatal's softphone client is called WonderPhone client or WP client for short (no other softphone other than WonderPhone client can be used with WonderPhone server).

WonderPhone consists of a server and a client (WonderPhone server and WonderPhone client). WP utilizes proprietary protocol between server/client.

You install WonderPhone client on your windows desktop, and login either with your Flexi or domain credentials.

WonderPhone supports authentication through AD (Active Directory) a.k.a Windows Authentication.

### Benefits

- WP client is fully integrated with the Flexi platform.
- WP supports codec G.711 and G.722(HD Audio)
- Signalling/audio encryption (AES-256)
- See status of your colleagues
- Divert and open your, and your colleagues' extension(s).
- Log in/out of PBX groups
- Listen to your voicemail
- See call history
- Supports call control via headset (only Plantronics USB in first version)

### 1.1 WonderPhone and Flexi

WonderPhone can at this moment only work in coherence with Datatal Flexi. You can use WP client as preferred device for phone calls for the following Datatal Flexi products: Presentity, Call Center and Flexi Tid.

This means that you do not need any physical device to use Flexi if you use the WP client.

Flexi Operator user still needs a physical device to function. Of course you can twin your WP client with your mobile device.

### 1.2 Requirements

WP and Flexi have several dependencies and restrictions.

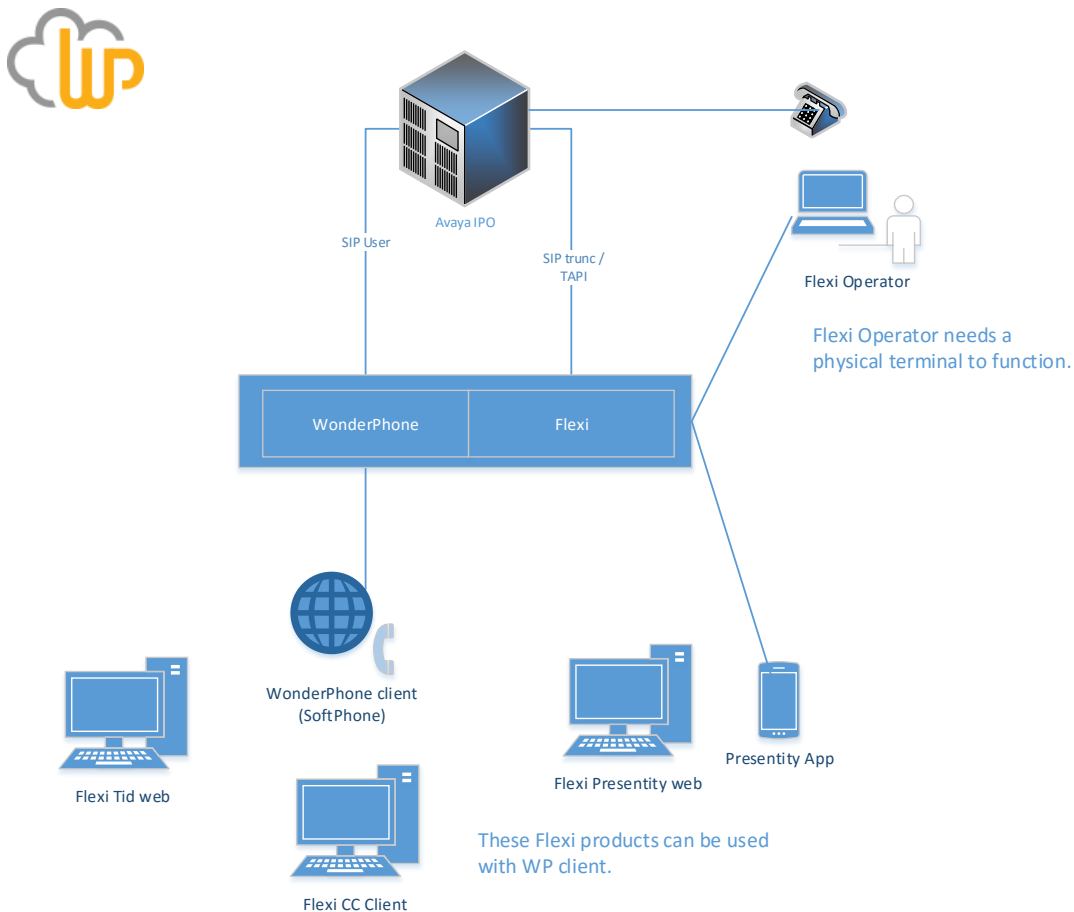
- PBX – Avaya IPO
- Avaya license – CT Link Pro
- Avaya 3<sup>rd</sup> party endpoint license – SIP user (one per WP client or per simultaneously logged on user)
- Flexi license – Flexi 5.12
- Flexi license – WP server, WP client (one per client)
- Server OS – Microsoft Windows Server 2012
- Server – minimum of 2 different IP addresses
- Client OS – Windows 7
- Valid SSL certificate

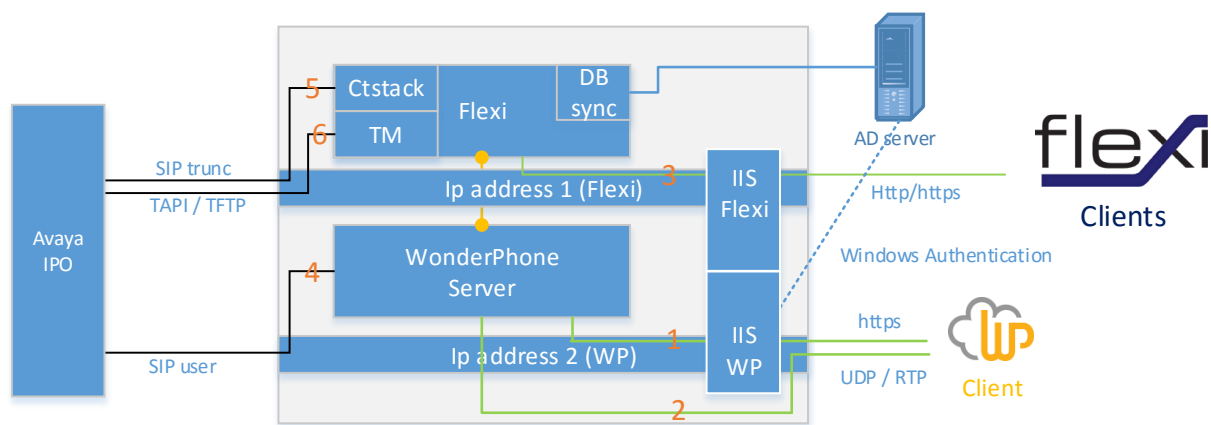
- Domain with AD – optional (required for windows authentication)
- Compatible Headset (USB is recommended)

*WonderPhone only works in conjunction with Avaya IPO. For every user of WonderPhone SoftPhone a corresponding SIP user license in Avaya IPO is required. You can only install WP on Windows Server 2012, and WP clients on Windows 7 and later.*

**\*\*Important\*\*** Two different IP addresses are required when installing WP server. You can either activate this on an existing NIC or add a new NIC.

## 2. System overview





Detailed system schematic

## 2.1 Protocols and ports

Nr.	Service name	Protocol	Port	Comment
1	WP client	https	443	Log on
2	WP client	RTP (incomming)	19999	Audio stream
		RTP (outgoing)	Dynamic dest port	Audio stream
3	Flexi client	http or https		
4	WP Server	RTP (UDP)		Dynamic ports
	WP server	SIP (TCP/UDP)	5060	WP server - PBX
5	CT Stack	SIP	5060	
	CT Stack	RTP	16384-32767 (dynamic)	
6	Telephony Manager	TAPI		

## 2.2 Windows authentication

This enables logged on domain users to be authenticated using domain credentials. This requires that both the server and client are in the same domain.

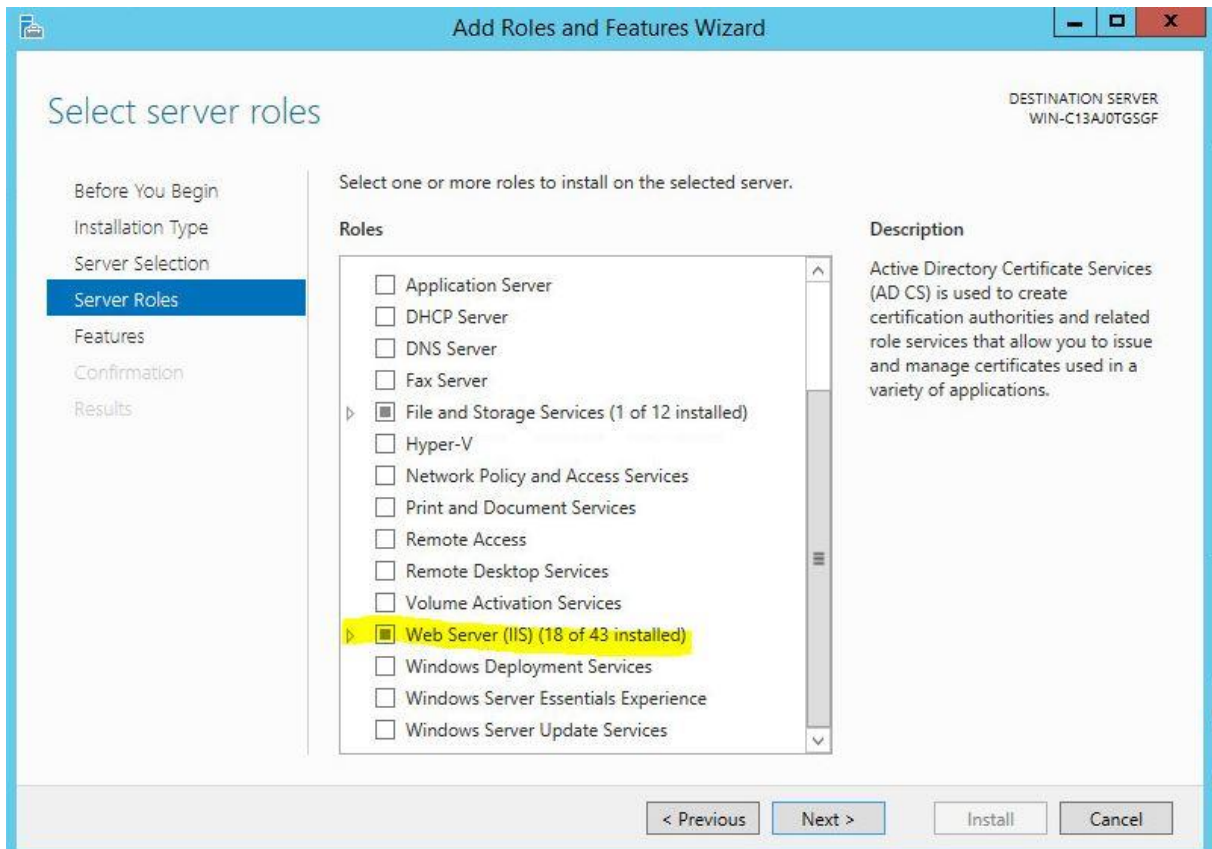


### Overview of windows authentication

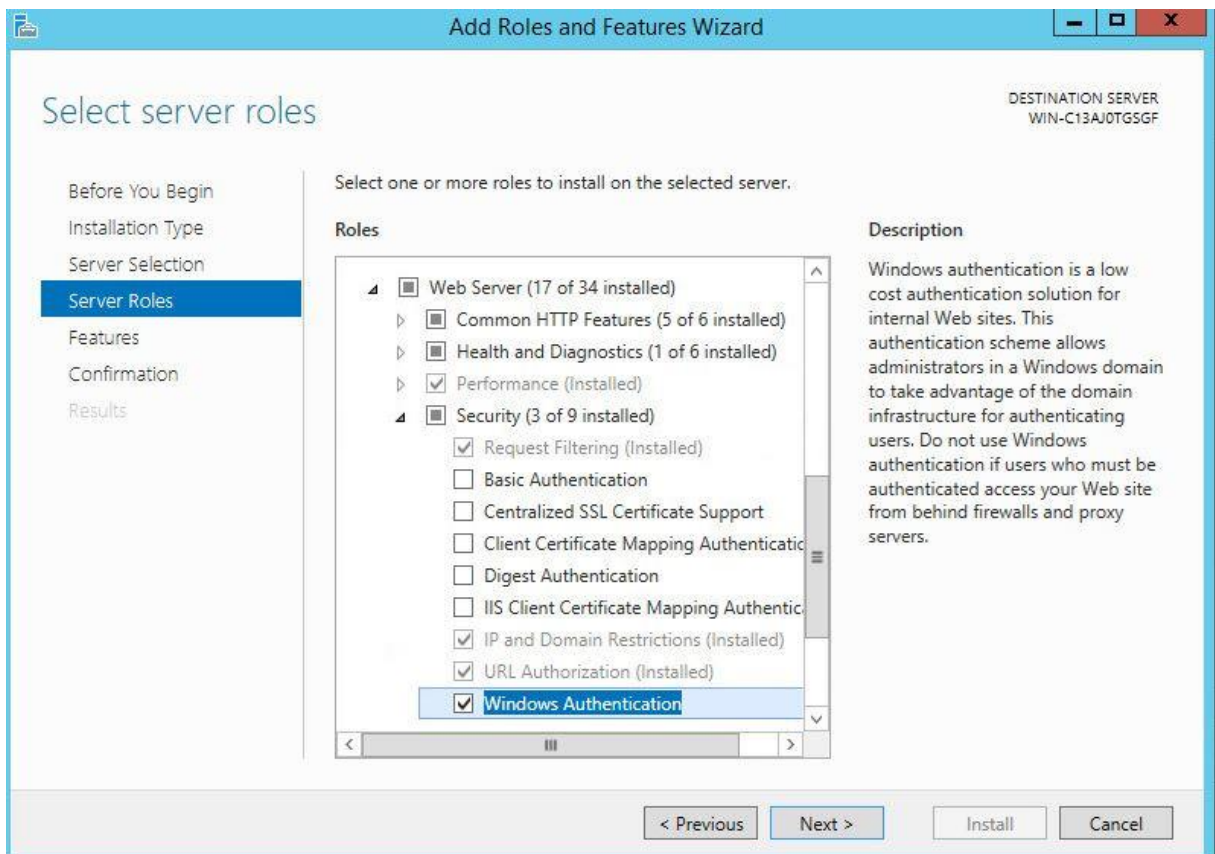
#### Activation

You need to add the server role “windows authentication” to the WP server.

1. Start “Windows server manager”
2. Expand “Web Server (IIS)”



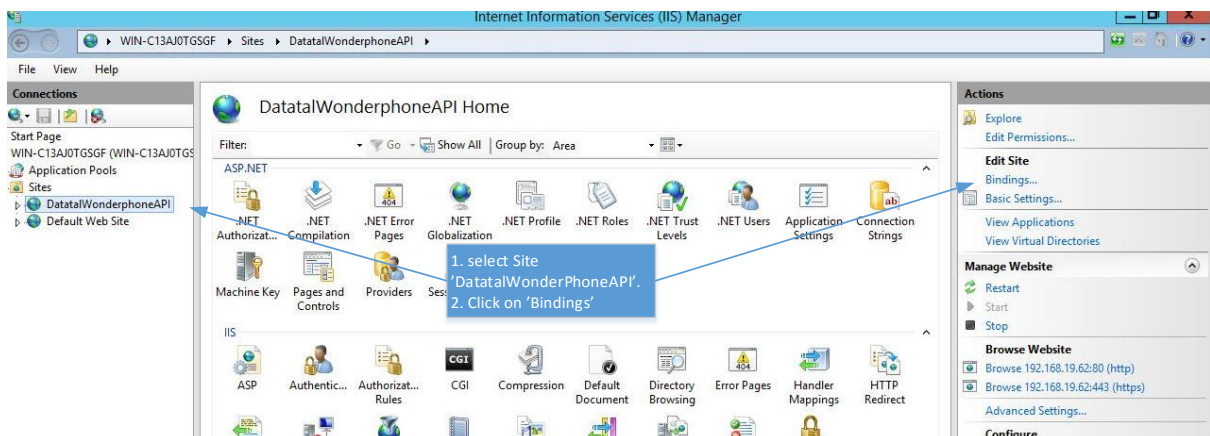
### 3. Select “Windows authentication” under “Security”

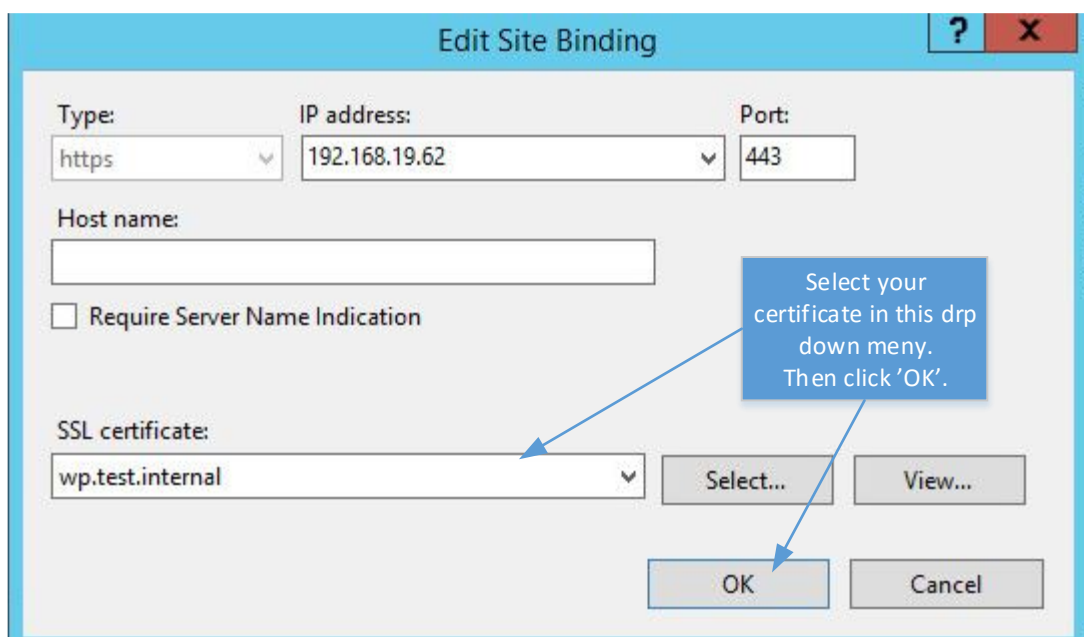
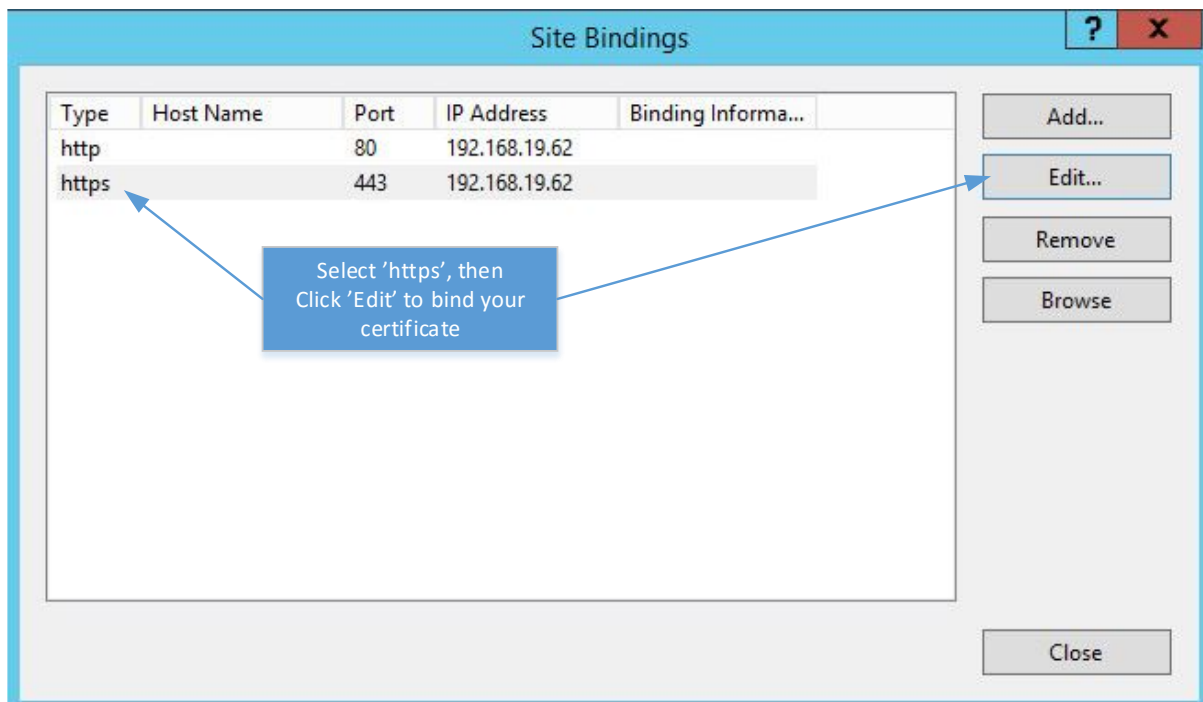


Click “next”, then “next” and then click “Install”

Configure IIS to utilize “Windows authentication”

Open “IIS Manager” and follow the instructions in the screenshot below





Now SSL certificate is activated for WP

## 2.3 Autodiscover

Autodiscover is a MS Windows feature that lets clients "autodiscover" where the server the client should contact is located. This includes IP address, protocol and port etc.

For common Microsoft clients such as MS Outlook this is done by default. This feature makes it easier for the users when logging in, just use Autodiscover and the client gets all information pertaining to the address, protocol, port of the corresponding service from the DNS server.

For Autodiscover to work you need to add an "SRV record" manually to your DNS.



### 2.3.1 SRV record

SRV record is an entry in customer DNS, which allows clients in a domain to send a "request" to DNS which address the requested service is located at (IP address, protocol, port etc.) The following information is required

- Name – The naming system is an underscore followed by the name of the service, followed by a period, then underscore, and then the protocol, another dot, and then the name of the domain.
- Host – The system that the client will try to connect to.
- Priority – This acts the same way as the MX Level / preference in the MX record. The lower the number in the priority field, the more desirable the associated target. 0 is the highest priority.
- Weight – Allows the zone administrators to distribute load to multiple targets (load balance). It is used to determine relative capacity and load between two SRV fields within the priority. Hits will be assigned proportionately by weight. This will allow the administrators to have one powerful and one weak server and share the appropriate loads between those systems. 0 is the lowest load.
- Port – the actual port of the service offered.

To add an SRV record for WP client these values must be configured in DNS.  
\_dtwpsrvdiscover IN SRV 0 5 443 [computername or ipaddress].

*Note that underscore must be included.*

### 2.3.2 Verify SRV record

You can check your SRV records by using nslookup.

From a computer in domain, start "CMD", and enter the following command

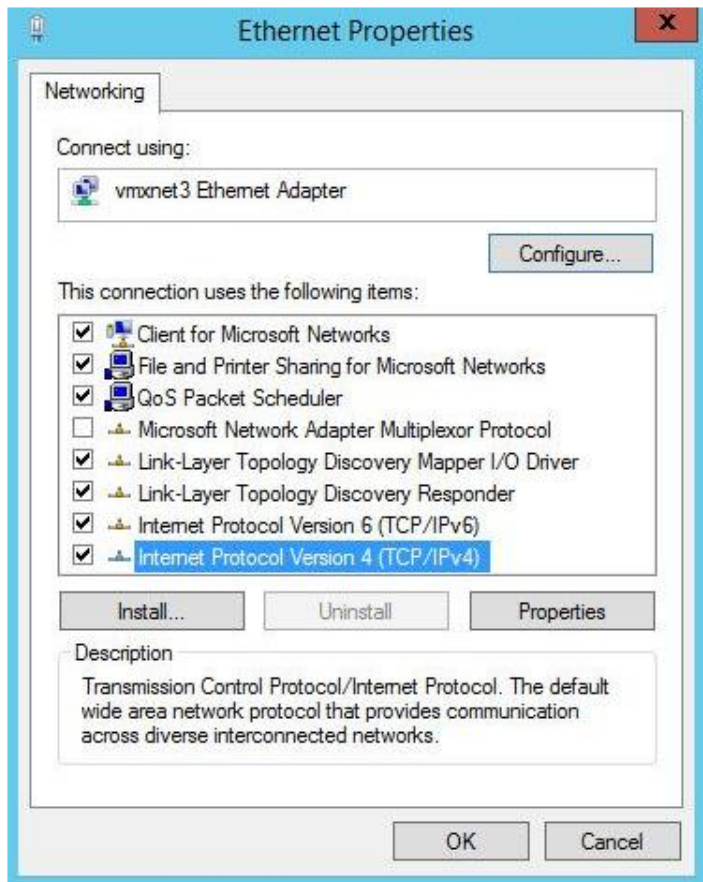
```
nslookup -type=SRV _ldap._sip.mydomain.com
```

## 3. Installation

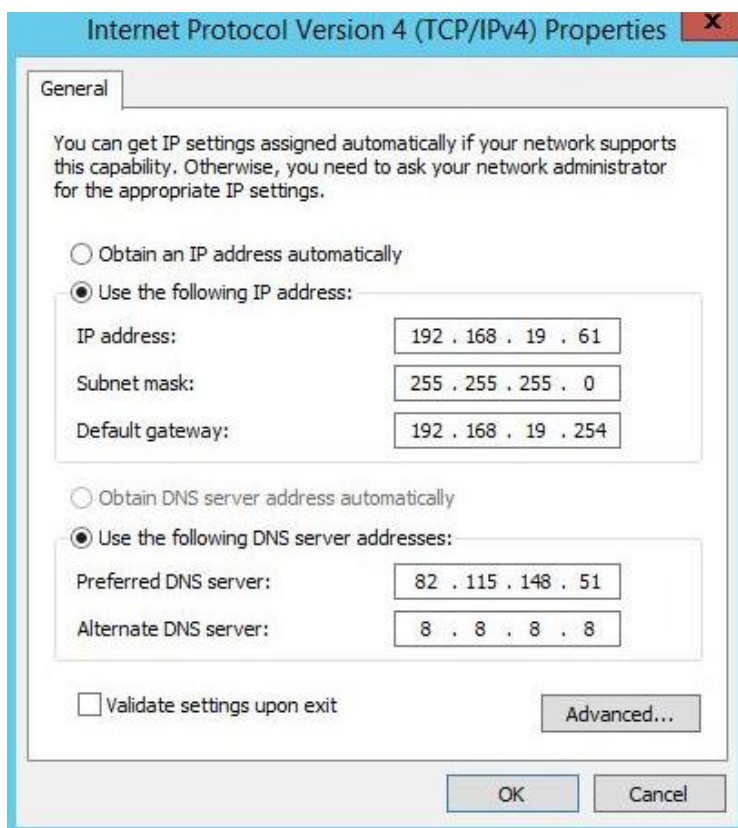
Before you begin installation, make sure that the server has a valid internet connection and that Windows is patched with the latest updates, this is done using "windows update client".

### 3.1 Add second IP address

If there only is one Network adapter in your server, you can easily add a second IP address to the existing adapter. If you already have 2 IP addresses skip to section 3.2. Open "Control Panel" on your server, click on "Network and sharing center" click on "change adapter settings". Right-click on your network adapter, select "properties".



Select for which protocol you want to add a new IP address. (Normally IPv4 is used)  
Then click on "properties."



Click "Advanced" to access further settings

Advanced TCP/IP Settings

IP Settings DNS WINS

IP addresses

IP address	Subnet mask
192.168.19.61	255.255.255.0

Add... Edit... Remove

Default gateways:

Gateway	Metric
192.168.19.254	Automatic

Add... Edit... Remove

☒ Automatic metric

Interface metric:

OK Cancel

In tab "IP Settings" click "Add.." to add the second ip address.

Advanced TCP/IP Settings

IP Settings DNS WINS

IP addresses

IP address	Subnet mask
192.168.19.61	255.255.255.0
192.168.19.62	255.255.255.0

Add... Edit... Remove

Default gateways:

Gateway	Metric
192.168.19.254	Automatic

Add... Edit... Remove

☒ Automatic metric

Interface metric:

OK Cancel

Here you see that Network adapter has 2 unique ip addresses.

### 3.2 Install WP server/Flexi

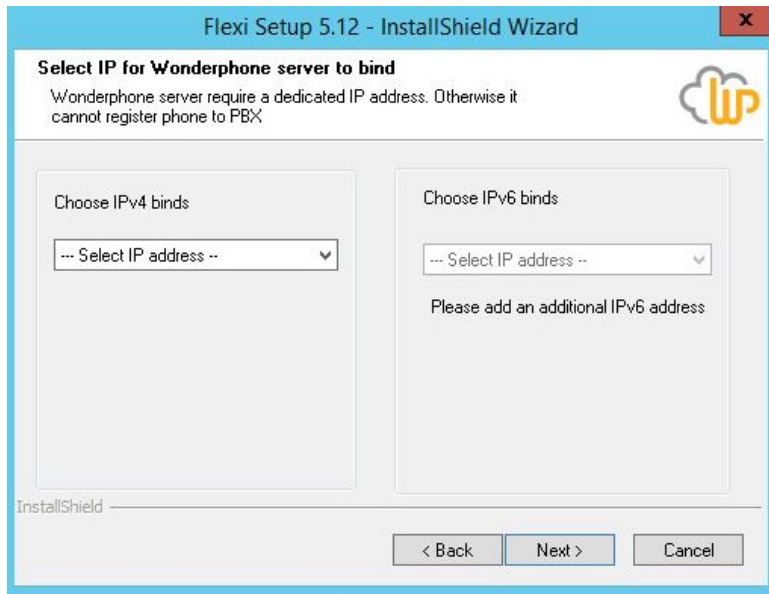
Download Flexi 5.12 (or later) from [www.datatal.se/release](http://www.datatal.se/release).

Since WonderPhone is included in same setup packet as Flexi, both platforms are installed via the same setup.

You need both a valid WonderPhone and Flexi license to install WonderPhone.

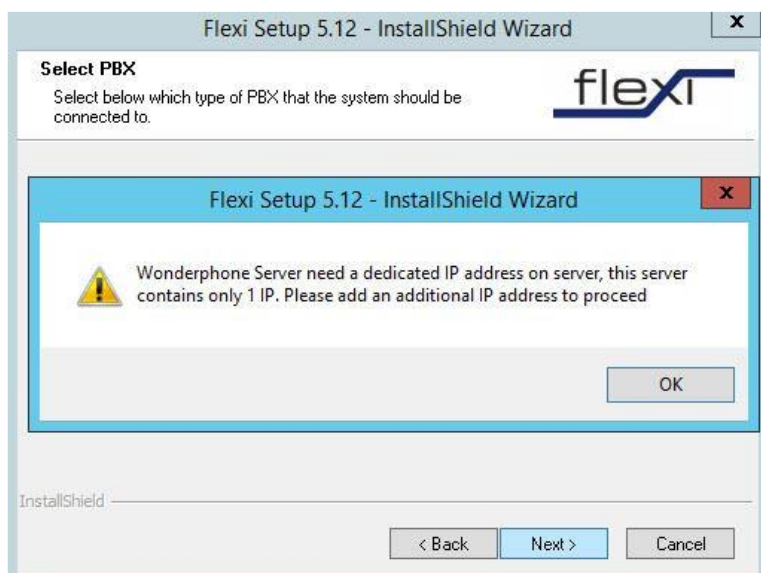
If no valid WonderPhone license exists, this option will not be available, and only Flexi will be installed.

The only difference when WP is installed is that you need to bind the WP server to a unique IP address. This address is used by WP client.



Select for which IP address and ip protocol WP server should be bound to in IIS.

*If only one IP address is found this message will be displayed.*



If you see this message the system only has one IP address. Repeat the steps in segment 3.1. To add a second IP address.

### 3.3 Install WP client

Installation can either be done manually by each user or pushed to several users by an administrator.

Client setup consists of an MSI package, you can either execute the MSI file as a manual installation or as a push installation.

Manual installation:

Download WP client using the following link: Replace <server> with serverIP/FQDN

<https://<server>/api/app/wonderphone/download> and then execute the .msi file.

Push installation:

You can install WP client through GPO or other AD- management tool.

Installation packet consists of an MSI file [filename], for easy distribution.

WP client will update automatically if newer version is available on WP server.

If the user(s) will be using USB headset(s) from Plantronics, there is an option to install Plantronics SDK which enables you to answer/hang up via the call button on your headset.

For this feature to be installed you need elevated privileges (Administrator rights)

These are the different syntaxes to be used

Quiet install run command

```
msiexec /i "\\[path to msi file]\Wonderphone\1.0\Wonderphone.msi" /qb
```

Quiet upgrade run command

```
msiexec /i "\\[path to msi file]\1.0\Wonderphone.msi" REINSTALLMODE=voums REINSTALL=ALL /qb
```

Quiet uninstall run command

```
msiexec /x {63EFEA9C-437A-4F0C-96C0-4769C94AF39A} /qb
```

## 4. Configuration Avaya and Flexi

For Avaya you need to make the following configuration in Avaya IP Office manager

SIP Extension: 11212 3013


Extn VolP

Extension Id 11212

Base Extension 3013

Caller Display Type On

Reset Volume After Calls ☐

Device Type  Unknown SIP device

Location Automatic

Module 0

Port 0

Force Authorisation ☒

Extension same as WP user extension.

SIP Extension: 11212 3013

Extn VolP

IP Address 0 . 0 . 0 . 0

Codec Selection System Default

Unused

Selected

- G.722 64K
- G.729(a) 8K CS-ACELP
- G.711 ULAW 64K
- G.711 ALAW 64K

Reserve License None

Fax Transport Support None

DTMF Support RFC2833/RFC4733

3rd Party Auto Answer RFC 5373

Media Security Same as System (Disabled)

☐ Local Hold Music

☒ Re-invite Supported

☐ Codec Lockdown

☒ Allow Direct Media Path

Make sure that the following Codecs are selected.

Make sure that the following RFCs are selected.

**Patrik: 3013**

User Voicemail DND ShortCodes Source Numbers **Telephony** Forwarding Dial In Voice Recording Button Programming

Call Settings **Supervisor Settings** Multi-line Options Call Log TUI

.....  
 .....

☐ Force Login  
☐ Force Account Code  
☐ Force Authorization Code  
☐ Incoming Call Bar  
☐ Outgoing Call Bar  
☐ Inhibit Off-Switch Forward/Transfer  
☐ Can Intrude  
☒ Cannot be Intruded  
☐ Can Trace Calls  
☐ Deny Auto Intercom Calls

Login Idle Period (secs) .....  
 Monitor Group <None> ▾  
 Coverage Group <None> ▾  
 Status on No-Answer Logged On (No change) ▾

Reset Longest Idle Time  
☒ All Calls  
☐ External Incoming

Same login as for WP client in Admital PBX password

Activate WonderPhone for Presentity user in Admital Web.

**flexi**

www.datatal.se User / Edit user

Index  
 Messages  
 User  
 Userprofile  
 Links  
 Voice mail  
 Image  
 Routes  
 Mobile devices  
**WonderPhone**  
 Configuration

**WonderPhone**

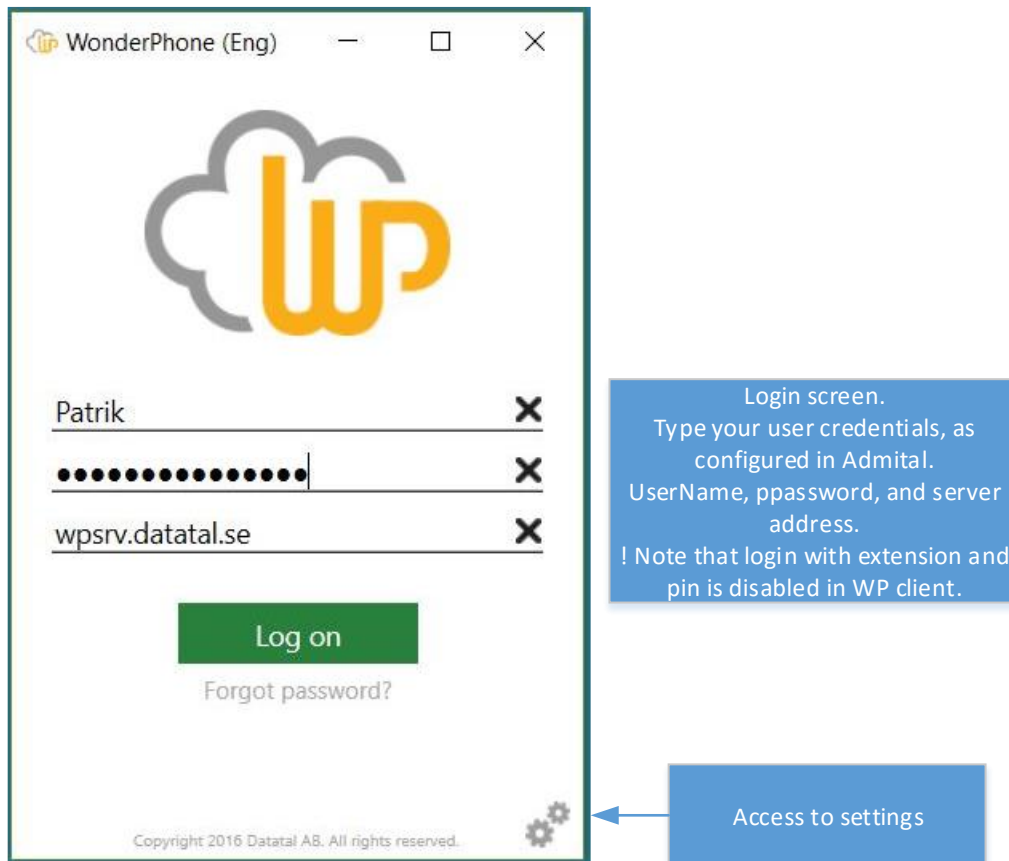
☒ WonderPhone  
 PBX User: 3013  
 PBX Password: .....

Save Cancel Delete Apply

To make a user able to logon as WonderPhone user, you need to fill out this form.  
 PBX User: [extension]  
 PBX password: [password]  
 And check the check-box.  
 These corresponds to SIP user configured in Avaya.

#### 4.1 WP client quick overview

This is just a quick overview to get you started, for a complete user guide see the full WP client manual. It is important that you go over the settings for WonderPhone since you must map which audio and recording device you will use for calls. For WonderPhone client, option to log on with extension/pin has been disabled. You must log in with username and password.





WonderPhone (Sv) — □ ×

**Inställningar** ×

**Audio**

**Medhörning**

WASAPI:Högtalare (Plantronics Savi 7xx) ▾

Välj vilken enhet du vill använda för medhörningen när du befinner dig i telefonsamtal.

**Mikrofon**

WASAPI:Transmit (Plantronics Savi 7xx) ▾

Välj vilken enhet som skall användas som mikrofon när du befinner dig i samtal.

**Påringning**

WASAPI:Högtalare (High Definition Audio De ▾

Välj vilken enhet som skall spela ringsignal när du tar emot inkommande samtal.

**Ljudfil inkommande samtal**

Ring10.wav ▾

Välj vilken ljudfil som skall spelas när du tar emot inkommande samtal.

**Ljudfil utgående samtal**

Ring01.wav ▾

Välj vilken ljudfil som skall spelas som påringning vid utgående samtal.

**Uppstart**

☒ Logga in automatiskt

☐ Starta med Windows

TODO - Här kan man skriva en lång historia om man vill som förklarar hur det går tiull

☒ Tillåt aktivering av multipla genvägsknappar

Genom att aktivera denna funktion kan du välja flera genvägsknappar samtidigt. T.ex. kan du välja Hänvisningar, Snabbknappar och Kollegor samtidigt och därmed visas dina Hänvisningar, Snabbknappar och Kollegor i samma lista.

☒ Sammanfoga Snabbknappar och Frånvaruorsaker

Visar både Snabbknappar och Frånvaruorsaker samtidigt.

Setting screen.

Choose which device to be used for audio playback.

Choose which device to be used as microphone.

Choose which device to be used for announcing call.

Choose which file to be used for incoming calls.

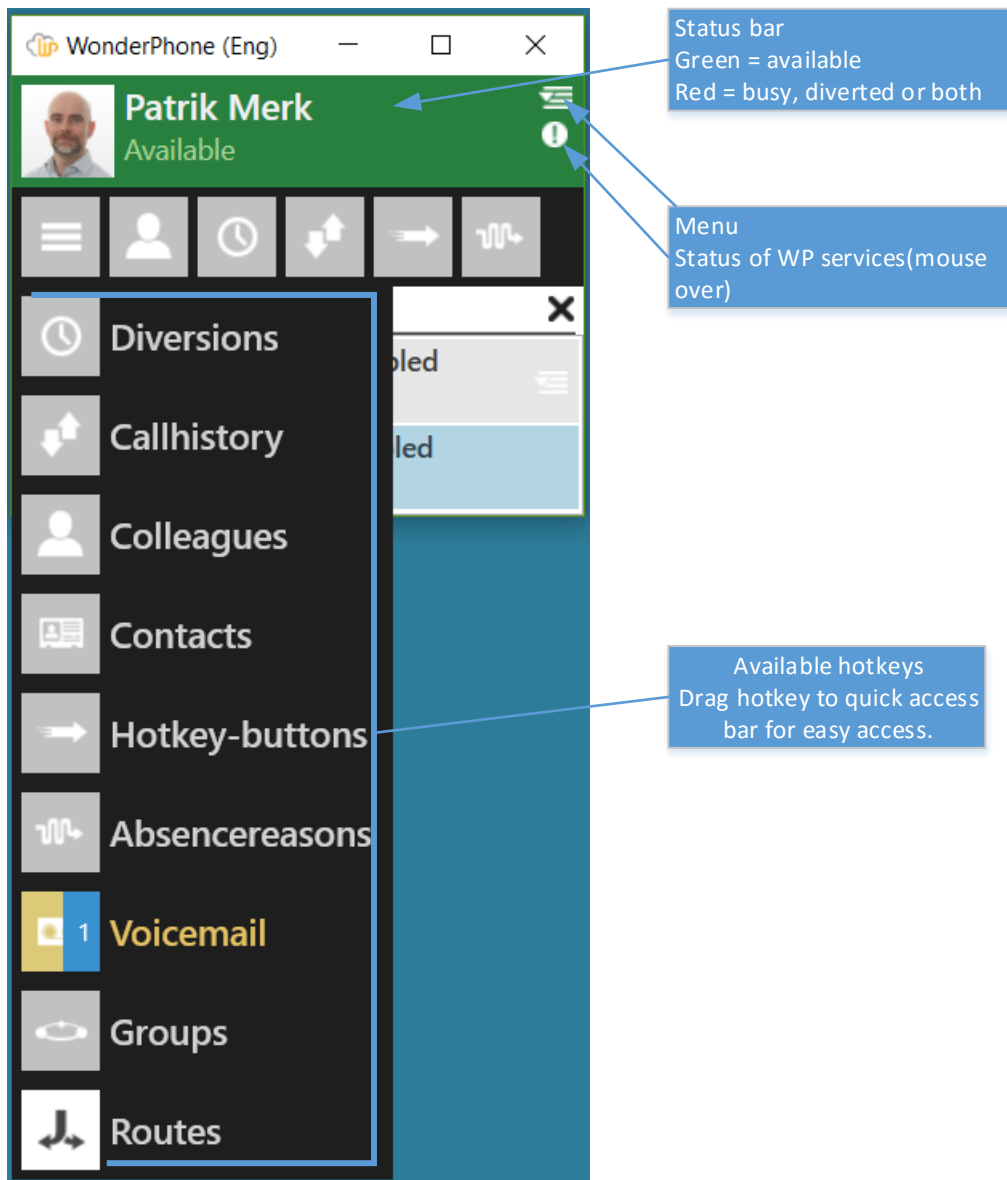
Choose which file to be used for outgoing calls.

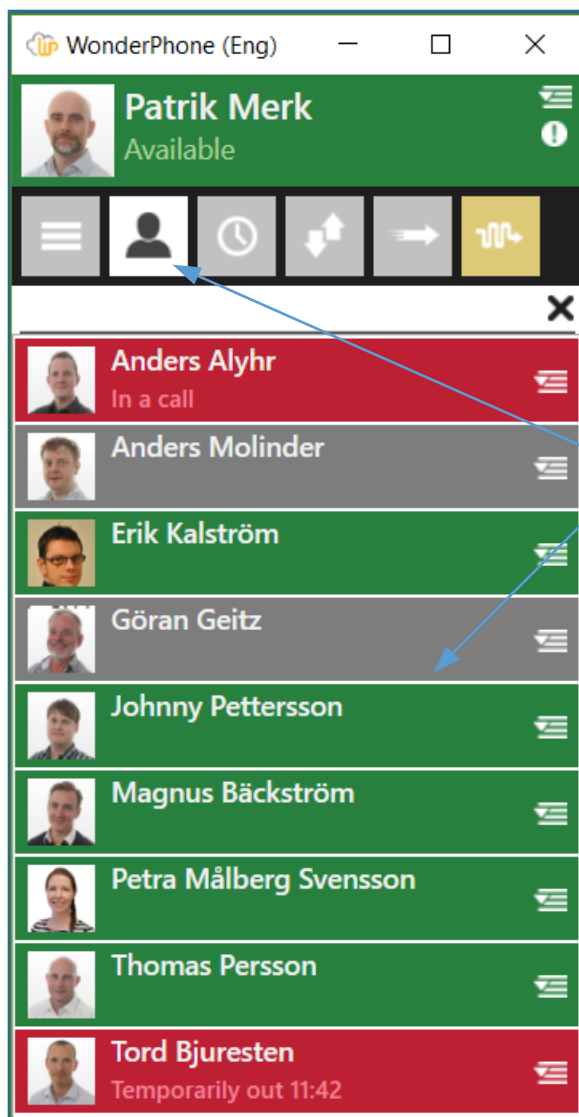
Check if automatic logon should be active.

Check if WP client should start automatically if desktop is restarted.

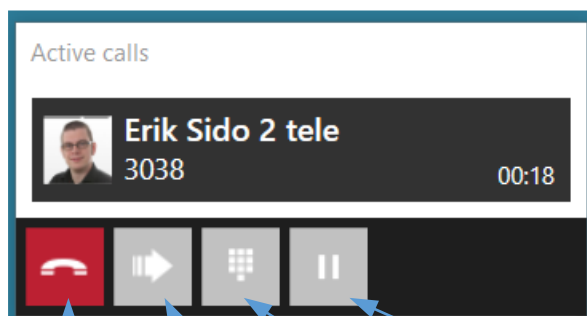
Check to show more than one hotkey.

Check to merge hotkeys and reasons for absence.

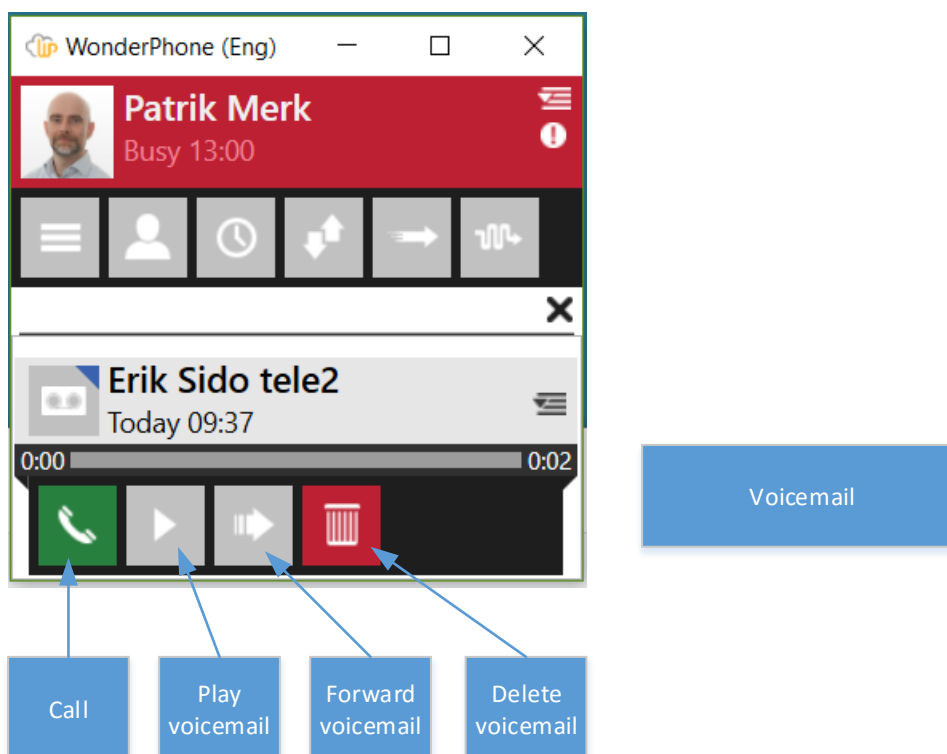
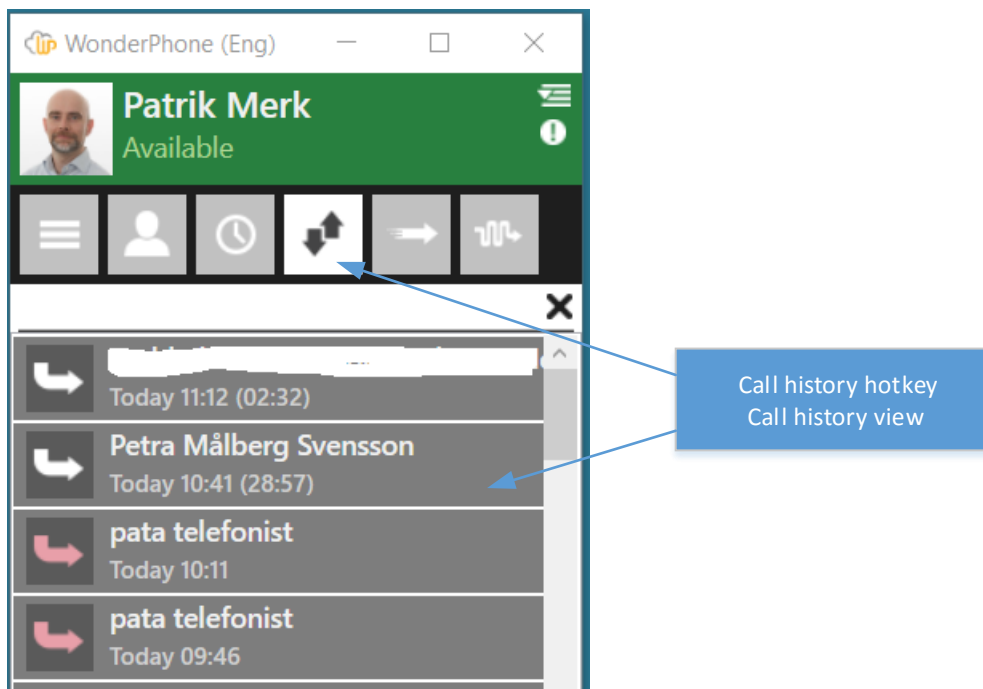


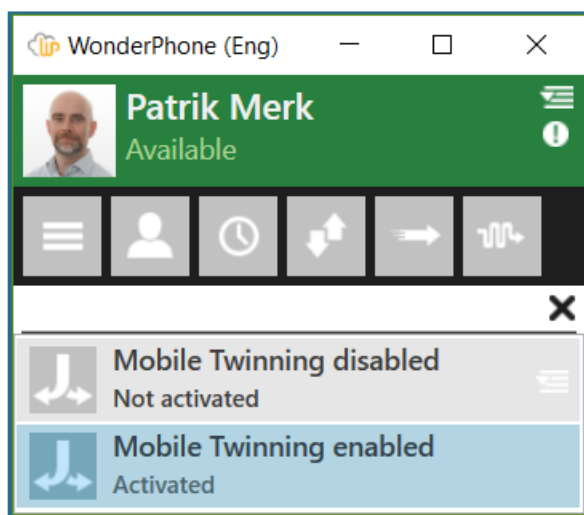


Favourites  
Favourite status

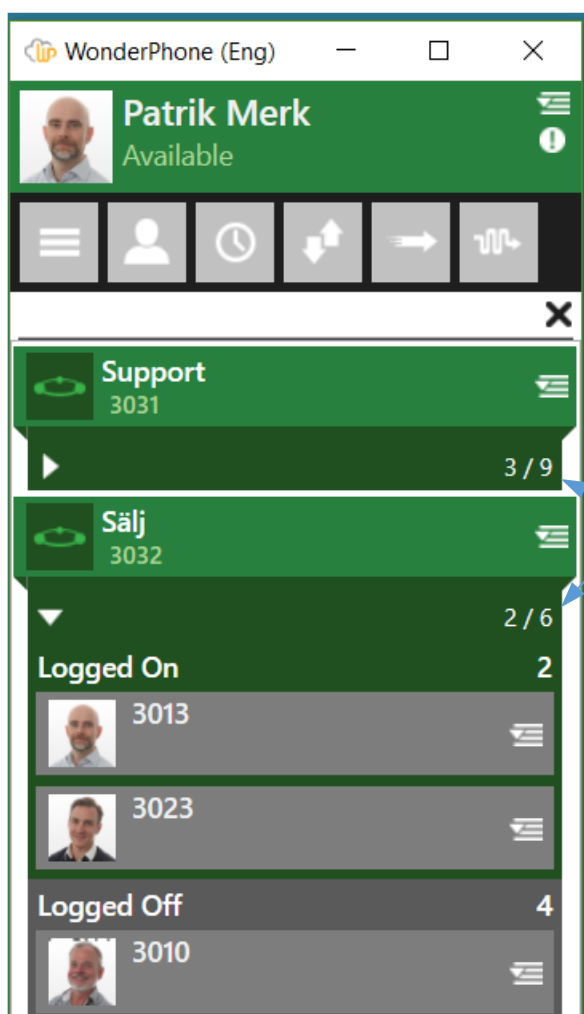


Active call window





Call routing



User logged in to following  
PBX groups  
Support & Sälj

Number of users  
Logged on/ total

## 6. Security

Since all of WP's communication including audio streams can be sent over the internet it's very important to make sure that the system is protected, in this segment we will highlight some security measures.

### 6.1 SSL Certificate

SSL certificate is an insurance that the WP client is 'talking' to the correct WP server, and that all communication sent over this secure connection is encrypted.

For production or end customer installation a verified SSL certificate from a trusted CA is **STRONGLY** recommended. For test purposes a self-signed certificate can be used.

#### 6.1.1 Get SSL certificate

Don't use a self-signed certificate. Instead, get one from a trusted CA (Certificate Authority). It is easy to buy these directly from providers online.

For test purposes you can use a self-signed certificate.

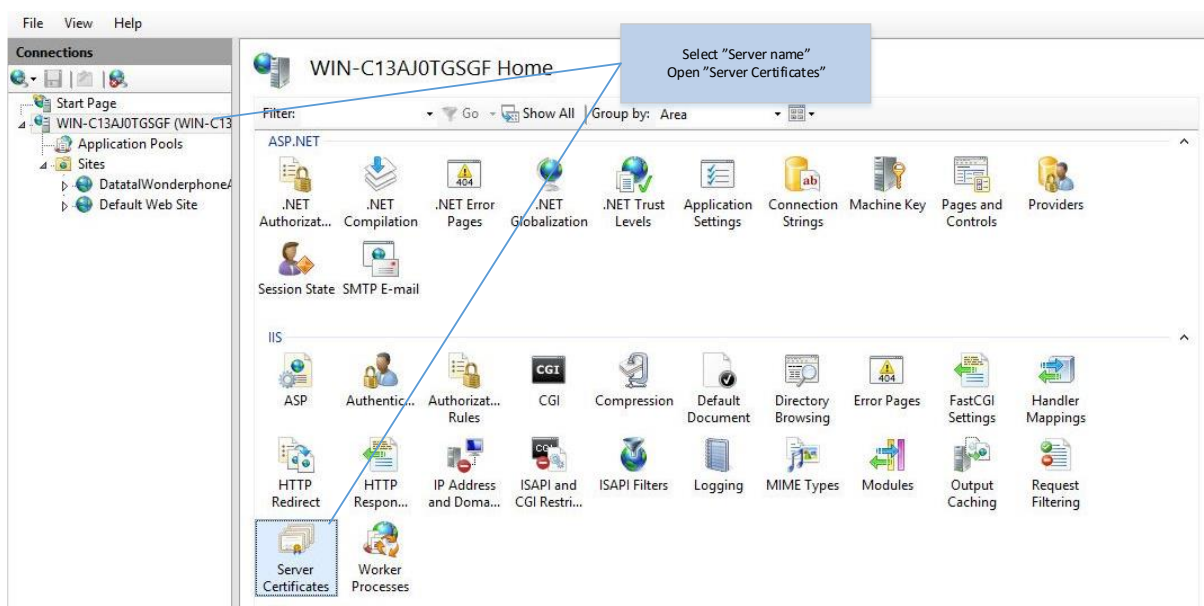
How to create self -signed certificate:

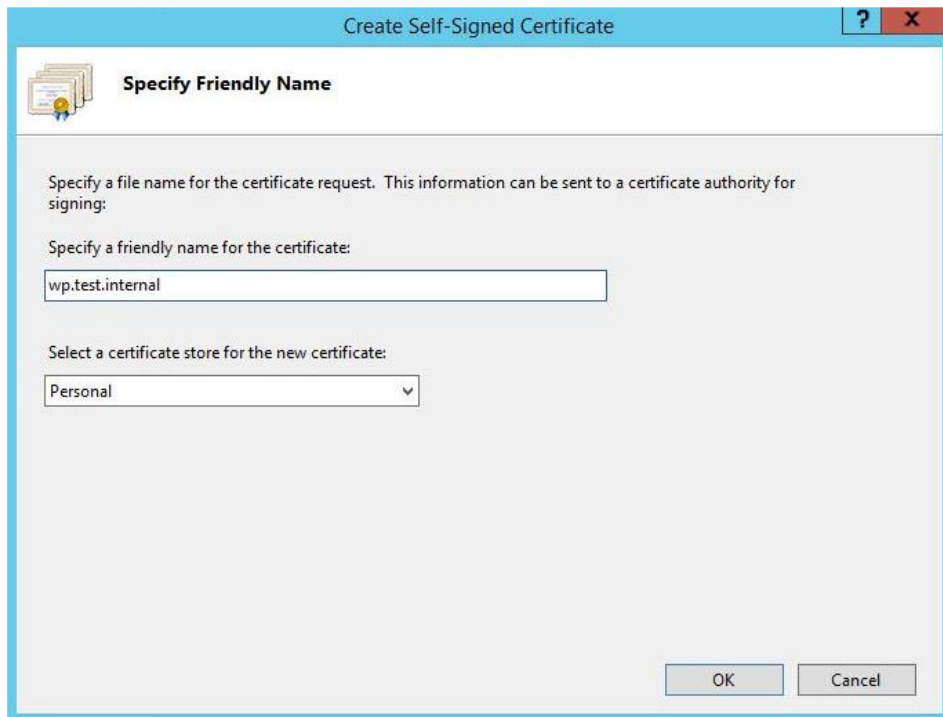
Paste the syntax below in Powershell (on WP server), you need to change the FQDN to suit your own environment, in this example the FQDN is wp.test.internal

```
New-SelfSignedCertificate -certstorelocation cert:\localmachine\my -dnsname wp.test.internal
```

You can also create a self-signed certificate directly via IIS manager

In IIS Manager open 'Server Certificates', choose action 'Create Self-Signed Certificate'





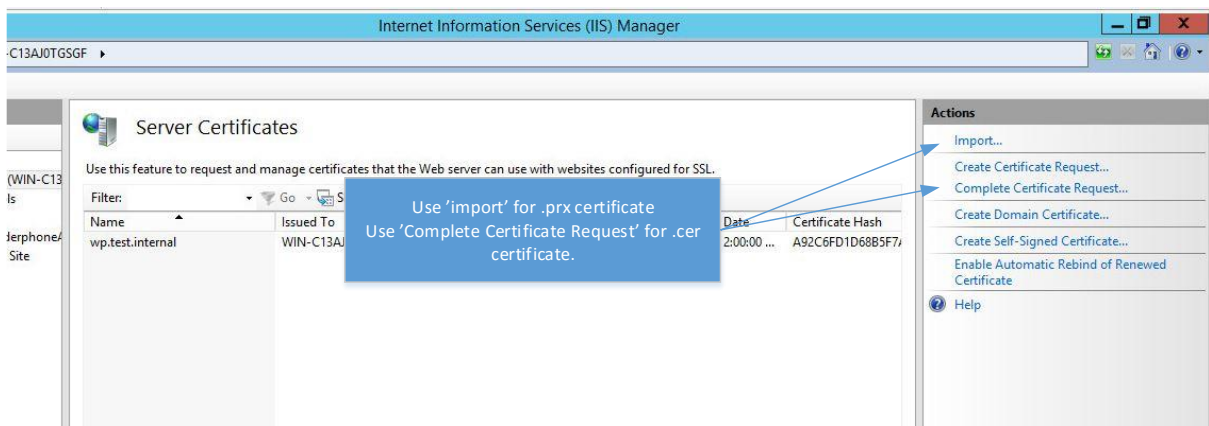
Type the name of your certificate.

### 6.1.2 Install SSL certificate (IIS)

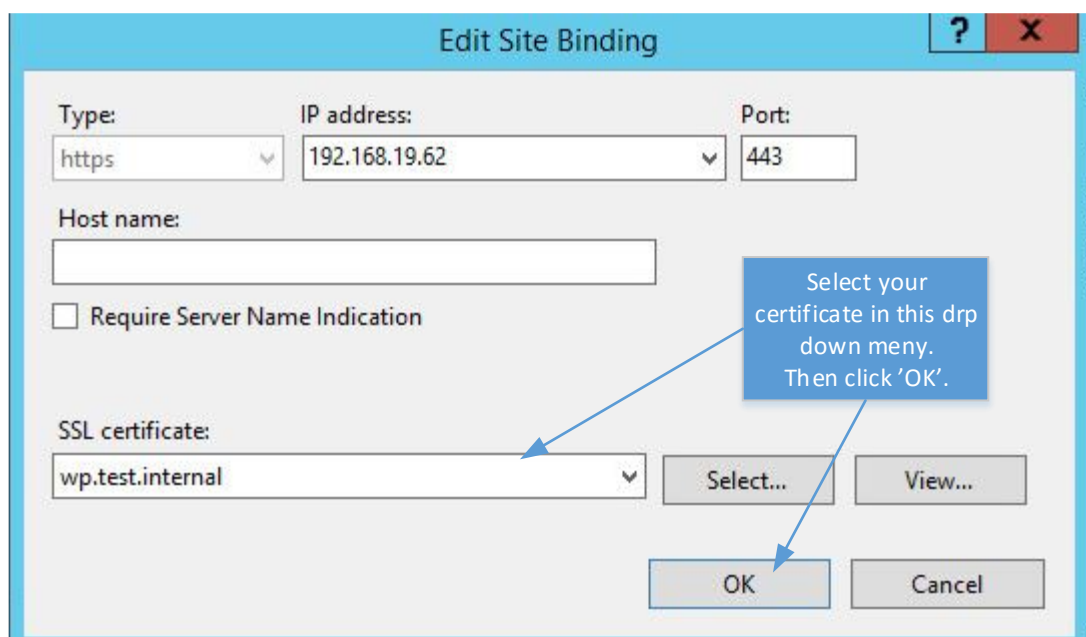
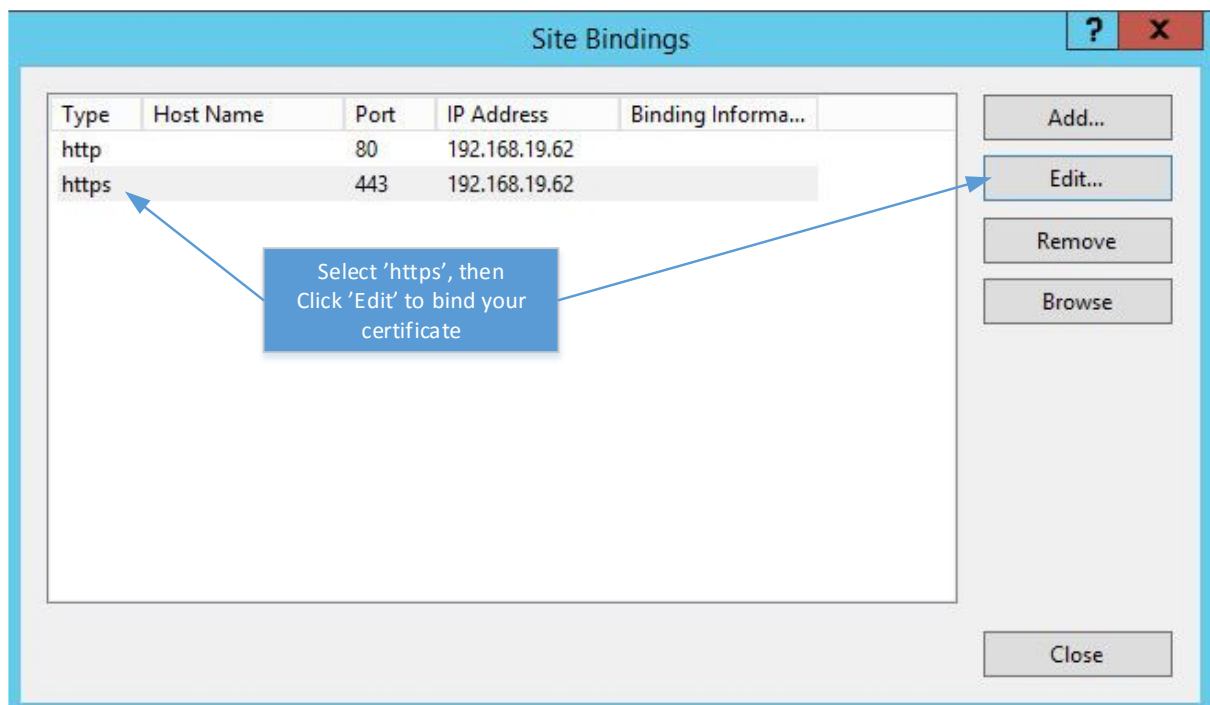
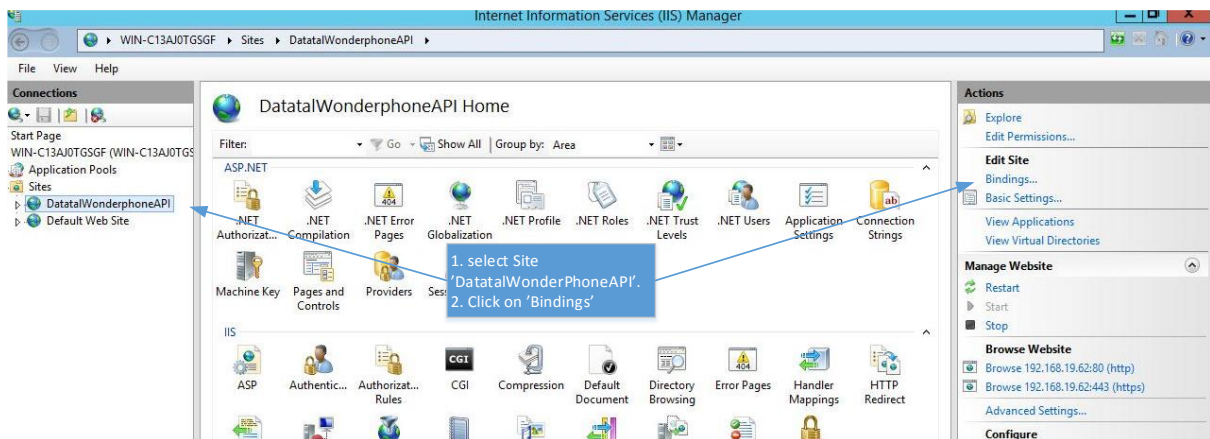
Copy your certificate to your WP server.

If certificate is a .pfx file, use the “import” action.

If certificate is a .cer file, use the “Complete Certificate request” action.



Now that the certificate is installed, we need to bind the certificate to the site 'DatatalWonderPhoneAPI' so that SSL can be used for WP client.



Now you have a valid SSL certificate, and WP client should connect over port 443.



## 6.2 Encryption

Signalling between WP client – WP server is transmitted over HTTP(S). We strongly recommend using HTTPS (TLS1.0+) with a valid Certificate. Audio encryption is done between client – server when client is started. The protocol used to initiate/negotiate encryption is developed by Datatal. Standard encryption is AES-256 (both ways). This level of encryption guarantees that it is virtually impossible to “hack” or “exploit” data transmitted between WP Client and server (signalling and audio).