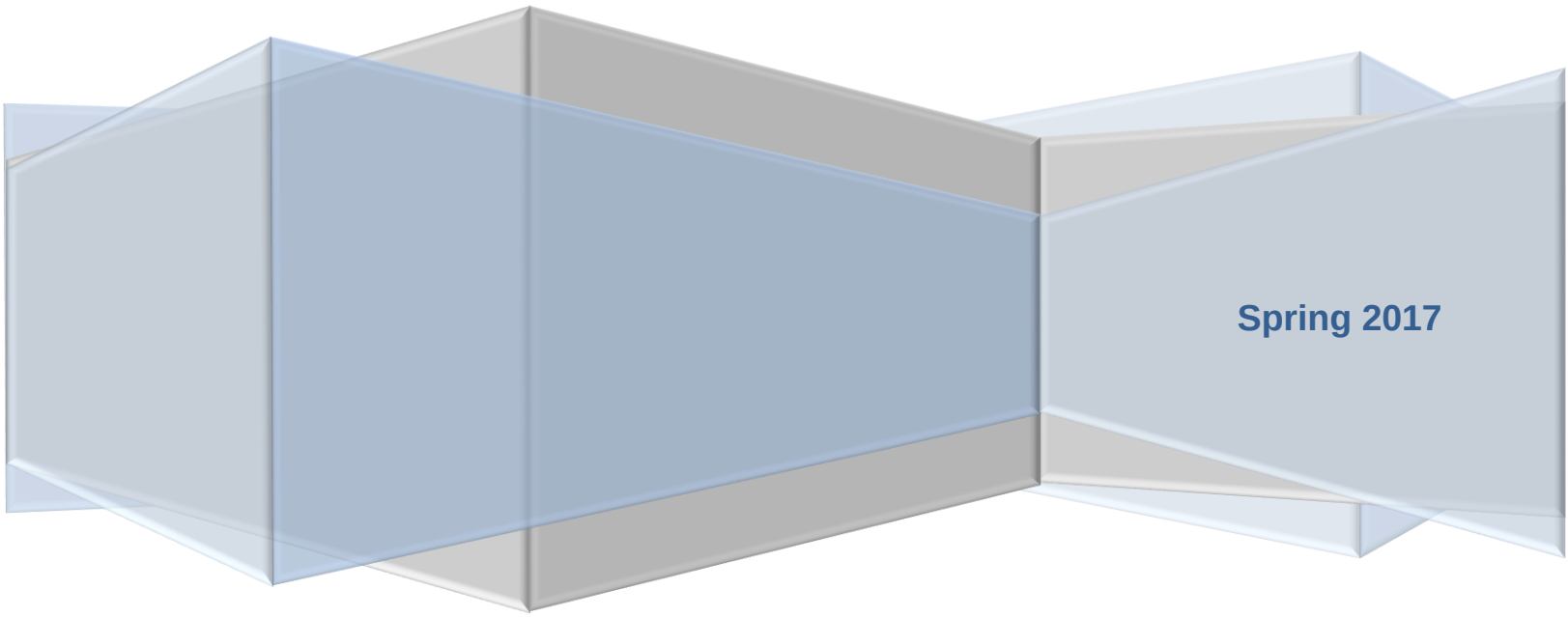
instant

CHIME

Chime for Lync High Availability Setup



Spring 2017

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SUMMARY OF CHANGES: HIGH AVAILABILITY INSTALLATION

At a high-level, the High Availability mode involves installing Chime on two or more servers, pointed at the same application database. In Chime 2.6, an advanced installation option was added to install Chime in High Availability mode. The primary server will need to be started manually and, in case of fail-over, the secondary server will need to be started manually as well. To make the cold fail-over process as quick as possible, files containing login information for service accounts, other required accounts, and any Virtual Agent files should always be kept up to date on both servers. Also, in 2.6 the Chime Health Monitor, a separate process running alongside Chime, will periodically perform a check-up on the system and will send an email alert when failures occur. Below is a high-level summary of changes that occur when installing Chime in High Availability mode. The remainder of this document provides detailed information on each of these steps.

Install Chime on the Primary H.A. server

When installing Chime on the primary server, select Custom Installation Settings. If a custom database name is used, make sure to record it because all of the H.A. installations must use the same database. After the installation and configuration wizards are complete:

1. Open Services

2. Select “Chime for Lync” service and open the properties

3. Change the Startup type from “Automatic(Delayed Start)” to “Manual”

4. In the Chime application go to Admin > Settings and check the box to “Send Email Alerts on Critical Failures” then configure an SMTP account to dispatch these alerts.

Install Chime on Secondary H.A. server(s)

When installing Chime on the secondary H.A. server(s), select Custom Installation Settings. If a custom database name is used, make sure all secondary servers use the same custom database name. After the installation and configuration wizards are complete:

1. Open Services

2. Select “Chime for Lync” service and open the properties

3. Verify that the Chime for Lync service has stopped. If it isn't stopped, stop it

4. Change the Startup type from “Automatic(Delayed Start)” to “Manual”

5. Copy the following files from the primary server to the secondary severs:

   - Settings.xml*
   - Plugins directory*

***NOTE:** These items should be synced regularly. If any of the settings used in the original installations are changed, all of the High Availability Servers need to also have the Settings.xml and Plugins directory synced.

Examples of these changes:

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• Changes related to the SQL Server, including the name of the database or db_reader/writer account

• AD Username/password is changed

• Azure Username/password is changed

• Service account is changed

High Availability Manual Fail-over Instructions

Go to the Primary server

Open Services

Verify that the Chime service has stopped

Go to the Secondary server

Start the Chime service

After the service has started, verify that Chime page and associate links and queue accounts are active

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HIGH AVAILABILITY REQUIREMENTS

- Minimum 2 Windows Server 2008 R2, 2012, 2012 R2, 2016
  - UCMA 4.0 Runtime
- SQL Server accessible by all Chime Servers
- Active Directory access by all Chime Servers
- Lync\Skype for Business accessible by all Chime Servers
- Load Balancer\Web Proxy with routing to all Chime Servers
- All Chime links are using Load Balancer\Web Proxy address.

CHIME REQUIREMENTS

- 64-bit Windows Server®: 2008 R2, 2012, 2012 R2
  - Server 2008 R2 requires Desktop Experience feature to be installed
  - Server 2012/2012 R2 requires Media Foundation feature to be installed
- Application cannot be installed on the same server hosting Lync®. Application will conflict with Lync® settings.
- Connection to Microsoft SQL Server®. The application supports full SQL Server® or SQL Express Edition®
  - Account with create access to SQL server (for building and updating the Chime database)
  - Account with read\write access to Chime database
    - The application supports both SQL and Windows server authentication options.
    - *Note:* For optimal performance, Chime and SQL Server should be in the same physical site.
- Read Access to Windows Active Directory

Chime 2.x (Self hosted) with Lync On-Premise support

- .Net Framework 4.5.1+
- UCMA 4.0
- SQL Server 2008 R2+ (SQL Express, Standard, Enterprise…)
- 1 Lync account for Web Client
- 1 Lync account per queue for dispatcher

Chime 2.x (Self hosted) with Office 365 support

- .Net Framework 4.5.1+
- UCMA 4.0
- SQL Server 2008 R2+ (SQL Express, Standard, Enterprise…)
- 1 Office 365 Lync account for Web Client*
- 1 Office 365 Lync account per queue for dispatcher*

**Lync Online Plan 2 and Microsoft Office 365 with Lync Plans are supported*

RECOMMENDATIONS

- SQL Server cluster accessible by all Chime Servers

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REQUIRED ACCOUNTS:

The following accounts will be need for the installation and/or operation of Chime.

Active Directory Query Account

This account will be used by Chime to query Active Directory for users

AD Server Name: _____

AD Username: _____

Password: _____

Chime Database Admin Account

This account is used to create the Chime database during the installation. This account needs SQL authentication with the ability to create the database.

This account information is not stored, and is only utilized during creation or updating.

SQL Server Name: _____

Username: _____

Password: _____

Chime Database Service Account

This account will be used by Chime to read and write information to the Chime database.

Username: _____

Password: _____

Account must have db_datareader & db_datawriter rights to Chime database

Chime Service Account

This account will be used as the login for the Windows Service. If using Windows Authentication on the SQL connection, this must be the same account. This account must be granted the Local Security Setting of "Logon as a service".

This account must be a member of the Chime server's local Administrator group or a member of the Domain Admins group of the domain to which the Chime server is joined. This is required for the OWIN web server components which power the Chime web interface to operate.

Username: _____

Password: _____

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Web Seeker account - *This account will be used by Chime to connect request from the web chat to Lync experts. This account needs to be Lync enabled and not used anywhere else.*

AD Username: _____

Password: _____

Dispatcher accounts - *This account will be used by Chime to connect request from a guest to Lync experts. This account needs to be Lync enabled. Each queue will need a separate dispatcher.*

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HIGH AVAILABILITY SETUP

INSTALLATION

This section of the document is used for installing the Chime for Lync application on all High Availability servers.

CHIME SETUP WIZARD

Once the required accounts have been provisioned for Chime, you are ready to begin the installation of the Chime application.

1. Run **ChimeSHInstaller.exe.** You will be prompted with the Chime for Lync Setup wizard.

Figure 1: Chime for Lync Setup Wizard

2. Click **Next** to proceed through the Setup wizard.

During the setup, you will need to enter the credentials for the following required accounts:

- Active Directory Query Account
- Chime Database Account
- Chime for Lync Service Account
- Web Client Dispatcher Account

NOTE: The accounts and credentials associated with the items listed above will be used on all of the High Availability servers you will set up, so it is required that you have access to this information.

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CUSTOM INSTALLATION TYPE

Chime has two installation options, Default and Custom. The Custom Install Settings provides the ability to set up your Chime service to support High Availability

Figure 2: Choose the Custom Installation Settings

CHOOSE INSTALLATION FOLDER (OPTIONAL)

To select an installation folder, simply click the Browse… button and navigate to the folder location you wish to install Chime. Once you have selected the desired folder location, click **Next**.

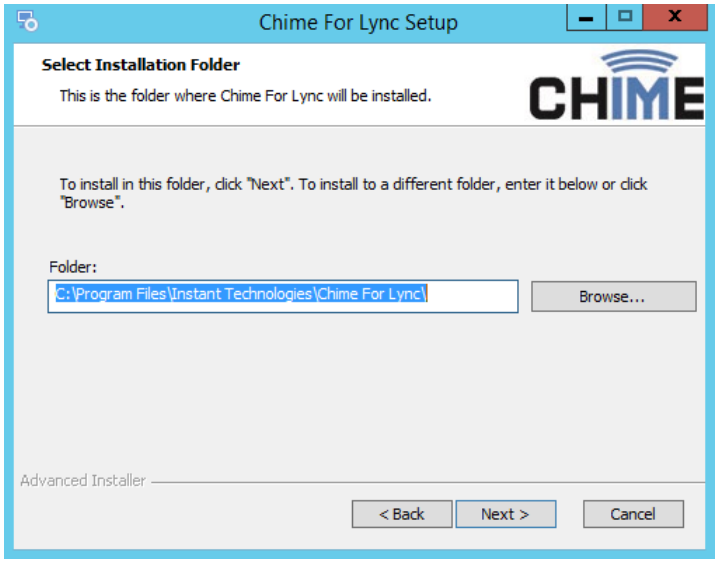

Figure 3: Custom Installation Setup

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HIGH AVAILABILITY SETTING

To use High Availability with Chime, you will need to check the box indicating that this is a High Availability Server. Note: you will need to select this option on all of the High Availability Servers you will use.

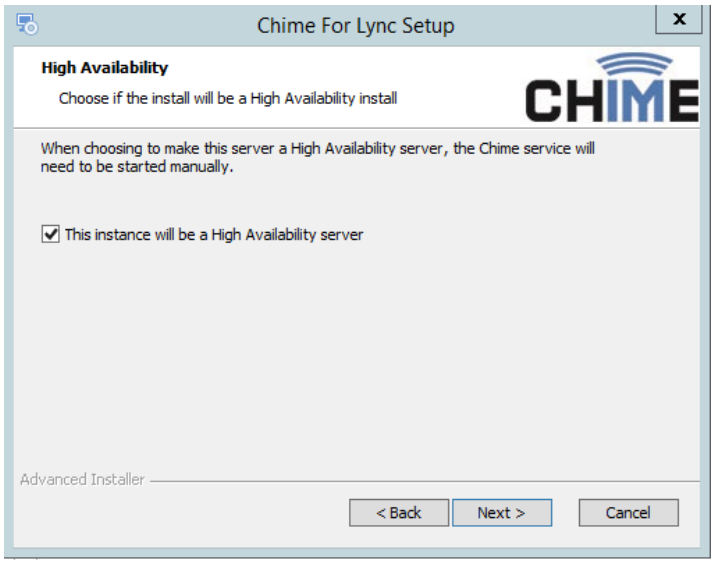

Figure 4: High Availability Installation Setup

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ACTIVE DIRECTORY AUTHENTICATION SCHEME

Beginning with Chime 2.4, we support either on premise AD or using Azure AD against Office 365. For more information on how to obtain the information required for Office 365 setups, see the document titled *Chime Office 365 Prerequisites.*

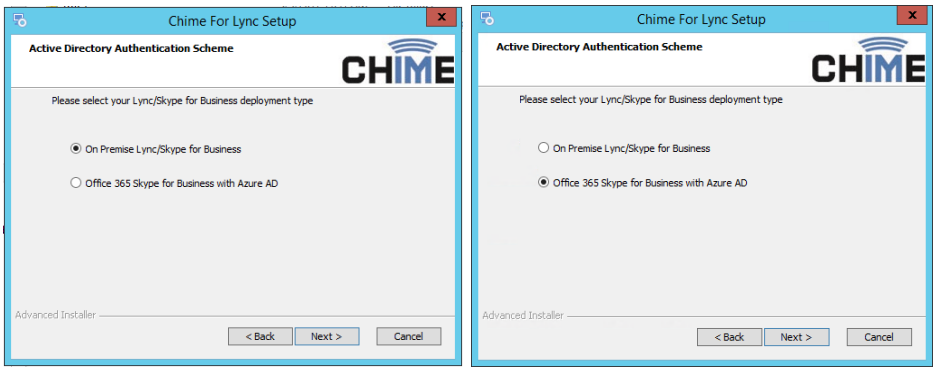

Figure 5: Choose either deployment type

ACTIVE DIRECTORY

The first required account is Active Directory. You will need the Active Directory account information to fill out this section.

ON PREMISE

Figure 6: Active Directory Configuration

1. Enter the Active Directory Fully Qualified Domain Name, or IP Address of the server hosting Active Directory.
2. Enter the username that Chime can use to query Active Directory.
3. Enter the password for the username provided. The password will be encrypted. Chime requires read access of your Active Directory.
4. Click **Next** once you have entered the Active Directory account information.

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OFFICE 365

PREREQUISITES:

A.) Azure AD Application configured to sign-in and read user profile information with delegated permissions (see document title *Chime Office 365 Prerequisites* for more information)
B.) Recorded Azure AD Tenant ID, Application Client ID, and Application API key from *Chime Office 365 Prerequisites* document.

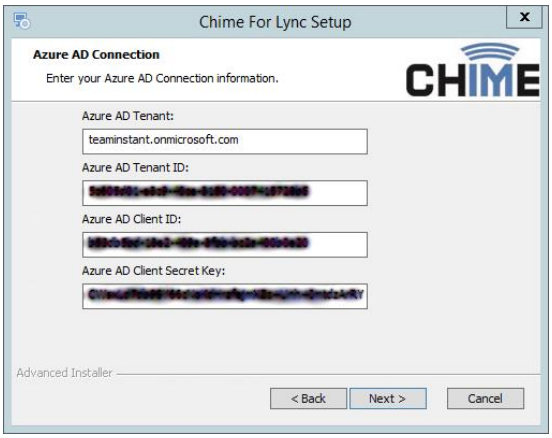

Figure 7: Provide Azure AD information

1. Enter the name of your Office 365 tenant in the input labeled **Azure AD Tenant**. This is usually the domain associated with your Office 365 email address, e.g. example.com.
2. Enter the **Azure AD Tenant ID** obtained the corresponding input.
3. Enter the **Azure AD Application ID** obtained in the corresponding input.
4. Enter the Azure AD Application API key in the input labeled **Azure AD Client Secret Key**.

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CHIME DATABASE

Chime requires an account with administrative rights to the SQL database. In this section of the Setup wizard, the Chime database will be created. Chime requires read/write access to its own database.

CREATE/UPDATE THE DATABASE

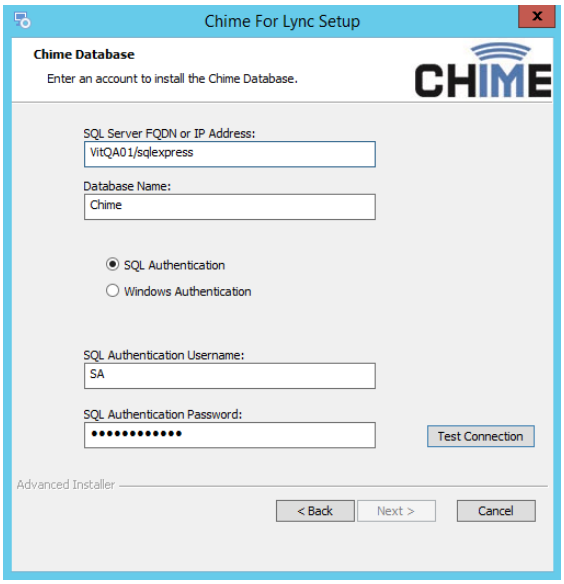

Figure 8: Chime Database Setup

1. Enter the Fully Qualified Domain Name or IP address of the SQL Server where the Chime database will be installed.
2. Provide the username of the account that will be used to create the Chime database. This account needs *sys_admin* rights for the SQL Server.
3. Enter the password for the SQL account.

In a Custom Install, you are able to change the name of the Database.

4. Make sure you record the name of the Database name because you will need to use the same SQL database in all High Availability installs.
5. Click on **Test Connection** once the require account information has been entered.
6. Click **Next** to proceed.

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CONFIGURE DATABASE SERVICE ACCOUNT

Figure 9: Configure Database Service Account

1. Choose the authentication scheme Chime will use to connect to the database.

   If using SQL Authentication:

   a. Enter the username for the service account Chime will use to access the database.
   b. Enter the password for the service account

   If using Window Authentication, the service account provided in the next screen will be used to connect to the database.

2. Click **Next** to proceed.

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SERVICE ACCOUNT

The Chime for Lync Service account is the account that will be used to run the Chime Self-Hosted application.

Figure 10: Chime Service Account

1. Enter the name of the domain that the Chime service account belongs to.
2. Provide the username of the account that will be used to run Chime.
3. Enter the password for the provided username.
4. Click **Next** to proceed through the installation.

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WEB CLIENT CONFIGURATION

ON-PREMISE

Figure 11: Web Client configuration screen

1. Enter the information requested in the appropriate fields.
2. Click **Next** to continue.

OFFICE 365

Figure 12: Web Client configuration screen

1. Enter the information requested in the appropriate fields.
2. Click **Next** to continue.

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INSTALLATION OPTIONS

Optionally, you may customize the installation with the available Installation Options. By default, the installation will add a few routing tags to the Chime database (e.g., password reset, software installation, hardware, mobility, etc.). For most installations and upgrades, this is the recommended setting. If the default skill-routing tags are not desired, uncheck this option.

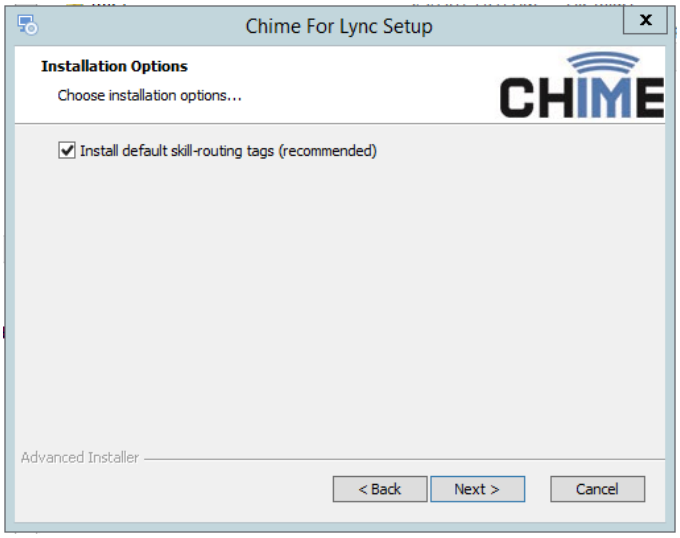

Figure 13: Installation Options screen

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READY TO INSTALL

Press the **Install** button to begin installing Chime.

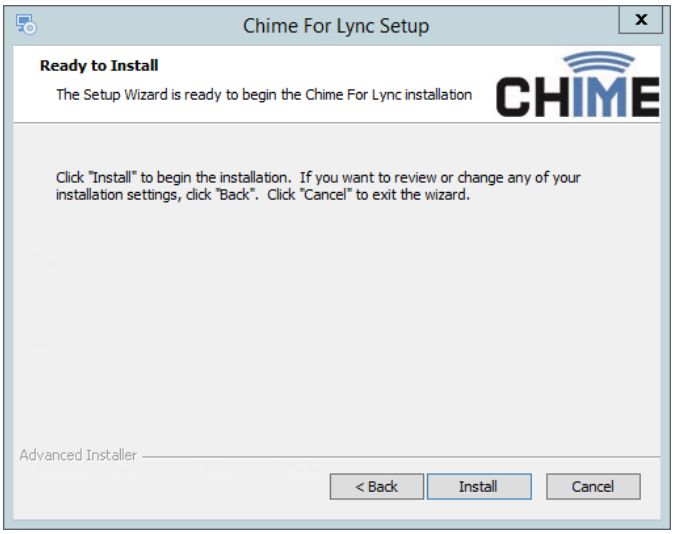

Figure 14: Install Chime

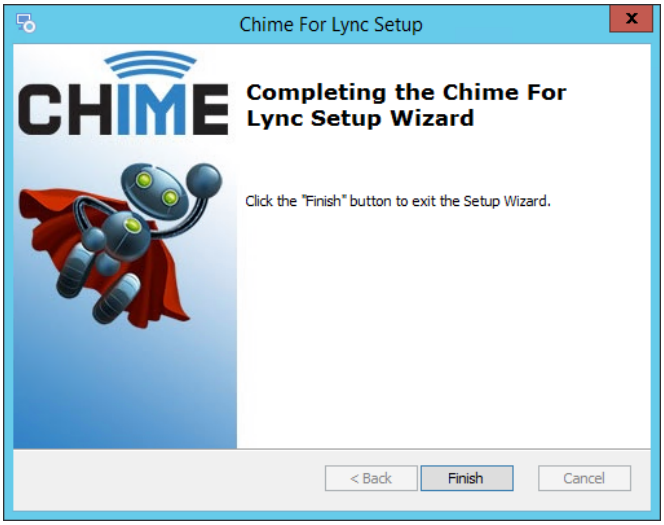

Figure 15: Install Complete

Click **Finish** to close the setup wizard and launch the configuration wizard.

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CHIME CONFIGURATION WIZARD

Once all the required account information has been filled out in the Chime Setup wizard, you will be prompted with the next part of the installation, the Configuration Wizard. In this section you will do the following:

- Verify Active Directory account information
- Verify and test connection to the SQL Database
- Setup the Chime Web Client
- Pick the first administrative user for the Chime application
- Configure SSL Certificates (optional)

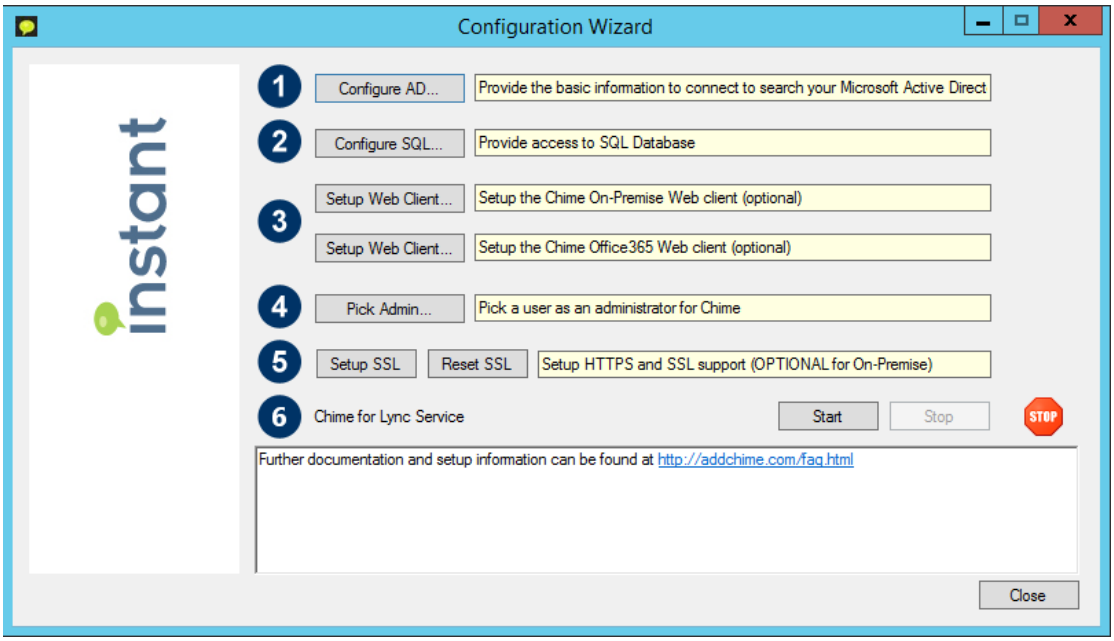

Figure 16: Configuration Wizard

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CONFIGURE ACTIVE DIRECTORY

In the first step of the configuration wizard, you will need to verify your active directory credentials.

ON PREMISE

1. Click **Configure AD.**
2. Enter the Active Directory FQDN, username, and password (if not provided during the previous installation process).
3. Click **Validate**.

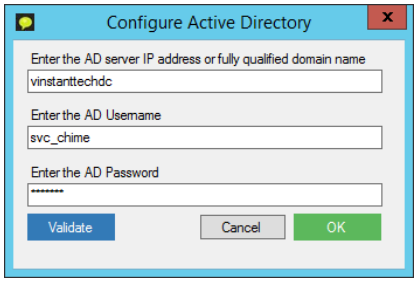

Figure 17: Active Directory

4. Click **OK** on the alert once you have been notified that we've successfully connected to Active Directory.
5. Click **OK** to proceed to the next step.

OFFICE 365

Verify that the information in these fields matches what was provided during the installation phase. You can test to be sure that we can connect using the information provided using this tool.

1. Enter your **Azure AD Tenant**.
2. Enter your **Azure AD Tenant ID**.
3. Enter your **Azure AD Client ID**.
4. Enter your **Azure AD Client Secret Key** (API key).
5. Click **Text…** to verify that we can connect using the provided information
6. Click **Save** to save the information and close the window.

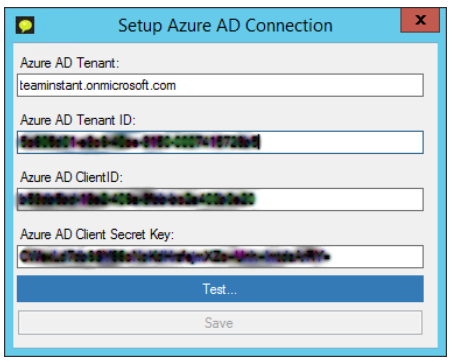

Figure 18: Azure AD Connection info

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CONFIGURE SQL

In this section you will need to enter the required account information for the Chime SQL account. This account needs read and write access to the Chime database.

1. Click **Configure SQL** in the configuration wizard.
2. Enter the name of the SQL instance that Chime will be hosted on.

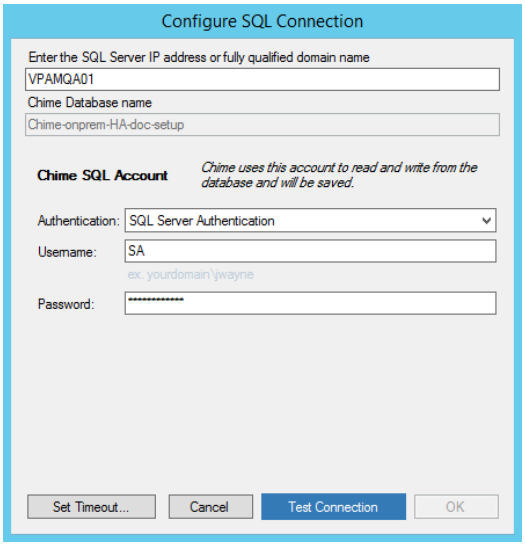

Figure 19: SQL Connection

3. Select the appropriate authentication method for the Chime SQL account.
4. Enter the username and password for the Chime SQL account.
5. Click on **Test Connection** to test the connection to the database.

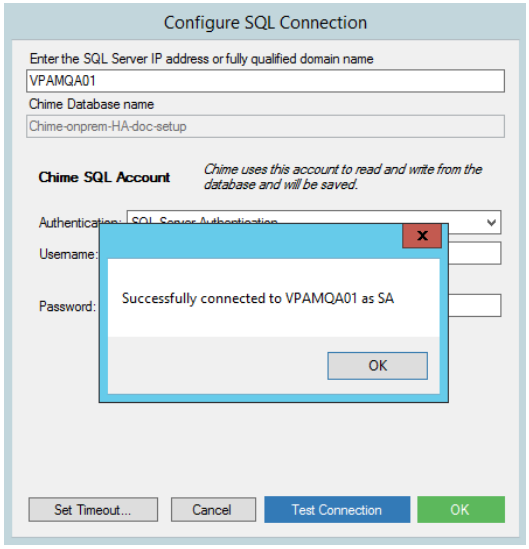

Figure 20: Test SQL Connection

6. Click **OK** once you have successfully connected to the database.
7. Click the green **OK** button in the Configure SQL Connection window to proceed to the next step.

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SETUP WEB CLIENT (OPTIONAL)

There are two options in the configuration wizard for setting up the Web Client:

1. Setup the Chime on premise web client – uses your on premise Lync Server
2. Setup the Chime Office 365 web client – uses an Office 365 Lync-enabled account

ON PREMISE

Follow these instructions to setup the Web Client with an on premise Lync Server.

1. Click **Setup Web Client…** in the configuration wizard.
2. Enter a SAM account name to search for, and click **Search for Lync Account**. The wizard will query Active Directory for a Lync-enabled account matching the provided name.
3. Select the desired account, and the wizard should pre-populate whatever fields it can obtain from Active Directory.
4. Provide information for any missing fields.
5. Click **Verify**, and the wizard will attempt to log in using the credentials provided.
6. Click **OK** once the information has been verified to save the values and close the window.

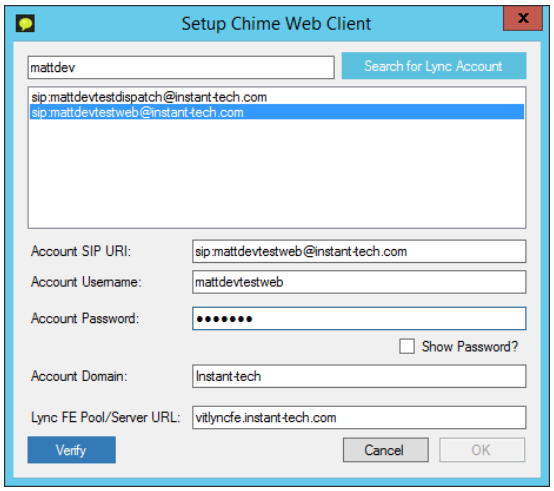

Figure 21: Web Client configuration

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Follow these instructions to setup the Web Client with an Office 365 account.

1. Click **Setup Web Client…** in the configuration wizard.
2. Provide the required information for the web client dispatcher account.
3. Click **Test**, and the wizard will attempt to log in using the credentials provided.
4. Click **OK** once the information has been verified to save the values and close the window.

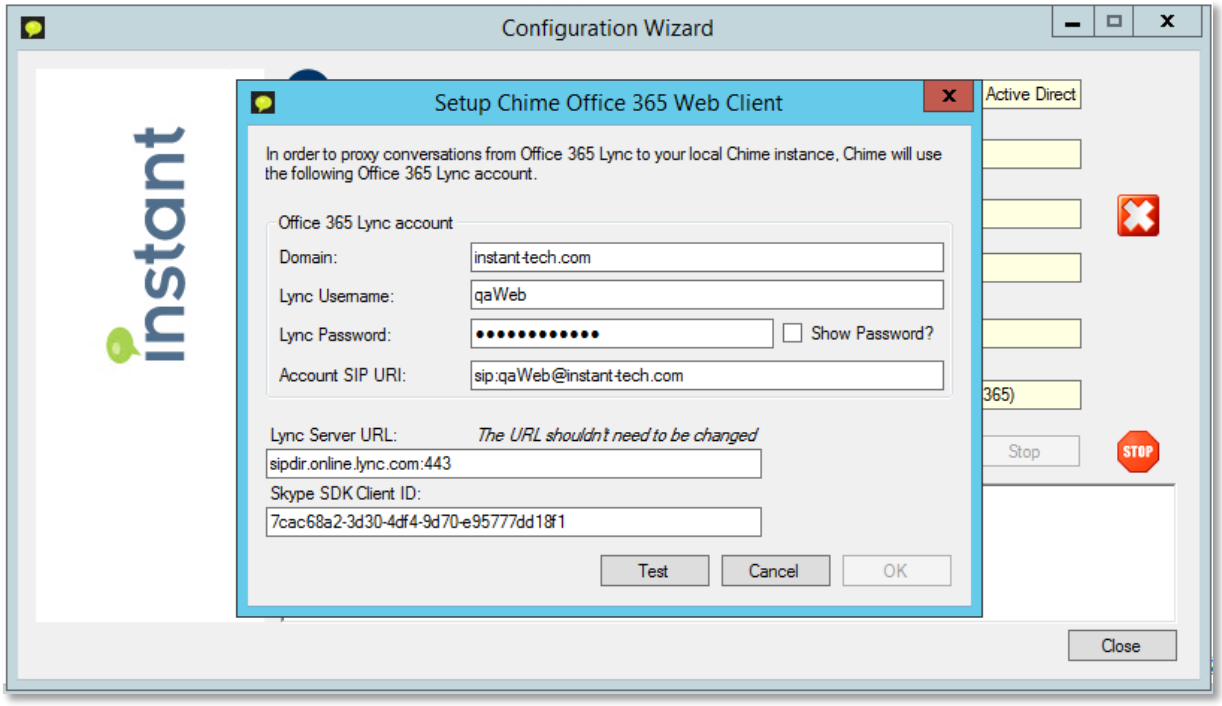

Figure 22: Web Client Configuration

Account SIP URI: The SIP URI for a Lync-enabled Office 365 account. The Chime Web Client will log in as this account.

Account Domain: The name of the domain that the chosen Office 365 account belongs to.

Account Username: The full username of the chosen Office 365 account.

Account Password: The password for the username provided.

Lync Server URL: Provide the Lync Server URL. For Office 365 this should be: ***sipdir.online.lync.com:443***

Skype SDK Client ID: The Azure AD Application Client ID for the Native Application used to connect to Skype for Business over UCWA.

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PICK ADMIN USER

Chime will need a Lync-enabled account to be configured as the first Admin user of Chime. That person will be able to add other people once they log in.

1. Click on **Pick Admin** from the Configuration Wizard.
2. Enter the partial or full username of the person who will be the first admin. Click Search to find the user.

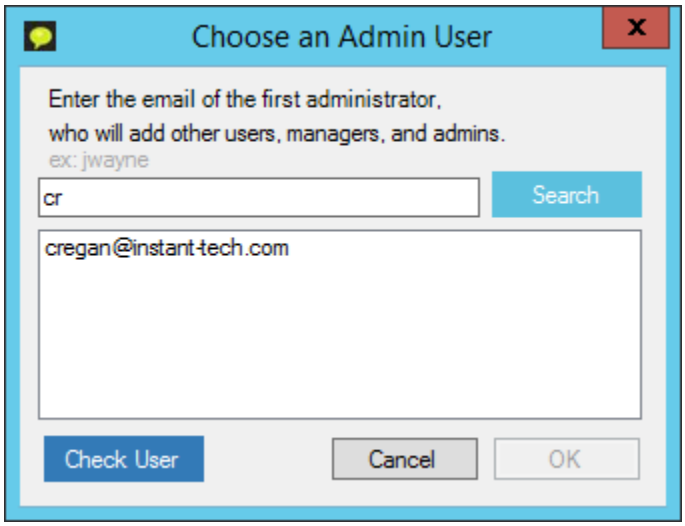

Figure 23: Pick Admin User

3. Select the correct user from the list, and click Check User.

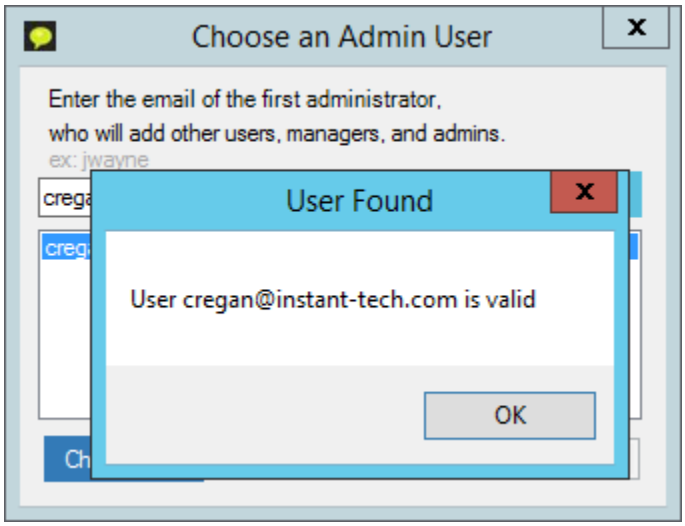

Figure 24: Check User

4. Once you've verified that the user picked is valid, click OK. Then, click OK in the Choose Admin user window to proceed to the next step of the Configuration Wizard.

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SETUP SSL (OPTIONAL)

The configuration wizard provides a tool to register an SSL certificate with the Chime application. As a prerequisite, you will need to have a valid SSL certificate installed on the server. Once the certificate has been installed on the server, you can follow these steps.

1. Click **Setup SSL**.
2. Click through the prompts to register listeners for ports 80 and 443 (or click OK if already reserved).

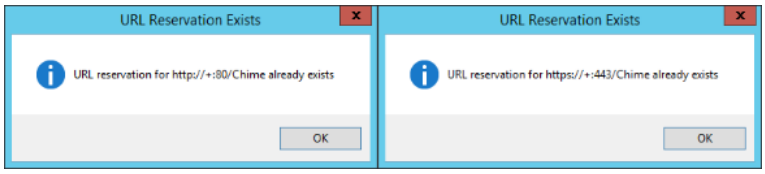

Figure 25: URL Reservations

3. Select the desired SSL Certificate from the list provided. Click on the desired certificate and click **OK** to try and use that certificate. If you don't see the certificate desired, click **Cancel**, and another list will be displayed.

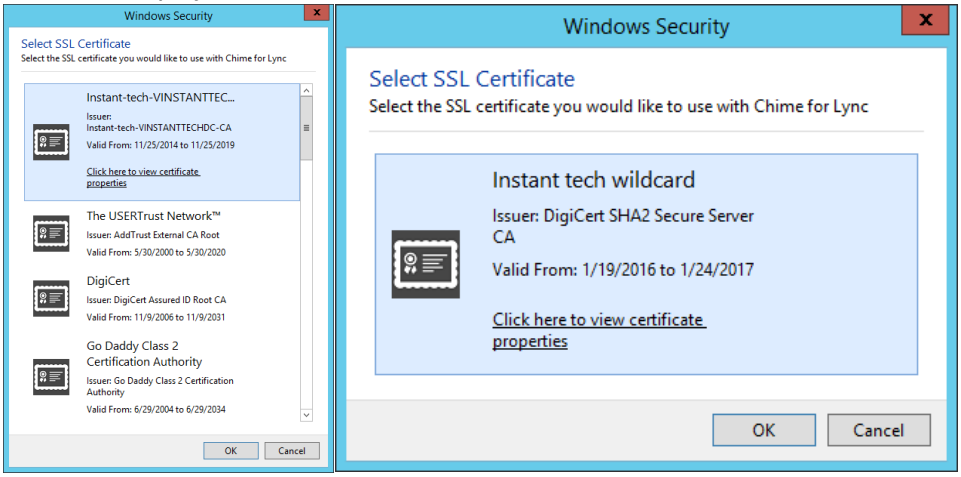

Figure 26: Selecting SSL Certificates

4. Click to **OK** to execute the command to register the SSL Certificate.

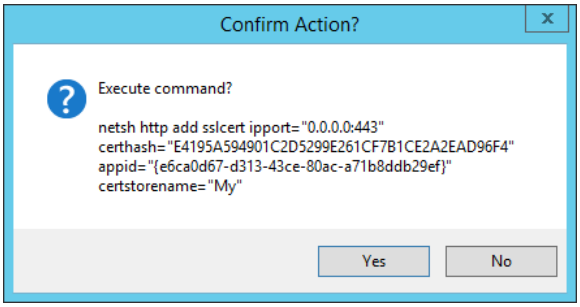

Figure 27: Executing SSL Command

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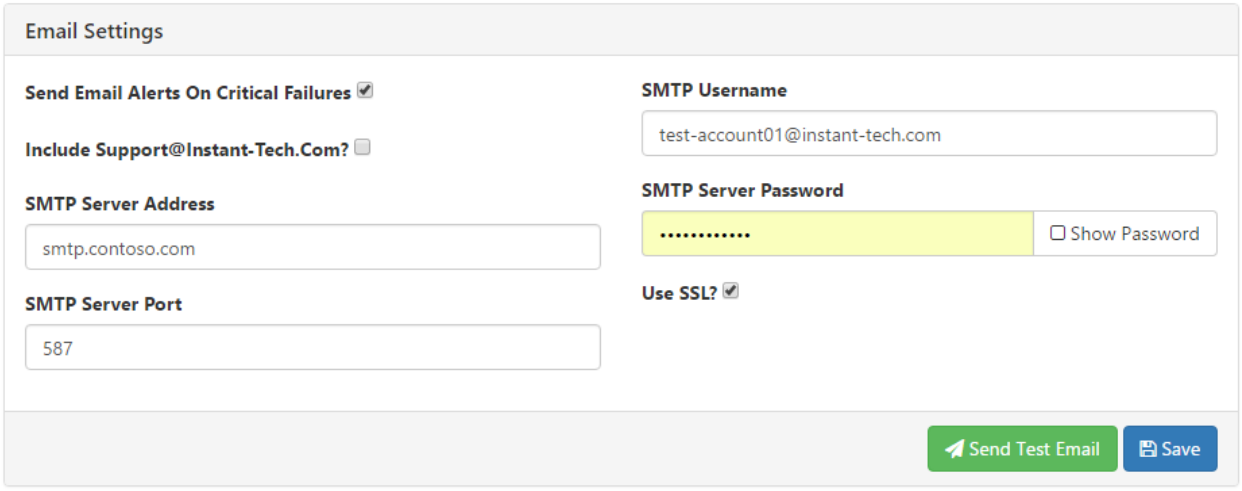
CONFIGURE SMTP SETTINGS TO SEND ALERTS ON CRITICAL FAILURES

In the Chime application go to Home > Admin > Settings > Email Settings

1. Check the box “Send Email Alerts On Critical Failures” to send alerts to Chime Admins
2. Configure an SMTP account that can be used to send emails



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PRIMARY SERVER

This section of the document is used for configuring the primary High Availability server.

PRIMARY SERVER SETTINGS

1. Open Services

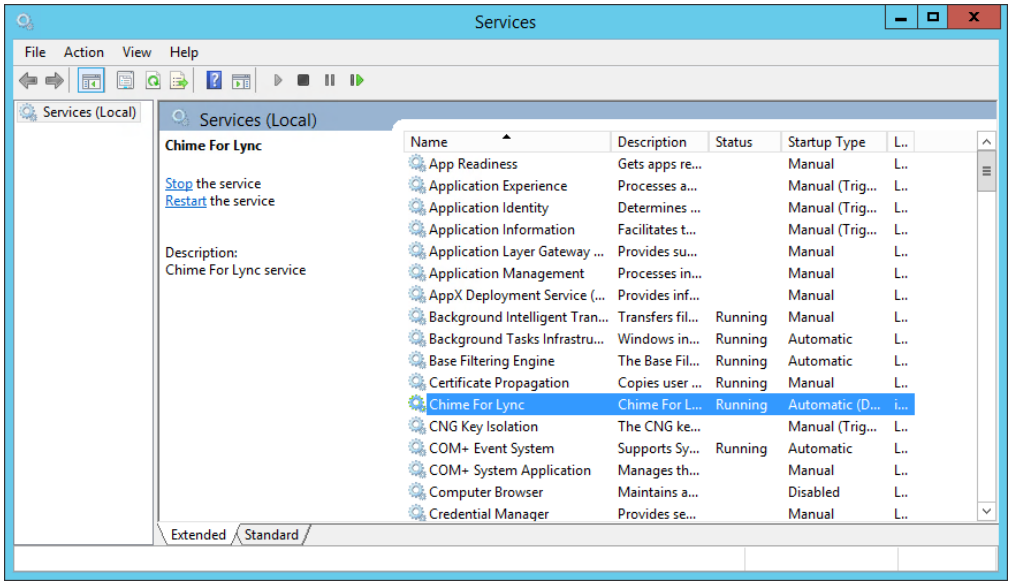

Figure 28: Services Window

2. Select “Chime for Lync” service and open the properties

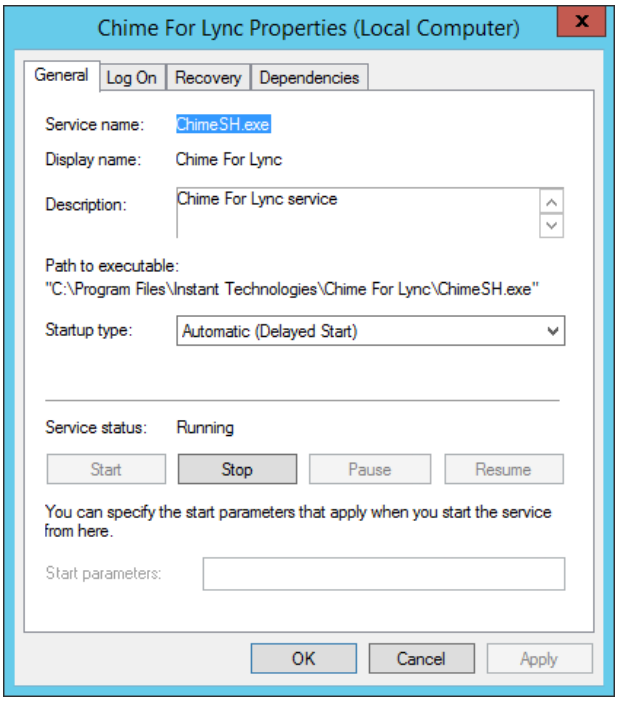

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Figure 29: Chime For Lync Properties

3. Change the Startup type from “Automatic(Delayed Start)” to “Manual”

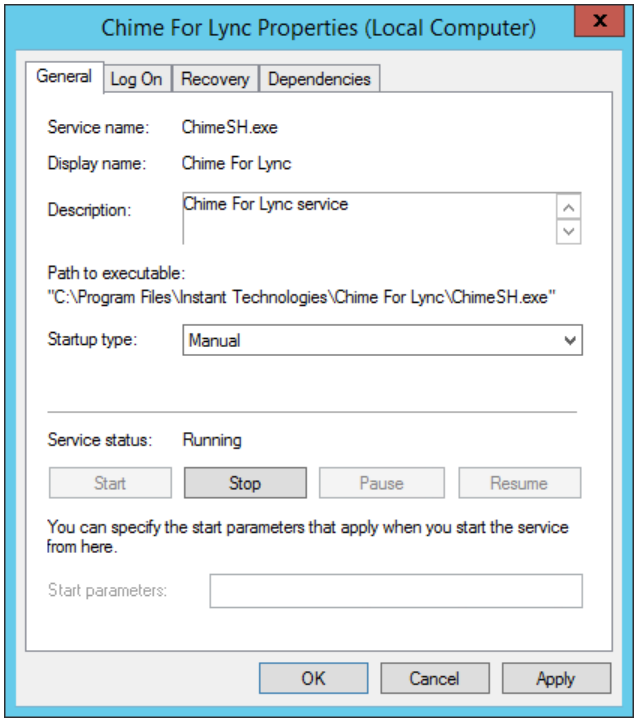

Figure 30: Manual Start

NOTE: If any settings of the original install are changed, all of the secondary servers need to also have these changes made to them. Examples of these changes:

- SQL Server used is changed
- AD Username/password is changed
- Azure Username/password is changed
- Service account is changed

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SECONDARY SERVER(S)

This section of the document is used for managing the non-primary High Availability servers.

SECONDARY SERVER SETTINGS

Open Services

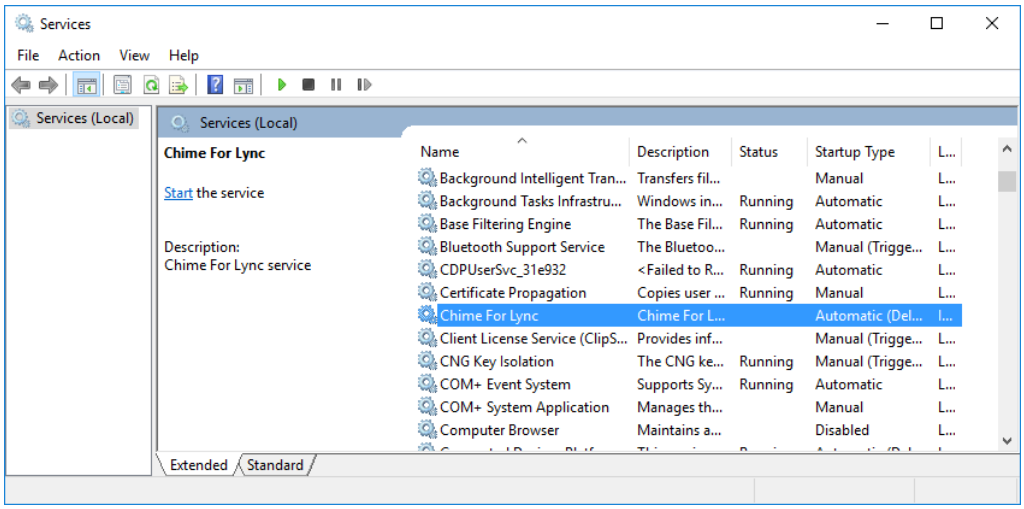

Figure 31: Services

Select “Chime for Lync” service and open the properties

Verify that the Chime for Lync service has stopped

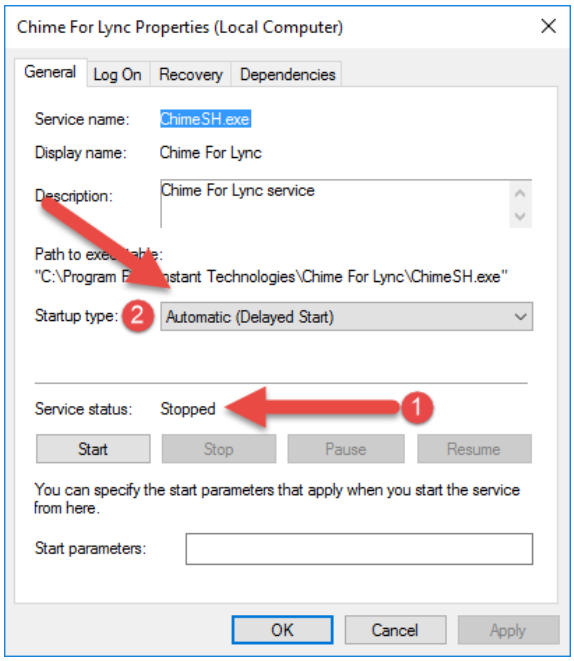

Figure 32: Chime Properties

Change the Startup type from “Automatic(Delayed Start)” to “Manual”

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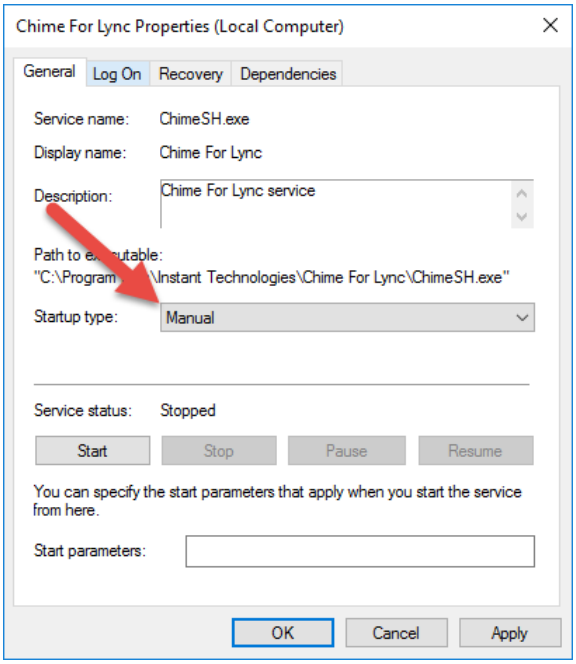

Figure 33: Chime Startup

SYNCHRONIZE CHIME APPLICATION FILES

Copy the following files from primary server to the secondary severs. The default install path is C:\Program Files\Instant Technologies\Chime For Lync

- Settings.xml
- Plugins directory

NOTE: These items should be synced regularly.

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HIGH AVAILABILITY MANUAL FAIL-OVER INSTRUCTIONS

Go to the Primary server

Open Services

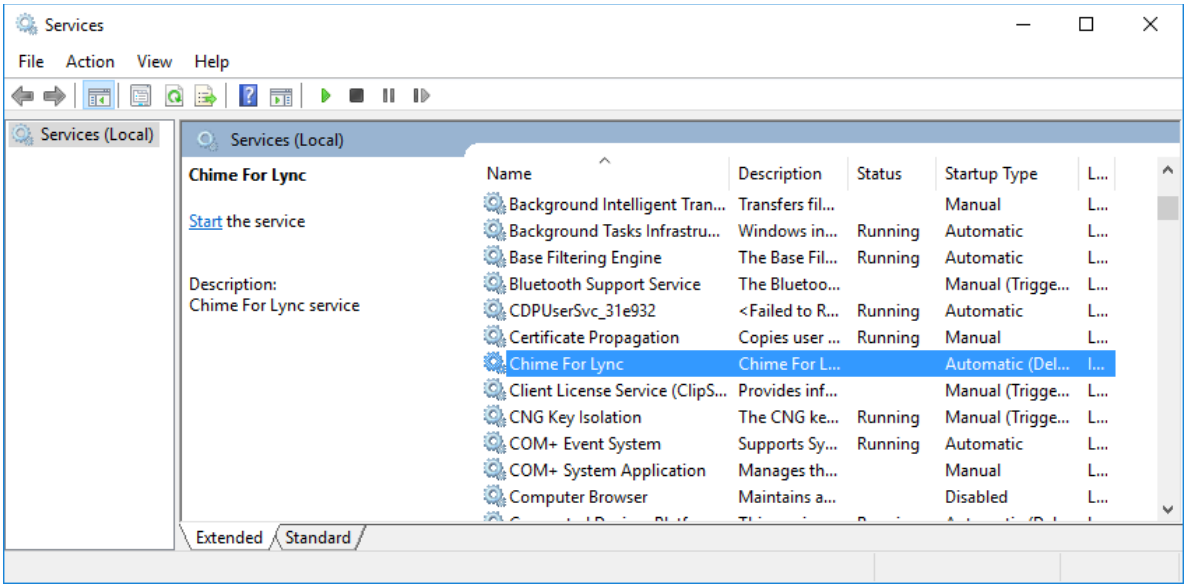

Figure 34: Services

Verify that the Chime service has stopped

Go to the Secondary server

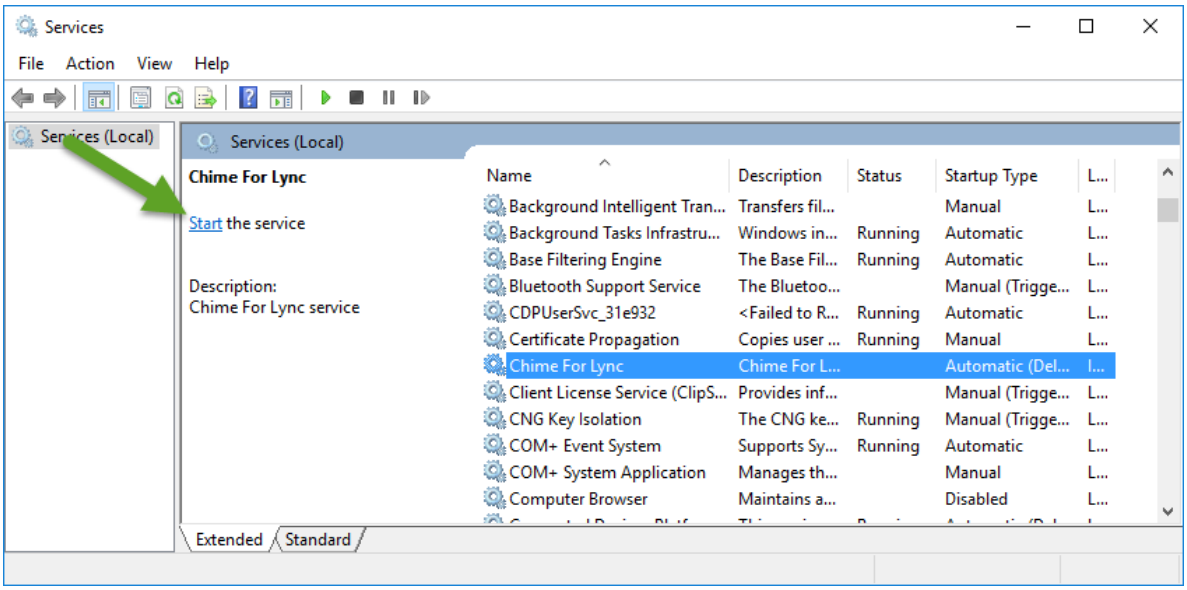

Figure 35: Services on Secondary Server

Start the Chime service

After the service has started, verify that Chime page and associate links and queue accounts are active

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