* 8 minutes

Companies that use an on-premises Windows Server Active Directory solution can integrate their existing users and groups with Azure Active Directory with **Azure AD Connect**. This is a free tool you can download and install to synchronize your local AD with your Azure directory.

With Azure AD Connect, you can provide your users with a common identity for Microsoft 365, Azure, and SaaS applications integrated with Azure AD in a hybrid identity environment.

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Azure AD Connect provides several components that you can install to create a hybrid identity system.

* **Sync services**. This component is responsible for creating users, groups, and other objects. It also makes sure that identity information for your on-premises users and groups matches that in the cloud.
* **Health monitoring**. Azure AD Connect Health supplies robust monitoring and a central location in the Azure portal for viewing this activity.
* **AD FS**. Federation is an optional part of Azure AD Connect that you can use to configure a hybrid environment via an on-premises AD FS infrastructure. Organizations can use this to address complex deployments, such as domain join SSO, enforcement of the Active Directory sign-in policy, and smart card or third-party multi-factor authentication.
* **Password hash synchronization**. This feature is a sign-in method that synchronizes a hash of a user’s on-premises Active Directory password with Azure AD.
* **Pass-through authentication**. This allows users to sign in to both on-premises and cloud-based applications using the same passwords. This reduces IT helpdesk costs because users are less likely to forget how to sign in. This feature provides an alternative to **Password hash synchronization** that allows organizations to enforce their security and password complexity policies.

## Benefits

Integrating your on-premises directories with Azure AD makes your users more productive by supplying a common identity for accessing both cloud and on-premises resources. Users and organizations get the following advantages:

* Users can use a single identity to access both on-premises applications and cloud services, such as Microsoft 365.
* A single tool provides an easy deployment experience for synchronization and sign-in.
* Integration provides the newest capabilities for your scenarios. Azure AD Connect replaces older versions of identity integration tools, such as DirSync and Azure AD Sync. For more information, see [Hybrid Identity directory integration tools comparison](https://docs.microsoft.com/en-us/azure/active-directory/hybrid/plan-hybrid-identity-design-considerations-tools-comparison).

## Installing

Installing and configuring Azure AD Connect is not a trivial task and requires some initial planning and decisions before you begin. Microsoft has a full [Installation guide](https://docs.microsoft.com/en-us/azure/active-directory/hybrid/how-to-connect-install-roadmap) to help you prepare, install, configure and test your AD Connect setup.

Need help? See our [troubleshooting guide](https://docs.microsoft.com/en-us/learn/support/troubleshooting?uid=learn.azure-security.manage-users-and-groups-in-aad.azure-ad-connect&documentId=f8057fa7-3bfa-9b68-2a9f-6cd355f16acf&versionIndependentDocumentId=c6ba9c92-bb34-4652-1a07-21c5e5933c91&contentPath=%2FMicrosoftDocs%2Flearn-pr%2Fblob%2Flive%2Flearn-pr%2Fazure%2Fmanage-users-and-groups-in-aad%2F6-azure-ad-connect.yml&url=https%3A%2F%2Fdocs.microsoft.com%2Fen-us%2Flearn%2Fmodules%2Fmanage-users-and-groups-in-aad%2F6-azure-ad-connect&author=curtand) or provide specific feedback by [reporting an issue](https://docs.microsoft.com/en-us/learn/support/troubleshooting?uid=learn.azure-security.manage-users-and-groups-in-aad.azure-ad-connect&documentId=f8057fa7-3bfa-9b68-2a9f-6cd355f16acf&versionIndependentDocumentId=c6ba9c92-bb34-4652-1a07-21c5e5933c91&contentPath=%2FMicrosoftDocs%2Flearn-pr%2Fblob%2Flive%2Flearn-pr%2Fazure%2Fmanage-users-and-groups-in-aad%2F6-azure-ad-connect.yml&url=https%3A%2F%2Fdocs.microsoft.com%2Fen-us%2Flearn%2Fmodules%2Fmanage-users-and-groups-in-aad%2F6-azure-ad-connect&author=curtand#report-feedback).