**ZOOM VIDEO COMMUNICATIONS, INC.**

**Version:**

1.5

**Date:**

12/06/2021

# ZOOM APPLICATION – GUIDANCE DOCUMENTATION

## PREPARED BY

| IDENTIFICATION OF SERVICE PROVIDER | | |
|---|---|---|
| | Organization Name | Zoom Video Communications, Inc. |
| | Street Address | 55 Almaden Boulevard |
| | Suite/Room/Building | 6th Floor |
| | City, State Zip | San Jose, CA 95113 |

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# 1. SYSTEM REQUIREMENTS

The following recommended system requirements apply for the Zoom Client to function properly:

- An internet connection – broadband wired or wireless (3G or 4G/LTE)

The bandwidth used by Zoom will be optimized for the best experience based on the participant's' network. It will automatically adjust for 3G, WiFi, or wired environments.

Recommended bandwidth for meetings:

- For 1:1 video calling:
    - For high-quality video: 600kbps (up/down)
    - For 720p HD video: 1.2Mbps (up/down)
    - For 1080p HD video: 3.8Mbps/3.0Mbps (up/down)
- For group video calling:
    - For high-quality video: 1.0 Mbps/600kbps (up/down)
    - For 720p HD video: 2.6Mbps/1.8Mbps (up/down)
    - For 1080p HD video: 3.8Mbps/3.0Mbps (up/down)
- For gallery view receiving: 2.0Mbps (25 views), 4.0Mbps (49 views)
- For screen sharing: 50-150kbps

- A supported operating system:

| Operating System | Supported Versions |
|---|---|
| Microsoft Windows (only 64-bit) | Windows 10 Home, 10 Pro and 10 Enterprise |
| Apple MacOS | macOS 10.13 (Sierra), 10.14 (Mojave), 10.15 (Catalina), 11 (Big Sur) |
| Apple iOS/iPadOS | iOS 12, 13 and 14, iPadOS 13 and 14 |
| Android | Android 8.1, 9, 10 and 11 |

- Processor and RAM requirements (for Windows and MacOS)

| | Minimum | Recommended |
|---|---|---|
| Processor | Single-core 1Ghz or higher | Dual-core 2Ghz or higher (Intel i3/i5/i7 or AMD equivalent) |
| RAM | N/A | 4 Gb |

Dual and single-core laptops have a reduced frame rate when screen sharing (around 5 frames per second). For optimum screen-sharing performance on laptops, we recommend a quad-core processor or higher.

# 2. INSTALL THE ZOOM CLIENT

## 2.1. MANAGED CLIENT INFRASTRUCTURE

All devices the Zoom application is installed on need to be part of a managed client infrastructure that controls which applications can be installed on the device. This needs to be done to ensure no malicious applications are installed on the device that could negatively influence the security of the Zoom application.

The decision if such control over installed software is achieved by a centralized rollout procedure using installation scripts or by whitelisting software that may be installed on a device is left to the organization using the Zoom application. Regardless of the decision, installation of the Zoom application has to follow the steps described in the following chapters.

## 2.2. DOWNLOAD

The desktop versions (Windows, MacOS) of the Zoom application are only available in the download center of the Zoom website: https://zoom.us/download. The website and the downloads are being delivered securely using TLS 1.2.

The mobile applications are available on the official app stores of Google and Apple. The links to the mobile client apps for Android and iOS/iPad OS are also available from the website https://zoom.us/download.

- **Android:** The app is available on the Google Play (https://play.google.com/store/apps/details?id=us.zoom.videomeetings). It is also possible to download a signed APK file of the application directly from the Zoom download center: https://zoom.us/download?os=android.
- **iOS/iPadOS:** The app is only available on the official Apple app store (https://apps.apple.com/us/app/id546505307).

There are no other supported ways to obtain the Zoom application than the ones mentioned above.

## 2.3. VERIFICATION

The installers for the desktop applications are cryptographically signed and should be verified as follows:

- **Windows:** Right click on the downloaded installer file, click on *"Properties"* and navigate to the *"Digital Signatures"* tab in the Properties window. Click on one of the signatures in the list and then click on the *"Details"* button. In the new window, Windows will show whether the digital signature is OK or not. The signature of the installed application can be checked in the same way by right clicking on the Zoom.exe file. Alternatively, the SignTool of the Microsoft Windows SDK can be used to verify the signature, as described here: https://docs.microsoft.com/en-us/windows/win32/seccrypto/signtool.

    The SHA-256 fingerprint of the certificate used to sign the Windows installers of version 5.6.6 is `6ba9ef6eb60103b1912b9e79f3eef4c6f662c4f7`. They can be viewed by first navigating to the "*Details*" section as described above and then clicking on "*Show certificate*". A new window will open and the fingerprint is contained in the "*Details*" tab of this window.

- **MacOS:** Double click on the downloaded Zoom.pkg file to open a window that guides the user through the installation process. In the top right corner of this window, a small padlock icon is shown. Click on this padlock icon to show the details of the used certificate and to verify the signature of

the package. The general process is analogous to the one described for software updates here: https://support.apple.com/en-us/HT202369.

The SHA-256 fingerprint of the certificate used to sign the MacOS installer of version 5.6.6 is `36 AF C6 B4 4F F0 68 FD 67 40 AC D2 80 F6 6E B7 82 D1 08 E8 15 22 EC 3B 2F 57 6E BA 90 AC 62 BC`. It can be viewed by clicking on the padlock icon as described above and then opening the details section of the certificate issued by Zoom.

Note that Windows and MacOS (in their default configuration) also check the signatures of the apps on first run.

On Android, if the app was obtained directly from the Zoom Download Center, the file's digital signature needs to be verified as described under https://developer.android.com/studio/command-line/apksigner.

The SHA-256 digest of the certificate used to sign the the APK file of version 5.6.6 published by Zoom is `60b75724b34686e52bde944969de120f16bd6d959788d54384494caedd4e445d`. It can be viewed by using the command `apksigner verify --print-certs zoom.apk`, where "`zoom.apk`" is the filename of the APK.

If the mobile app on Android and iOS/iPadOS was downloaded and installed using the official app stores there is no need to verify the app since it is protected by the stores' security mechanisms.

In case signature verification of the downloaded installer files (on desktop or Android) fails, the installer must not be used because it may be malicious. Instead a new copy of the installer should be downloaded and the verification process should be repeated.

### 2.4. INSTALLATION

On desktop systems (Windows / MacOS) the Zoom Client is installed by executing the installer file. The installation runs without any user input and is finished when the following screen appears:



As seen in the figure above, you can also verify if you installed the correct version in this screen.

On mobile systems, the app is installed through the respective app store. You do not need to do anything after downloading the app. If the android apk file was downloaded directly from the Zoom Download Center, the app can be installed by opening the file.

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The version can be verified by clicking on the settings icon in the top left corner. The following screen shows the installed version number.
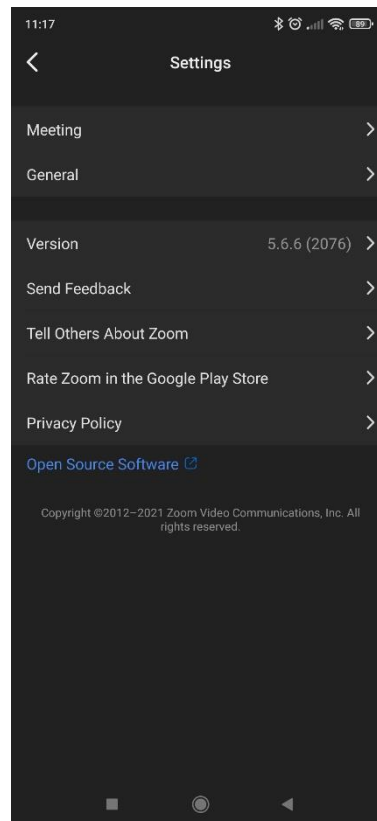


All binaries and libraries of the Zoom application are signed and the signatures are verified on each startup. On all platforms except Windows it is not possible to start the Zoom application if this verification fails.
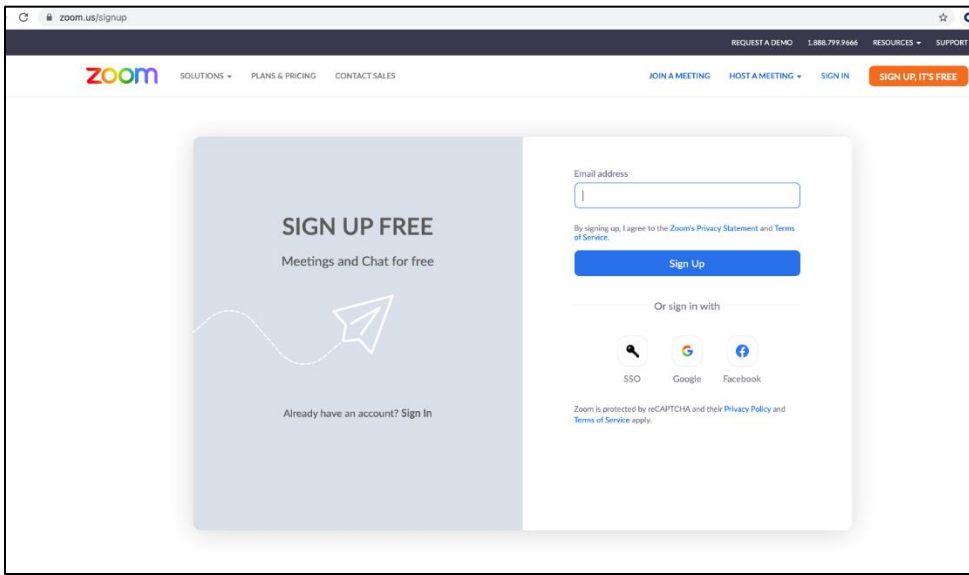
On Windows the user is presented with a pop-up message informing them that not all signatures could be verified. Users can choose if they want to start the Zoom application anyways or if they want to close it. In the certified scope it is not allowed to start the Zoom application if any signature verification fails.

Instead, if (on any platform) signature verification fails, the Zoom application shall be uninstalled and freshly installed. Only after all signature verification are successful may the Zoom application be started again.

## 2.5. USER REGISTRATION PROCESS

To use all features of the Zoom client you need to have a Zoom user account. A Zoom user account cannot be created using the Zoom client, but has to be done via Zoom's website[1].

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[1] https://zoom.us/signup

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## 2.6. LICENSING & USER MANAGEMENT

Zoom offers several different plans (basic, pro, business, enterprise). The accounts under the basic plan are free of charge and other types require the purchase of a license. However, there is no exchange or delivery of a commercial (not free) license code from Zoom to the user if a purchase of a plan is made. The user simply performs a login of the TOE and the backend makes the options available to their client depending on the purchased plan. No additional steps, like inputting a license key or similar, are necessary.

For the purpose of the certification please note that the certified version of the TOE needs to be operated with a paid account meaning under a pro, business or enterprise plan. All threats addressed by the TOE can also be mitigated with the free accounts (Basic plan); paid accounts only offer an additional layer of security for Zoom Chat by providing end-to-end encrypted chats. Free users can participate in end-to-end encrypted Zoom chats, but cannot initiate them themselves.

Licenses can be bought through the Zoom website (e.g. on https://zoom.us/pricing). It is possible to buy a single license for each user, for organizations however it might be more practical to assign an Account Admin. An Account Admin is a Zoom user who manages all user accounts of an organization. After the Account Admin purchased multiple user licenses they can add Zoom users to their organization on https://zoom.us/account/user#/. This makes the commercial features available to the user.

On https://zoom.us/role#/ the Account Admin can change the roles of the organization's users, e.g. give another user the role Account Admin. There may be more than one Account Admin in an organization. Please note, role in this context means the role in an organization and not during a meeting.
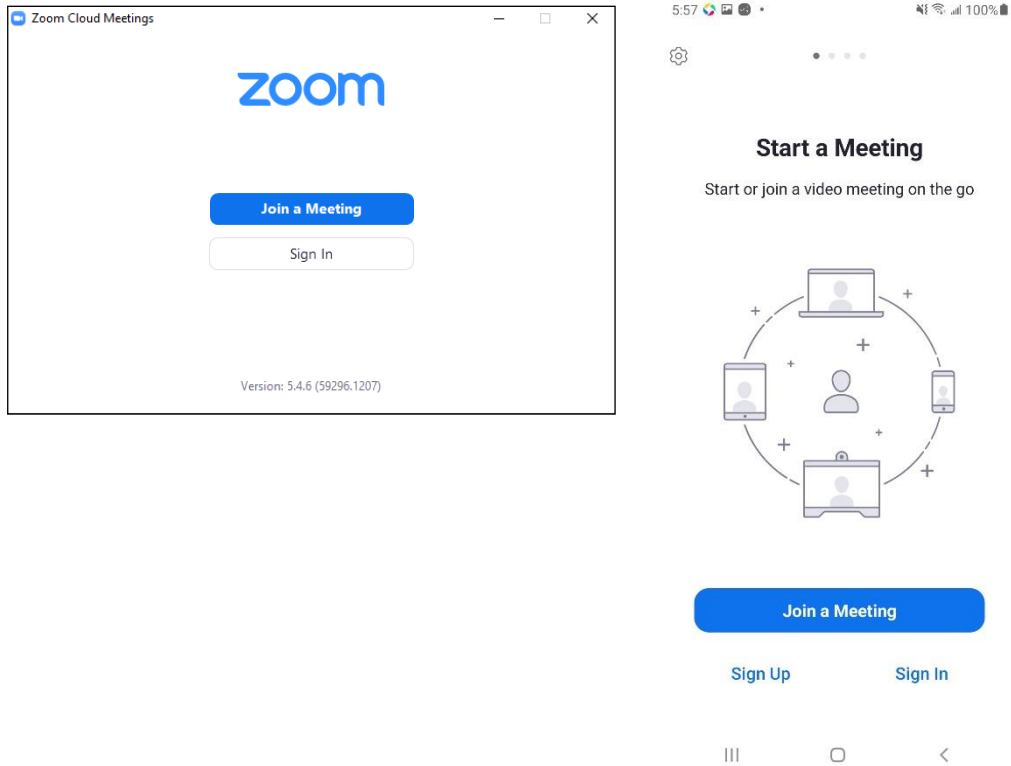
Account Admins can pre-define certain settings for all members of their organization, e.g. setting passcode requirements for meetings. These settings can be accessed by the Account Admin on https://zoom.us/account/setting.

# 3. OPERATIONS MANUAL

## 3.1. SIGN IN

Once the Zoom Client is installed you can sign in by clicking the "Sign In" button.



Note, by clicking on "Join a Meeting" you can join meetings without signing into your Zoom user account first. To operate the TOE in its certified scope, you must sign into your account first.

### 3.1.1. Password-based authentication – Desktop

In this mode the authentication will be performed by entering the Email-address and password chosen during the registration process.
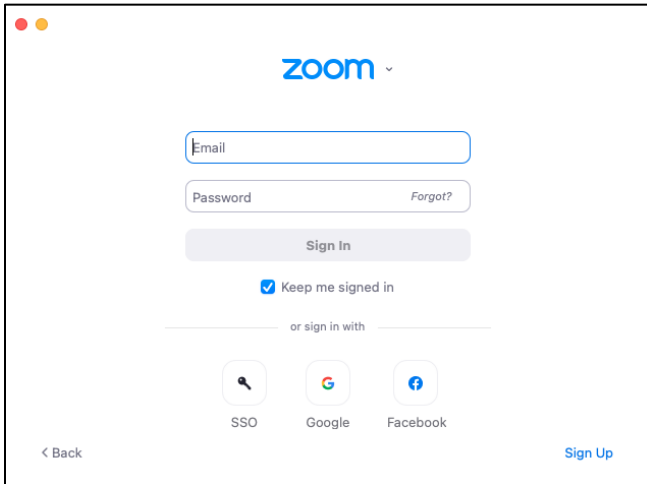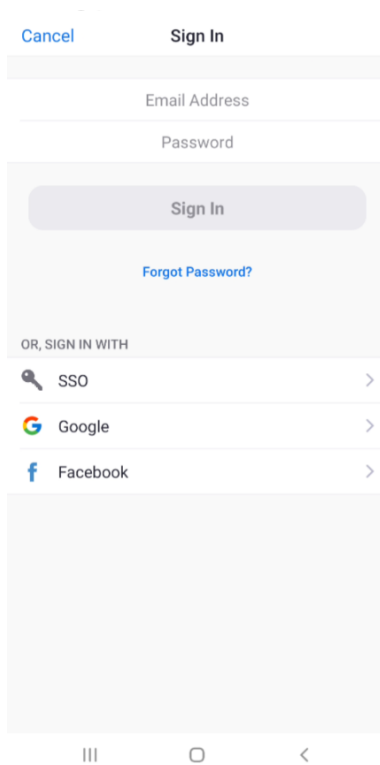
After entering your credential, click on "Sign In" to sign into your account.

Clicking on "Forgot?" or "Sign Up" will open the Zoom Website in your browser to create an account or reset your password.

By selecting the checkbox "Keep me signed in" the Zoom client will store an authentication token so you do not need to enter your credentials again on the next start up.

### 3.1.2. Password-based authentication – Mobile

In this mode the authentication will be performed by entering the Email-address and password chosen during the registration process.



After entering your credential, click on "Sign In" to sign into your account.
Clicking on "Forgot Password?" will open the Zoom Website in your browser to reset your password.

![Zoom logo]

On mobile devices it is possible to enable authentication via fingerprint ID by accessing the account settings after signing in. Please note that this feature is not covered by the certification and must therefore not be used.

### 3.1.3. Two-factor authentication

As an additional measure to secure your account, you can choose to enable Two-factor authentication. Two-factor authentication (2FA) is a two-step sign-in process that requires a one-time code from a mobile app or text message, in addition to the main Zoom sign-in.

This provides an additional layer of security since users will need access to their phone to sign in to the Zoom client.
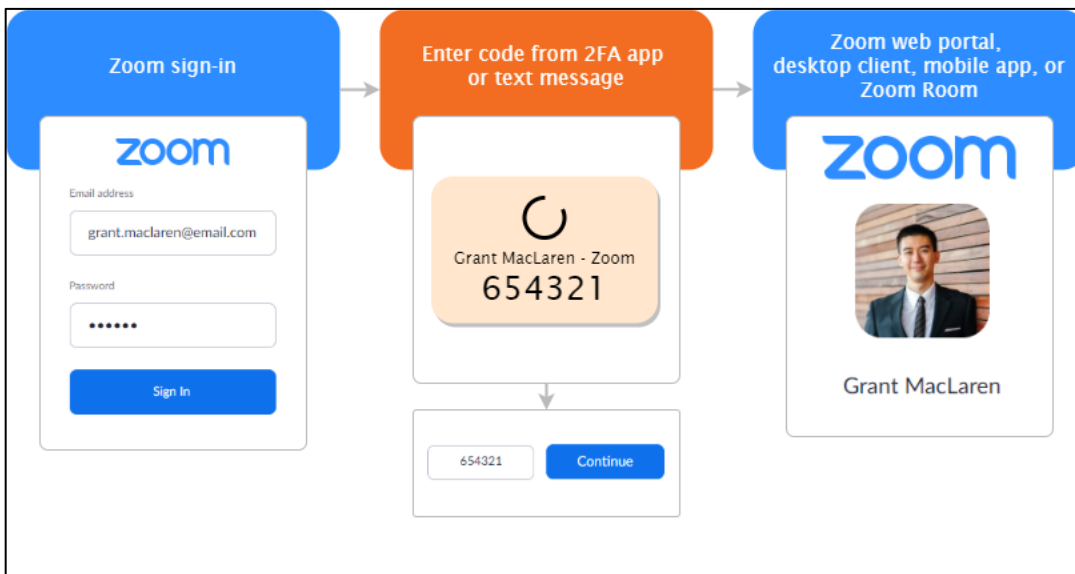


2FA cannot be enabled in the Zoom client itself but has to be enabled in the user account settings[2]. The user can enable or disable 2FA by navigating to the "Sign In" section of this page.
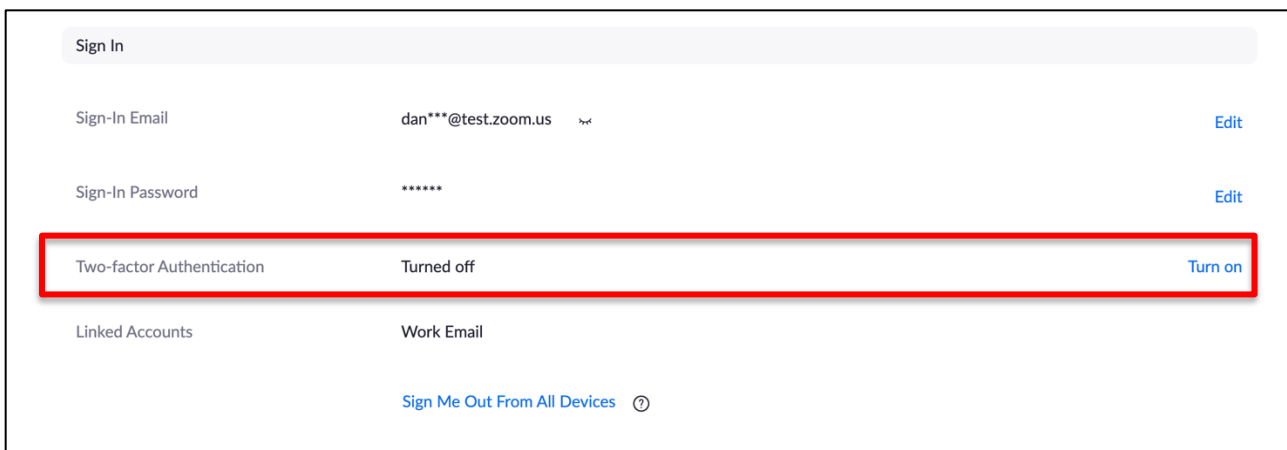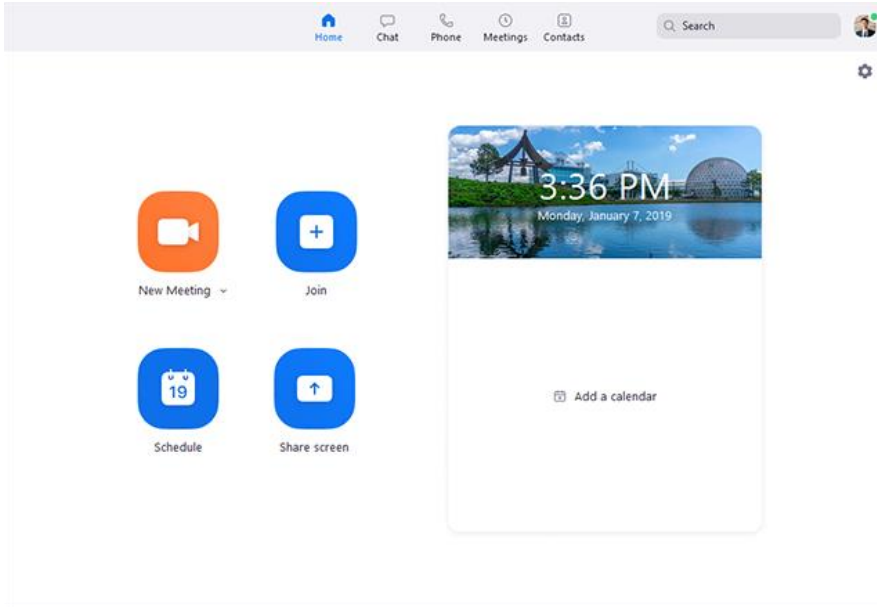


If 2FA is activated, users need to enter a 6-digit one-time password after entering their login credentials.

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# ZOOM

## 3.2. GETTING STARTED ON DESKTOP

### 3.2.1. Home

After signing in, you will see the **Home** tab, where you can click these options:



- **New Meeting**: Start an instant meeting. Click the downwards arrow to enable video or use your personal meeting ID (PMI) for instant meetings.
  - **Select your PMI** to access the following options:
    - **Copy ID:** Copy your personal meeting ID
    - **Copy Invitation:** Copy an invitation text to a meeting using your PMI
    - **PMI settings:** Edit the settings of meetings using your PMI
      **Note:** These are the same settings as the ones you can set when you schedule a meeting.
- **Join**: Join a meeting that is in progress.
- **Schedule**: Set up a future meeting.
- **Share Screen**: Share your screen in a Zoom Room by entering in the sharing key or meeting ID.
  **Note:** Zoom Rooms are out-of-scope for this certification.
- **Search**: Search for a user or channel in your contact list
- **Settings**: Click the cogwheel icon to access settings you can change in the client
- Date and time with background image: To change the background image, hover over the picture and click the camera icon.



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- Upcoming meeting: Displays the next meeting for the current day.
  - By clicking on "Start" you can start a scheduled meeting if you are the host.



**1:1 The Director**          Start

02:00 PM - 03:00 PM

Meeting ID: 349-145-042

Host: Grant MacLaren

View today's upcoming meetings (2)

- Click your profile picture for these options:
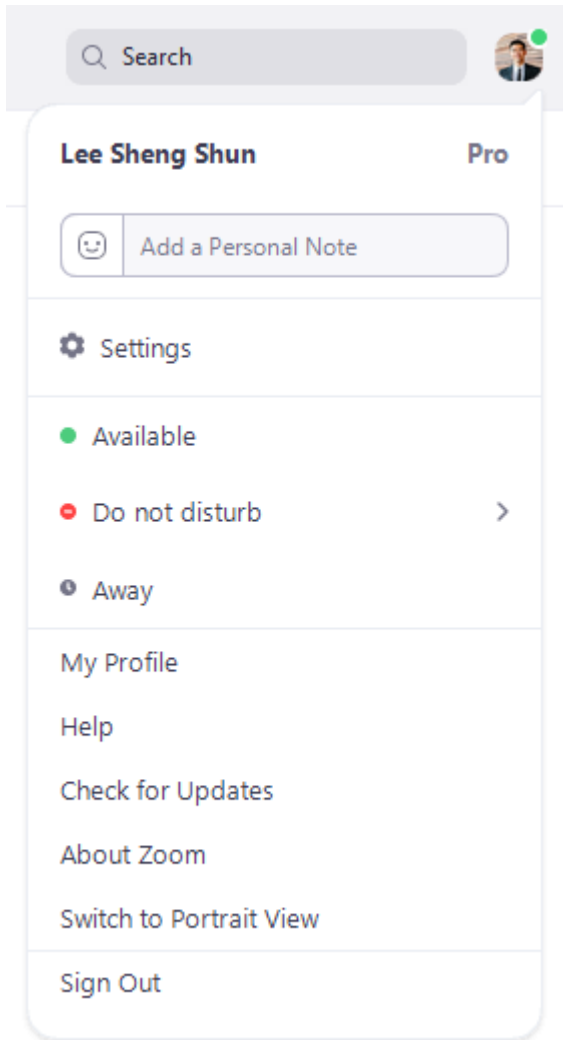
- o Add a personal note**.** The note will be displayed at the top of your chat profile to anyone who can see your profile.
- o **Settings**: Access settings you can change in the client.
- o Change your status to **Available**, **Away**, or **Do Not Disturb**.
- o **My Profile**: Open the Zoom web portal to edit your profile.
- o **Try Top Features**: Opens a web page detailing some of our most used features.
- o **Help**
    - ▪ **About Zoom**: Provides info about the Zoom client you currently have installed, as well as other relevant company info.
    - ▪ **Help Center**: Opens the Zoom Support site
    - ▪ **Report a Problem...** Send Zoom a problem report
- o **Check for Updates**: Check if Zoom is up to date.
- o **Switch to Portrait View**: Switch the Zoom window to portrait view if you prefer a narrower window.
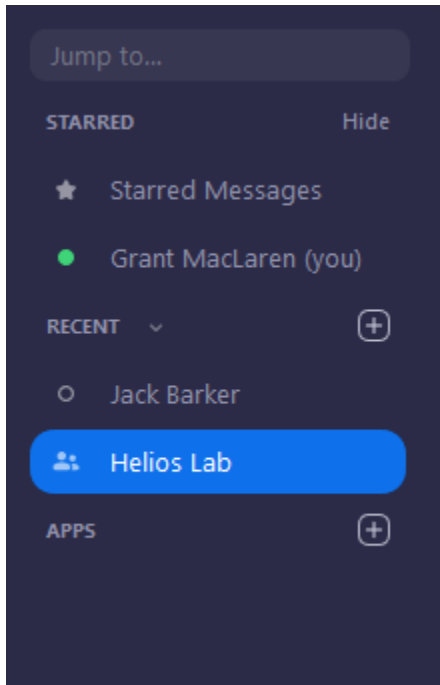- o **Switch Account:** Used to quickly switch between multiple accounts
- o **Sign out**

### 3.2.2. Chat

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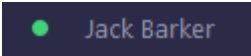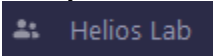
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Select the **Chat** tab to view private conversations with your contacts or group conversations in chat channels.
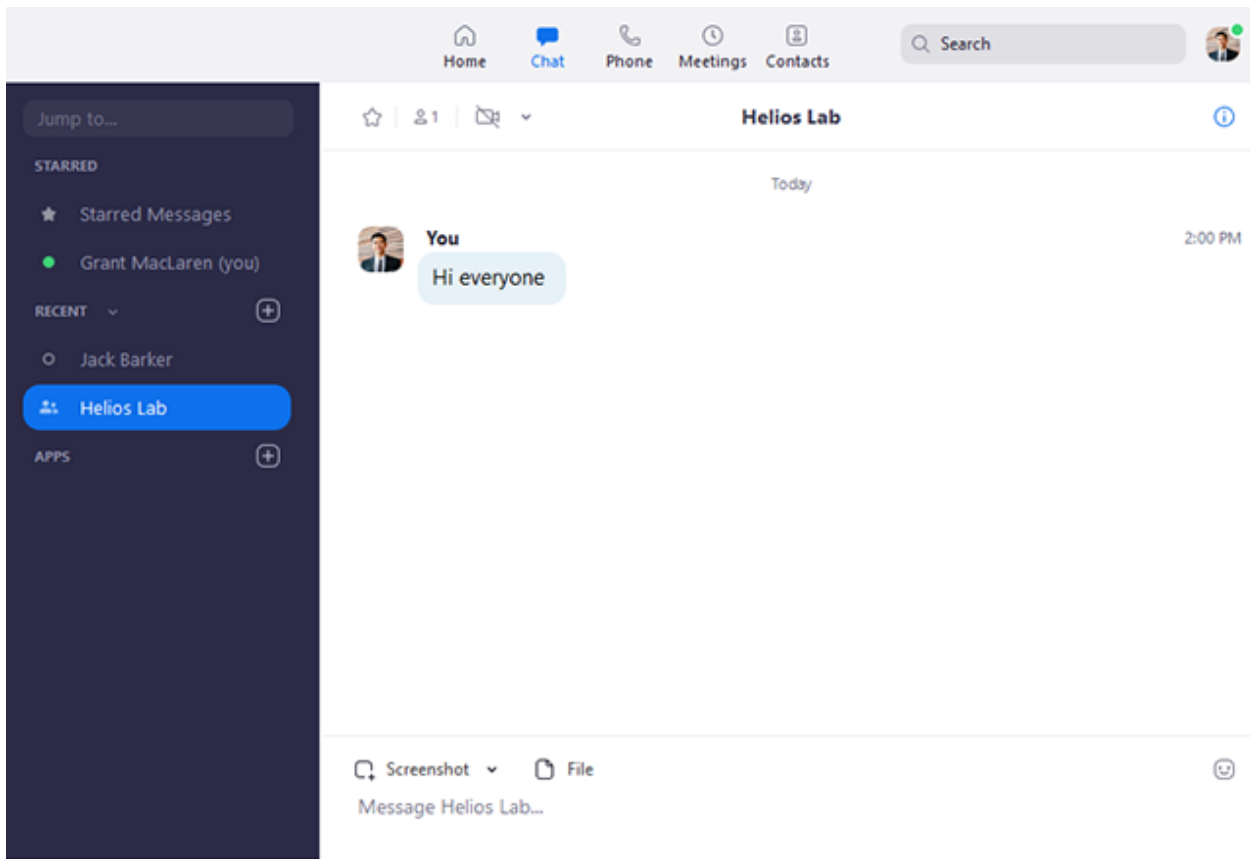


You can access these features in the left-side panel:

- **Jump to** search box: Search for a contact or channel.
- **< >** : Allows you go back or forward between recently used chat windows.
- **Starred Messages**: View messages you have starred.
- **Contact Requests**: View recent contact requests you have received from other Zoom users.
- **All Files**: View files you have shared in chats, all files you have access to within chat, and any saved Whiteboards from meetings.
- Click your name to use your personal chat space.
- Add icon ⊕ (next to **Recent**): Start a new chat with one of your contacts, create a channel for group chats, or join an existing channel. To start a new chat you will be asked to enter the name or email address of the contact.
- Under **Recent:**
    - Select a contact to view chat history and continue to chat with them. Contacts have a status icon before their name.

        

    - Select a channel (indicated by the group icon before the name) to view the channel's chat history and send messages to channel members.

        

After selecting a contact or channel in the left-side panel, you can use these features in the chat window:
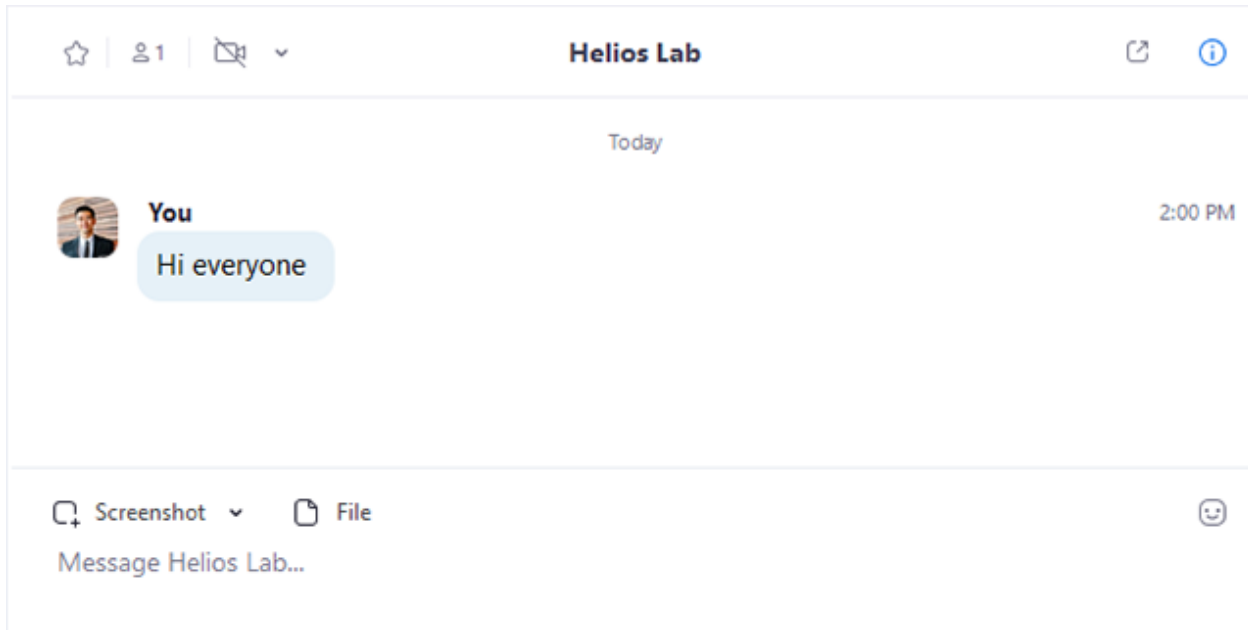
- Star icon ☆: Add the contact or channel to your starred list, giving you quick access to those contacts or channels. Starred contacts or channels will be listed between your personal chat space and the **Recent** section, for quick and easier access.
- Video icon ▢: Start a meeting with the contact. If a channel is selected, this will start a meeting with all members of the channel. Click the **˅** next to the icon to select if you want to **Meet with video** or not.
- Phone icon 📞: Start a phone call with the contact. Only available if you have access to Zoom Phone. **Note:** Zoom Phone is out-of-scope for this certification.
- New window icon ▢ (hover your pointer over the contact or channel name to display this icon) : Opens the selected chat in a new window.
- Info icon ⓘ: View additional options for the contact or channel. Also gives you quick access to files, images, and starred messages in the selected chat.
- Message box: Compose and send messages to your contact or channel. You can also send screenshots, files, code snippets, audio messages, and animated GIFs.

### 3.2.3. Phone

Select the **Phone** tab to make phone calls, view call history, and play voicemail messages using Zoom Phone.

**Note**: Zoom Phone license is required, otherwise this tab is not shown. Zoom Phone is not in scope for this certification and not described any further.

### 3.2.4. Meetings

Select the **Meetings** tab and click **Upcoming** to view, start, edit, and delete scheduled meetings.
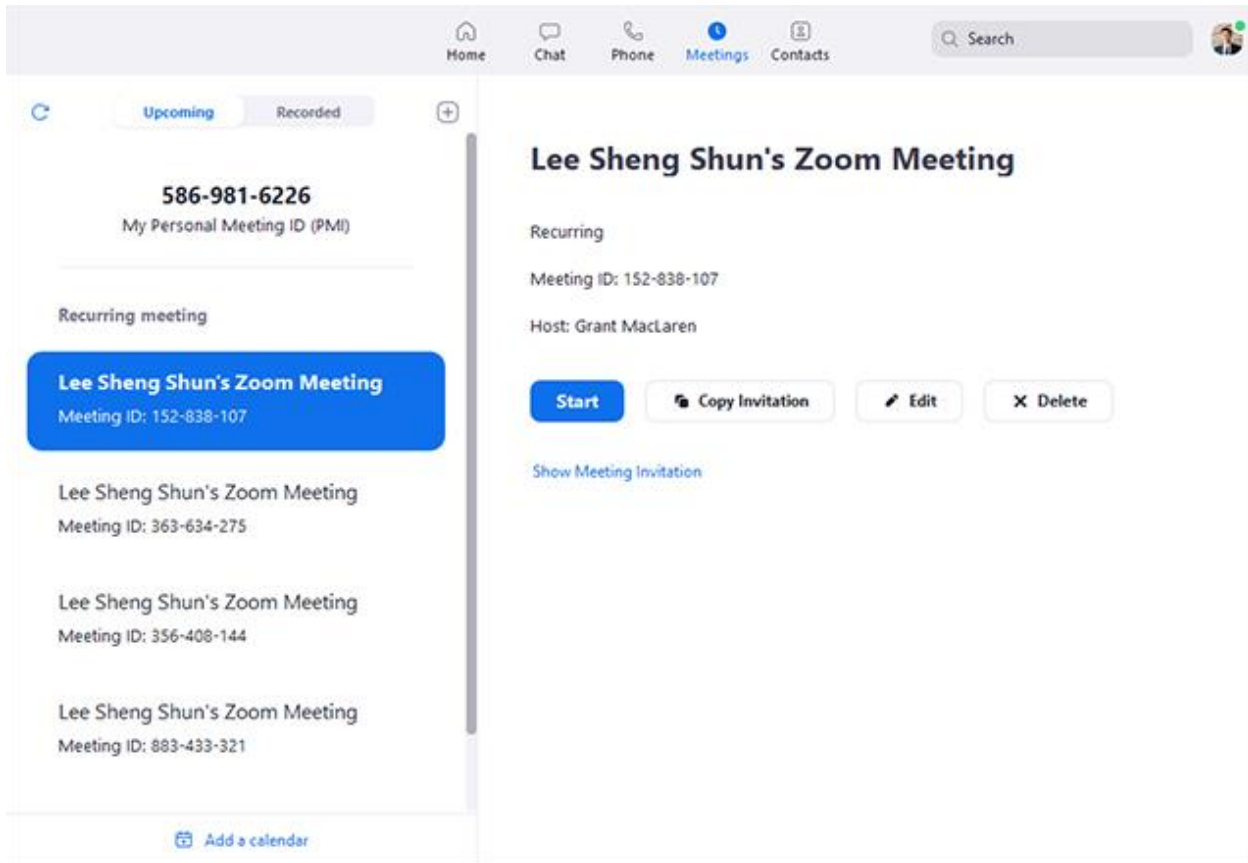
You can click the following options after selecting a scheduled meeting in the left-side panel:

- Add icon ⊕: Schedule a new meeting.
- Refresh icon ↻: Refresh the meeting list if you don't see your scheduled meeting.
- **Start**: Start the scheduled meeting that you have selected in your upcoming meetings.
- **Copy Invitation**: Copy the scheduled meeting's invitation text, allowing you to manually paste into an email, instant messenger etc. Click **Show Meeting Invitation** if you want to view the invitation you're copying.
- **Edit**: Edit the meeting options for your scheduled meeting. (these are the same as can be set in Scheduling Zoom Meetings)
- **Delete**: Permanently delete your scheduled meeting.
- **Join from a Room**: Start the meeting and have a local Zoom Room also connect to the meeting. **Note:** Zoom Rooms are out-of-scope for this certification.

### 3.2.5. Contacts

Select the **Contacts** tab to view and manage your contacts.
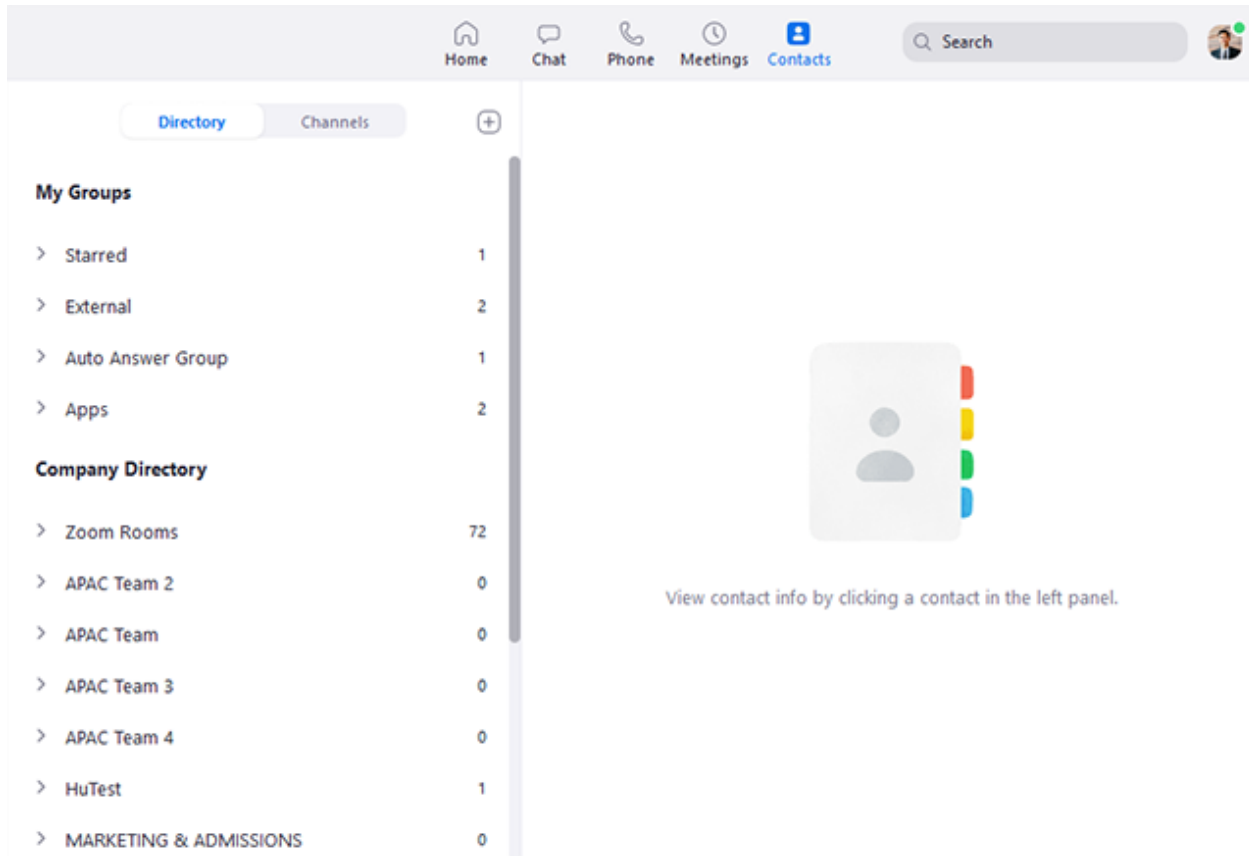
- **Contacts** tab: View a directory of all your contacts, including starred and external contacts. If your organization has Zoom Rooms, you will also see a list of Zoom Rooms.
- **Channels** tab: View a directory of your channels (used for group messaging). Starred channels appear at the top of the list.
- Add icon ⊕: Show options for contacts and channels. You can add a contact, create a contact group, create a channel, join a channel, or add an app from our Marketplace.

### 3.3. GETTING STARTED ON MOBILE

#### 3.3.1. Meet & Chat

After signing in, tap **Meet & Chat** for these meeting features:

- **New Meeting** 📹: Start an instant meeting using your PMI or a new meeting ID.
- **Join** ➕: Join a meeting using the meeting ID.
- **Schedule** 📅: Schedule a one-time or recurring meeting.
- **Share Screen** 🔷: Enter a sharing key or meeting ID to share your device screen to a Zoom Room.
  **Note:** Zoom Rooms are out-of-scope for this certification.
- **Call a Room** 🔷: Call a H.323 or SIP device and begin a meeting with that device.
  **Note:** Zoom Rooms are out-of-scope for this certification.
- **Starred**: View and start a chat with your starred contacts and channels.

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- Tap your name to use your personal chat space.
- Other contacts and chat channels will follow

You also have access to these features:

- Zoom Room pairing icon 🔜: Pair with a nearby Zoom Room to control the meeting from your mobile app instead of the Zoom Room controller.
  **Note:** Zoom Rooms are out-of-scope for this certification.
- Compose icon ✏️: Start a new one-on-one chat with a contact. To start a new chat you will be asked to enter the name or email address of the contact.
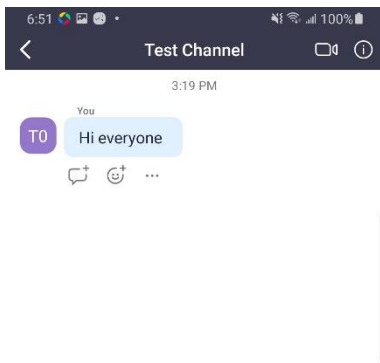
After selecting a chat or channel you have access to the following actions:

- Video icon 🎥: Start a meeting with the contact. If a channel is selected, this will start a meeting with all members of the channel.
- Info icon ⓘ: View additional options for the contact or channel. Also gives you quick access to files, images, and starred messages in the selected chat.
- Message box: Compose and send messages to your contact or channel. You can also send screenshots, files, code snippets, audio messages, and animated GIFs.

### 3.3.2. Phone

Tap **Phone** to use Zoom Phone features.

**Note**: Zoom Phone license is required, otherwise this tab is not shown. Zoom Phone is not in scope for this certification and not described any further.

### 3.3.3. Meetings

Tap **Meetings** to see your Personal Meeting Room information and other upcoming scheduled meetings.

Upcoming meetings will be listed by date, with no fixed time recurring meetings listed at the bottom.

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If you do not see a scheduled meeting, tap the refresh icon ⟳ in the top-right corner.

**Note**: Zoom will only show your scheduled meetings by default and any meetings you have been invited to will not be shown. You will need to integrate your calendar with Zoom to display meetings you've been invited to or other non-Zoom meetings.

### 3.3.4. Contacts

Tap **Contacts** to list all your contacts and add new ones.

- **Contacts** tab: Tap the contacts to see your options, such as start a one-on-one chat with them, start a meeting or phone call, and see their status and other information.
- **Channels** tab: View a directory of your channels (used for group messaging). Starred channels appear at the top of the list.
- **Apps** tab: View the list of apps you have connected, typically in the form of automated chatbots.
- Plus icon ➕: Show options for contacts and channels. You can add a contact, create a contact group, create a channel, join a channel, or add an app from our Marketplace.

### 3.3.5. Settings

Tap **Settings** to view meeting and chat settings.

- Tap your name to change your profile picture, name, and password.
- **Meeting**: Change settings regarding meetings, such as enabling/disabling your microphone, mirror video, and others.
- **Contacts**: Find phone contacts that are using Zoom, and approve contact requests.
- **Chat**: Changes settings related to chat, such as notifications, unready message order, and others.
- **Phone** (only visible if you have Zoom Phone): Change settings related to call queues, shared line groups, and others.
- **General**: Change generic settings, such as ringtones.
- **About Zoom**: View the app version, send feedback, report a problem, rate the app, or view our Privacy policy.

## 3.4. MEETINGS

### 3.4.1. Join a meeting

#### 3.4.1.1. Desktop

To join a meeting, click on the "Join" button. A new window will pop up asking you to enter the meeting ID and your name. You can also choose if you want to connect to audio and if you want to enable your camera from the start. After clicking on "Join" another window will pop up, asking you to enter the meeting passcode.

**Screenshots on Desktop:**
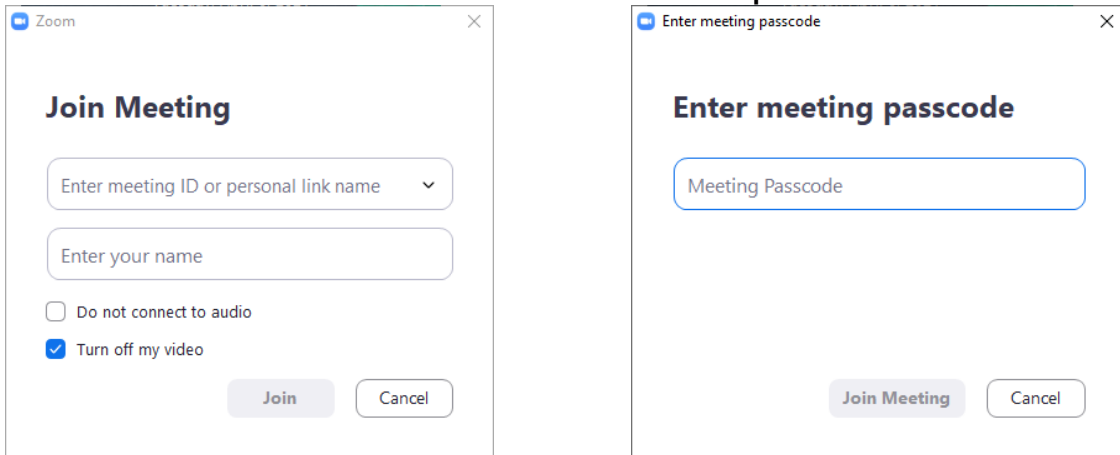




**Screenshots on Mobile**
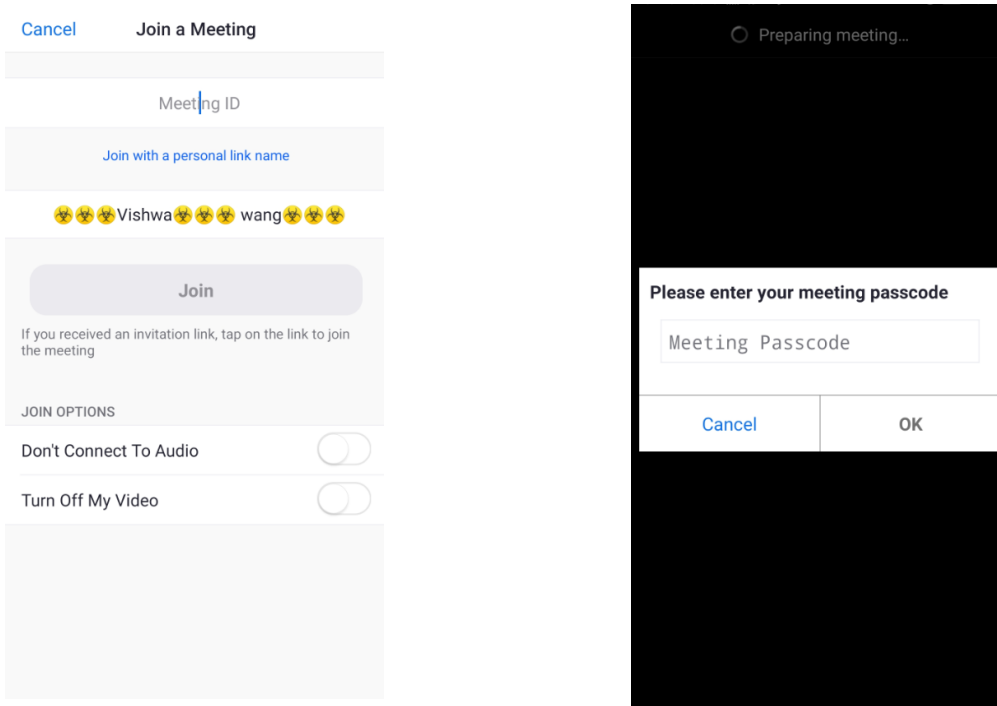




By clicking on "Join Meeting" again, the meeting credentials you entered will be verified and you will get connected to the meeting.

**Note:** On Mobile to button to click after entering is named "OK".

### 3.4.2. New Meeting

Information on how to start a non-scheduled meeting can be found under https://support.zoom.us/hc/en-us/articles/201362613-How-do-I-host-an-instant-meeting [Start_Instant].

### 3.4.3. Scheduling Zoom Meetings

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To set up Zoom meetings in the future, you can schedule a meeting by clicking on "Schedule". A new window will pop up, in which you can edit your new meeting's settings. The meeting settings are explained in detail under https://support.zoom.us/hc/en-us/articles/201362413 [Schedule_Meeting]. Your scheduled meetings will show up in the home screen after you click on "Save".

Additional notes for the use of the Zoom client in its certified scope:

- End-to-end encryption is not in scope for certification and must therefore not be chosen.
- Telephone connections are not encrypted. Therefore only "**Computer Audio only**" is allowed to be used.
- All meetings must be protected by a passcode. To ensure this is done, the organization's Account Admin may check that the setting "Meeting Passcode" in the account settings (https://zoom.us/account/setting) is turned on.
- The meeting passcode you choose must not be weaker than the randomly generated one.

### 3.4.4. Scheduling a recurring meeting

Zoom allows you to schedule meetings with multiple occurrences, so that each occurrence uses the same meeting ID and settings. You can schedule these meetings in daily, weekly, and monthly increments. You can also set a recurring meeting to be used at any time. Meeting IDs for recurring meetings expire 365 days after the meeting was last started.

**Notes**:

- Recurring meetings with a fixed recurrence patterns (daily, weekly, monthly) cannot be scheduled with your Personal Meeting ID (PMI) since your PMI is reserved so that you can start or schedule a meeting at any time, similar to a no-fixed-time recurring meeting.
- When scheduling a recurring meeting on the Zoom client, the resulting Zoom meeting will always be created as a no-fixed-time recurring meeting. The resulting calendar event can then be scheduled with whichever recurrence pattern you choose, but that recurrence pattern will not be reflected on the Zoom side.
- Meetings can have up to 50 recurring sessions, so if you need more than 50 recurrences, use the **No Fixed Time** option.

## 3.5. ZOOM CHAT

### 3.5.1. Sending files, screen captures, reactions or audio messages
Information on how to send files, screen captures, reactions or audio messages via Zoom Chat can be found under https://support.zoom.us/hc/en-us/articles/202920879 [Send_Content].

### 3.5.2. Managing Messages
Information on how to edit and format messages, how to reply to messages and other actions that can be performed on messages can be found under https://support.zoom.us/hc/en-us/articles/115004789183 [Messages].

### 3.5.3. Zoom Chat Channels
Information on joining, creating and using channels can be found under https://support.zoom.us/hc/en-us/articles/200912909 [Channels].

### 3.5.4. Advanced Chat Encryption
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Advanced Chat Encryption (ACE) offers an additional layer of protection for Zoom Chat messages by providing end-to-end encrypted chats. After enabling ACE, the following chat features cannot be used anymore:

- Send animated GIFs
- See link previews for chat messages with URLs
- View files/images in the right-side panel (click the info icon ⓘ to display this panel)
- Edit sent messages
- Search chat history
- View message previews in chat notifications

Advanced Chat Encryption can be enabled by the account admin by accessing the Zoom account setting in a web browser. To enable ACE:

- Click Account Management -> IM Management
- Click the IM Settings Tab
- Verify that the **Enable advanced chat encryption** option is enabled. If the setting is disabled, click the toggle to enable it. If a verification dialog displays, choose **Turn On** to verify the change.

Chats using ACE will display a lock icon  in the bottom-left corner of the chat.

### 3.6. CONTACTS

Information on how to manage your contacts can be found under https://support.zoom.us/hc/en-us/articles/115004055706 [Manage_Contacts].

### 3.7. SETTINGS

The settings menu can be accessed by clicking on the cogwheel icon in the top right corner of the "Home" Tab of the Desktop Client, or by clicking on the profile picture and then selecting "Settings". On mobile, the settings can be accessed by selecting the "Settings" Tab. Information on what the different settings do can be found under https://support.zoom.us/hc/en-us/articles/201362623-About-Settings [Settings] and https://support.zoom.us/hc/en-us/articles/360037870291 [Advanced_Settings].

On mobile devices it is possible to access some settings before a completed login. To access those, click the cogwheel icon in the top left corner.
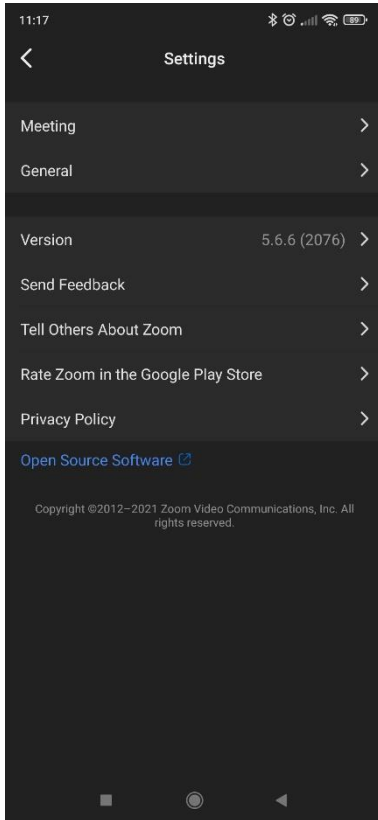
- **Meeting:** These are the same meeting settings as described on the website linked above [Settings].
- **General:** These are the same general settings as described on the website linked above [Settings].
- **Version:** Displays the current version. By clicking on the version, the app checks for an update.
- **Send Feedback:** Send Feedback to Zoom
- **Tell Others About Zoom:** Opens an external app to tell others about Zoom
- **Rate Zoom in the <App Store>:** Opens the Google Play Store/iOS App Store page of the app
- **Privacy Policy:** Displays Zoom's privacy policy
- **Open Source Software:** Displays a list of used open source software.

It is not possible to use the settings menus to configure the Zoom Client in an insecure way.

## 3.8. IN-MEETING CONTROLS

### 3.8.1. Controls for Host and Co-Hosts

#### 3.8.1.1. Desktop

The host controls will appear at the bottom of your screen if you are not currently screen sharing.



- **Join Audio** or **Unmute** / **Mute** : This allows you to connect to the meeting's audio, then once connected, mute or unmute your microphone.
  - o Audio controls (click **^** next to **Mute/Unmute**): The audio controls allow you to change the microphone and speaker that Zoom is currently using on your computer, leave computer audio, and access the full audio options in the Zoom settings.
- **Start Video** / **Stop Video** : This allows you to start or stop your own video.
  - o Video controls (click **^** next to **Start/Stop Video**): If you have multiple cameras on your computer, you can select which Zoom is using, access the full video controls, and select a Virtual Background.
- **Security** : Access in-meeting security options.
- **Participants** : Opens the window to manage participants and invite others to join the meeting.

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- **Chat** 💬 : Access the chat window to chat with the participants (see https://support.zoom.us/hc/en-us/articles/203650445-In-Meeting-Chat [In-Meeting_Chat] for more information).
- **Share Screen** ⬆️ : Start sharing your screen. You will be able to select the desktop or application you want to share. When you are screen sharing, the controls will appear at the top of your screen, but you can drag it to another location.
  - Share Screen controls (click **^** next to **Share Screen** ⬆️): Select who can share in your meeting and if you want only the host or any participant to be able to start a new share when someone is sharing.

**How many participants can share at the same time?**

🔘 One participant can share at a time

⚪ Multiple participants can share simultaneously (dual monitors recommended)

**Who can share?**

⚪ Only Host        🔘 All Participants

**Who can start sharing when someone else is sharing?**

🔘 Only Host        ⚪ All Participants

- **Polling** 📊: Allows you to create, edit, and launch your polls. The options to create or launch polls will open up the Zoom web portal in your default browser. When the poll closes, you can view the results and can download the full poll report. If a poll has already been created, both host and co-host can launch the poll, but only the host can edit or add polls to the meeting. Please note that polls are out of scope for this certification.
- **Record** ⏺: Start or stop a cloud or local recording.
- **Closed Caption** `CC`/**Live Transcript** `CC` (only available to the host): If you have enabled closed captioning or live transcription for your account, click here to access the closed caption options (More information can be found under https://support.zoom.us/hc/en-us/articles/207279736 [Closed_Captions]).
- **Reactions** 😊: Meeting reactions, nonverbal feedback, and Raise Hand allow you to communicate issues or feedback to the host or presenter without disrupting the meeting. These reactions are shown on your video panel and next to your name on the participants panel.
- **Breakout Rooms** ⧉: Start breakout rooms.
- **More** ⋮ : Clicking on **More** will give you access to additional options.
  - **Live on Facebook**: Broadcast your meeting live on Facebook.
  - **Live on Workplace by Facebook**: Broadcast your meeting live on Workplace by Facebook.
  - **Live on Youtube**: Broadcast your meeting live on Youtube.
  - **Live on Custom Live Streaming Service**: Broadcast your meeting live on a custom streaming platform.

- **End** (only available to the host): Display the following two options.
  - **End Meeting for All**: End the meeting for yourself and all participants.

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o **Leave Meeting**: Leave the meeting. You will be prompted to assign a host so that the meeting can continue.

### 3.8.1.2. Mobile

The host controls will appear at the bottom of your screen, except for **End Meeting** which appears at the top of your screen, next to the Meeting ID.
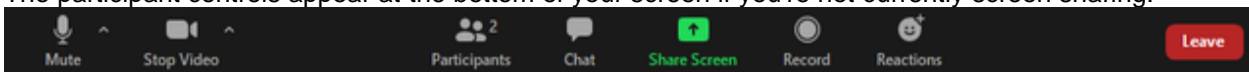
- **Join Audio** or **Unmute** / **Mute** : Mute or unmute your microphone.
- **Start Video** / **Stop Video** : Start or stop your own video.
- **Share** : Start sharing your screen or a file.
- **Participants** : View the participants list and manage participants.
- **More** : There are additional settings available under **More.**
  o **Record**: Start a recording.
  o **Disconnect Audio**: Disconnects you from the meeting audio.
  o **Security**: Access in-meeting security options.
  o **Chat**: Access the chat window to chat with the participants.
  o **Enable Live Transcript**: If enabled in web settings, the host can enable live transcription.
  o **View Full Transcript**: If enabled in web settings, you can view the full transcript here.
  o **Meeting Settings**: Access to some personal settings related to the meeting you are currently participating in.
  o **Virtual Background**: Configure and enable the virtual background feature.
  o **YouTube**: Broadcast your meeting live on Youtube.
  o Non-verbal feedback icons (if enabled by the host): Tapping an icon will display the icon beside your name in the participants list and in your video panel. For example, tapping the thumbs up icon places the thumbs up icon beside your name.
- **End** (only available to the host): End or leave the meeting.

Please note if you decide to livestream a meeting (on either mobile or desktop devices), all meeting contents (i.e. audio, video and application share) become public information. This feature should only be used if all participants agree that the information shared during the meeting may be shared with the public.

### 3.8.2. Controls for Participants

### 3.8.2.1. Desktop

The participant controls appear at the bottom of your screen if you're not currently screen sharing.



Participants have access to these features:

- **Join Audio** or **Unmute** / **Mute** : Mute and unmute your microphone.
  o Audio Controls (click the **^** arrow next to **Mute** / **Unmute**): Allows you to change the microphone and speaker that Zoom is currently using on your computer, leave computer audio, and access the full audio settings.
- **Start Video** / **Stop Video** : Turns your camera on or off.

- o Video Controls (click the ^ arrow next to **Start Video** / **Stop Video**): Change cameras if you have multiple cameras, select a virtual background (if enabled), or access your full video settings.
- **Participants** 👥: See who's currently in the meeting and invite others. You can also access these options by hovering over your display name and clicking **More**:
  - o **Rename**: Change your screen name displayed to other participants.
- **Chat** 💬: Access the chat window to chat with other participants.
- **Share Screen** 🟩: Start a screen share (if the host allows). You will be able to select the desktop or application you want to share.
- **Record** ⚪: Start or stop a local recording. Participants do not have access to start a cloud recording.
  **Note:** The host will need to allow local recordings in their account settings, then give you permission to record. If you don't have permission to record, use the in-meeting chat or audio to ask the host for permission.
- **Closed Caption** ⚪ or **Live Transcript** ⚪ : When enabled by the host, click to start viewing either closed captions or the live transcript.
- **Reactions** 😊: Meeting reactions, nonverbal feedback, and Raise Hand allow you to communicate issues or feedback to the host or presenter without disrupting the meeting. These reactions are shown on your video panel and next to your name on the participants panel.
- **Leave**: Leave the meeting while it continues for the other participants. Only the host can end the meeting.

### 3.8.2.2. Mobile

The participant controls appear at the bottom of your screen, except for Leave meeting which appears at the top-right corner.



- **Join Audio** 🎧 or **Unmute** 🎤 **/ Mute** 🎤 **:** Mute and unmute your microphone
- **Start Video** 📹 / **Stop Video** 📷 : Turns your camera on or off.
- **Share** 🟩: Start a screen share. You'll be able to select what you want to share.
- **Participants** 👥: See who's currently in the meeting. The participants list also gives you access to these options:
  - o Tap your name if you want to rename yourself or raise your hand
  - o **Invite**: Invite others to join your meeting.
- **More** ⋮ :
  - o **Disconnect Audio**: Disconnects you from the meeting audio. You must click **Join Audio** in the meeting controls again if you want to connect to the meeting's audio.
  - o **Chat :** Access the chat window to chat with other participants.
  - o **View Full Transcript**: Available if the host has enabled live transcription and allows participants to view the full transcript.
  - o **Meeting Settings**: Access to some personal settings related to the meeting you are currently participating in.
  - o **Virtual Background**: Configure and enable the virtual background feature.
  - o Non-verbal feedback icons (if enabled by the host): Tapping an icon will notify the host by placing the icon beside your name in the participants list. For example, the hand icon places the raise hand icon beside your name and simulates a hand raise.

### 3.8.3. Security Options

The Security icon in the meeting controls allows the host or co-host of a meeting to enable or disable options during a meeting to secure the meeting and minimize disruption during the meeting.

Information on how to use the security options and what each of them do can be found under https://support.zoom.us/hc/en-us/articles/360041848151 [Security_Options].

### 3.8.4. Manage Participants

When hosting or co-hosting a Zoom meeting, you have additional controls available to help manage your participants. Attendees can only view the other participants.

More information on the available options and how to use them can be found under https://support.zoom.us/hc/en-us/articles/115005759423 [Manage_Participants].

Please note, in order to make a participant Co-Host of a meeting, Co-Hosts first need to be enabled at account level by the Account Admin. This can be done by enabling the setting "Co-host" on https://zoom.us/account/setting.

### 3.8.5. Share Screen

The Host, Co-Host(s) and, if permitted by the Host, participants can share their screen during Zoom meetings. Information on how to do so can be found under https://support.zoom.us/hc/en-us/articles/201362153 [Share_Screen].

### 3.8.6. Polling

Polls can be created by a meeting host during a meeting. Information on how to start, edit and launch polls can be found under https://support.zoom.us/hc/en-us/articles/213756303-Polling-for-Meetings [Polling].

### 3.8.7. Breakout Rooms

Breakout rooms can be used by the meeting host to create "Sub-meetings" during an ongoing meeting with a selection of participant.

Information on how to create and manage breakout rooms as a host can be found under https://support.zoom.us/hc/en-us/articles/206476313 [Manage_Breakout].

Information on how to join and use breakout rooms as a meeting participant can be found under https://support.zoom.us/hc/en-us/articles/115005769646 [Join_Breakout].

## 3.9. ZOOM APPS

It is possible to extend the functionality of the Zoom application by installing apps from the Zoom Marketplace. Please note that such apps are not covered by the certification and must therefore not be used.

## 3.10. ERROR HANDLING

The Zoom application notifies users about occurred errors by showing error messages, either as red text or in a pop-up window. Most error messages are self-explanatory and/or have no security implications. Errors that may affect the security of the application or its data and errors that may not be self-explanatory are described in this chapter.

### 3.10.1. Untrusted TLS certificate

In case the desktop Zoom application receives an unknown server certificates during any TLS connection it displays a warning. You can choose between trusting the certificate ("Trust Anyway") or aborting the connection ("Don't Trust").
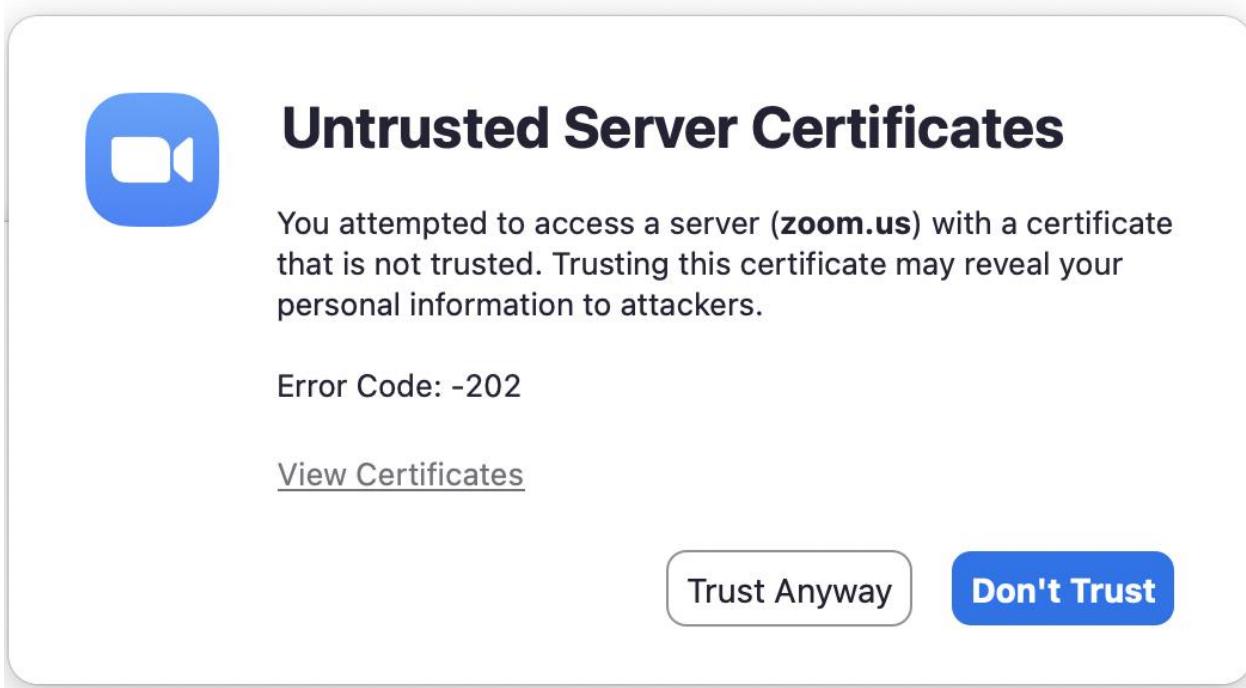


In most cases it is advised not to accept any certificates other than the trusted Zoom server certificates, however there may be cases in which it is necessary to accept another certificate, e.g. if your organization uses a TLS proxy for outgoing connections.

In such a case you can click on "View certificates" to see the certificate that the Zoom application encountered and verify that it is trustworthy. If you are not sure whether to trust a certificate please contact your local IT-administration.

On mobile devices it is not possible to manually trust a server certificate encountered by an application. Therefore the Zoom application will silently end the TLS connection if such a case occurs.

### 3.10.2. You are not eligible to sign in to Zoom at this time

During login you might encounter an error message saying "You are not eligible to sign in to Zoom at this time". According to Zoom's Terms of Service Zoom users need to be at least 16 years old. The Zoom account registration process (cf. 2.5) makes sure that everyone creating a new account fulfils this requirement. This error message may however still occur if you try to sign in to the Zoom application through SSO with an account that has an associated age of less than 16.

If you are under the age of 16 you cannot use the Zoom application, if you are at least 16 years old you can either create a new Zoom account or change your age in the account settings of the account you want to use for SSO.

### 3.10.3. Cannot start meeting. Error 17.

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This error may occur when you try to start a meeting that you are already participating in. The meeting should be opened in another Zoom window. If you cannot see the meeting, try restarting the Zoom application and re-joining the meeting.

### 3.10.4. Error Code: 1001

This error occurs when the Zoom backend cannot find your Zoom account. If you encounter this error it is due to an issue in the Zoom backend and it cannot be fixed on client-side. In such a case please contact your organization's IT-administration or Zoom's customer support (cf. chapter 6).

# 4. ZOOM BEST PRACTICES

## 4.1. BEFORE THE MEETING

- Test your Audio and Video
- Make sure to choose the correct audio and video sources
- Have the content and applications that you intend to share open and prepared ahead of time
- Close applications that usually display pop ups

## 4.2. HOSTING A MEETING

- Mute your mic if others are presenting/speaking
- Use "Gallery View" for smaller group/team meetings
- Share your screen, and share specific Applications to control displayed content
- Use "New Share" to seamlessly transition between shared applications
- Use the Annotation tools to grab and direct attention

## 4.3. TURN THE CAMERA ON!

- Put your webcam at eye level or higher – experiment for best angles
- Make Eye Contact - Try to look at your webcam versus the screen

# 5. CERTIFICATION NOTES

## 5.1. USAGE GUIDELINES

To protect the Zoom client there must be no malicious software installed on the device it's running on. In order to achieve that, organizations planning to use the certified Zoom Client need to make sure the Zoom Client is only installed on managed devices. The organization needs to establish means to control which software can be installed on those managed devices.

Additionally, there are rules each user needs to follow:

Users may never disclose their user credentials. Meeting credentials (i.e. the meeting passcode) may only be disclosed to user authorised to join the meeting. Meeting hosts are free to change the meeting passcode randomly generated by the Zoom Client, but need to make sure they choose a password that is not weaker than the generated one.

Users of the Zoom Client must not act wilfully negligent or hostile towards the Zoom Client or its operational environment. Lastly, users need to adhere to the applied enterprise security policy of their organisation.

## 5.2. UPDATES

The previous chapters include information on how to update the Zoom application. Please note that only version 5.6.6 of the Zoom application is covered by the certification. Updating to or installing any version other than 5.6.6 leaves the certified mode.

**ZOOM**

## 6. TECHNICAL SUPPORT

Visit support.zoom.us for additional information about Zoom features and functionality. If you require technical assistance, please call us at 888-799-9666 (option 2) or if the matter is less urgent, fill out a Support Request here: https://support.zoom.us/hc/en-us/requests/new

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# 7. REFERENCE DOCUMENTATION

| ID | Document |
|---|---|
| Advanced_Settings | Advanced_Settings.pdf, SHA256: 9FCDA8DFE9EA44DED4C29DAC3C7B65A1E5E02EE8BC2D7A821D0CD992221B3ECB |
| Channels | Use_Channels.pdf, SHA256: 3BFF2D2E5186D7C624E9077AC13906CFDC0911EDA32630570CF19AED3E5878B4 |
| Closed_Captions | Closed_Captions.pdf, SHA256: 935521B0B16D9A0C67E50C4F9AF35B42ADE2AB58D652B19D46D47054DC5650F8 |
| In-Meeting_Chat | In-Meeting_Chat.pdf, SHA256: 95B1D1B0D624BA56A40D6EBA47C9D462F48BCEFA3CA4D4FC6F3B3510FF087BA2 |
| Join_Breakout | Join_Breakout.pdf, SHA256: C5038E18D462B0E1412224549A218A0755B89B9C5DD2CEEDF11D78D5D798CF34 |
| Manage_Breakout | Manage_Breakout.pdf, SHA256: 7E7B4A6158D88B3A0F41BDA1F63E3588F353D9EE10ACAA0760F278EA1A635F06 |
| Manage_Contacts | Manage_Contacts.pdf, SHA256: 1B008AF3B45AE8FAD1B6987D9947AAFA004A86D69D1C8A5D1B867BF994BA8068 |
| Manage_Participants | Manage_Participants.pdf, SHA256: 867A939ED6F6BF60E3715A51550BC56565D876DD30A97F7879045E8F24135FEE |
| Messages | Reply_and_manage_messages.pdf, SHA256: 20BF4E3712E1C9C9ED9BA4563DB8C844BEB50CD65EBC58779BAEBF03F592BF4D |
| Polling | Polling.pdf, SHA256: 0946ED19EE53B5558182414FDAAAA723E9B6A77038C84A91B28CC105EE87F4FD |
| Schedule_Meeting | Schedule a Meeting.pdf, SHA256: 982ECC6D5CC5EBF6A3FE2995DF402A13222539029A8FC5566540DCD92A9C3DD4 |
| Security_Options | Security_Options.pdf, SHA256: 95EE020121ABEB4BFD3DFF45365FF10E90E619CF7FF5A5B1A5E6D8BFDFEE3837 |
| Send_Content | Send_content.pdf, SHA256: 5ED2464F6F27D36CF72CD3BF6D36E6E03BDFB69131B3B20675DB330518EA7DF3 |
| Settings | Settings.pdf, SHA256: 6FABC6EEB13C0F925876BDD27C6BE68B37D3A24B9E7522D473751308A1F1D59D |
| Share_Screen | Share_Screen.pdf, SHA256: 7876767D280E5ABB4730DDCDD90B975DFB980C6BE5FFBB691C48FDAE7EB2EE56 |
| Start_Instant | Start_Instant.pdf, SHA256: B2D8A331C66B772A6B79DF1801AEC09F40466AC0626A0BD2EFEE7397EF817EE4 |