



Education Deployment Overview

iOS 9.3

Contents

What's New

Apple School Manager

Managed Apple IDs

Shared iPad

Classroom App for iPad

Deployment Steps

Prepare

Set Up

Deploy

Enable

Support and Resources

At Apple, we believe that every student should have access to the best possible tools for learning. We also understand the importance of making technology easy to deploy, so that it's effortless to get devices into the hands of teachers and students.

With iOS 9.3, we've made significant enhancements for schools and institutions that enable technology managers, IT administrators and teachers to more easily set up and manage iPad in the classroom.

This guide covers the steps involved to deploy iPad successfully in both one-to-one and shared device deployments. You'll learn how to prepare your environment, set up and deploy iPad, and enable teachers in their classrooms.

iOS 9.3 delivers the following key enhancements:

- **Apple School Manager.** A new web portal that unifies the admin experience and enables you to enrol devices, create Managed Apple IDs, buy apps and books, and more.
- **Managed Apple IDs.** Allows you to create and manage accounts for everyone at your school, so your students and staff are ready to go from day one.
- **Shared iPad.** An elegant solution that provides students with a personalised learning experience in shared environments.
- **Classroom app for iPad.** A brand-new app that gives teachers an elegant and powerful tool to manage technology in the classroom and guide students.
- **New management features.** Powerful new management features to customise the classroom experience and protect your school's devices.

Note: Not all programmes are available in all countries or regions. Deployment topics are covered at an overview level in this guide, and in greater detail in the online [iOS Deployment Reference](#).

Apple School Manager

Apple School Manager is a new web portal from Apple that enables you to configure mobile device management (MDM) enrolment settings, create Managed Apple IDs, buy content and set up iTunes U courses. This new destination is accessible via the web and is designed for technology managers and IT administrators.

Sign-up is simple. Once you're enrolled in Apple School Manager, your school, institution or local authority can easily assign devices to an MDM solution; purchase apps and learning materials; and create accounts for staff, teachers and students. On your first login, a helpful Setup Assistant walks you through the steps you need to manage your devices, such as creating new roles for your staff and helping you connect your school's MDM solution to supported management information systems (MIS).

If you're already enrolled in the Device Enrolment Programme (DEP) or the Volume Purchase Programme (VPP), all your account information and data will be migrated to Apple School Manager, bringing together everything needed to deploy iOS devices and Mac computers.

Managed Apple IDs

Apple School Manager is where you can create Managed Apple IDs for your entire school or local authority. Managed Apple IDs are owned and controlled by your school or local authority and have been specially designed to meet the needs of education institutions, including creating IDs in bulk and allowing for password resets, limitations on purchasing and communications, and role-based administration. These new Managed Apple IDs enable staff, teachers and students to access Apple services while providing administrators and managers with the controls they need to deploy Apple services throughout the school or local authority. Like any Apple ID, a Managed Apple ID is used to access Apple services, including storing documents in iCloud Drive, enrolling in iTunes U courses and more.

Management information system (MIS) integration

Apple School Manager allows you to securely integrate with your MIS. By connecting your local authority's MIS to Apple School Manager, a Managed Apple ID can be automatically created for everyone in your organisation, including school administrators, staff, teachers and students. Once you've authenticated and connected your system, specific information such as names and classes are synchronised into Apple School Manager. You can then manage roles and set initial passwords. Apple School Manager will periodically update any changes from your MIS. And to ensure that your school's directory data is preserved, no data is written back to your MIS.

Apple School Manager also tracks changes to classes and teachers throughout the year, so if a student joins two weeks into the year, a Managed Apple ID tied to the student's teacher will be waiting when the student arrives at school.

You can also create accounts from a CSV file exported from a directory system, such as your LDAP server.

Shared iPad

iOS 9.3 on iPad introduces a new feature called Shared iPad. This is a totally new way to use iPad in shared learning environments, enabling multiple students to use the same iPad. Students log in with their own Managed Apple IDs. While they work, apps that support cloud storage sync their data in the background. Students log out when they're done and iPad is ready for the next student. Data is cached locally on iPad and, if necessary, it continues to push to the cloud even after logout. Thanks to this intelligent caching, students don't have to wait for everything to download after login — it's already there.

Shared iPad supports a simplified login experience for younger students that makes signing in with their Managed Apple IDs as easy as typing a PIN code.

Using Shared iPad requires the iPad to be supervised. Configuring Shared iPad with an MDM solution is highly recommended. Profile Manager also supports Shared iPad.

Classroom App for iPad

Classroom is a powerful new iPad app that helps teachers guide learning, share work and manage student devices. Classroom works in both one-to-one and shared environments and is configured with MDM. The app is available for free on the App Store and can be assigned directly to devices via MDM.

Classroom provides elegant methods for keeping students on task, as well as tools for teachers to manage common classroom tasks. Classroom works seamlessly with Managed Apple IDs and your MDM solution or Profile Manager, so setup is simple and works in both shared and one-to-one environments.

To get set up, you'll create groups (called Classes) of devices and users with your MDM solution. Once in the hands of a teacher, Classroom uses Bluetooth and Wi-Fi to establish a connection between the teacher's iPad and the student's iPad. Commands and interactions are delivered over the school's existing Wi-Fi infrastructure.

Classroom helps educators use iPad in the classroom to keep things on track. Teachers can quickly launch the entire class into a specific app or share and open a link to a website. When it's time to take a quiz, the teacher can open and lock an app while students take the quiz. Or teachers can use Classroom to present a student's work via Apple TV. All with just a few taps.

Teachers can also reset passwords, see who's connected, find out which apps students are using, and assign students to a specific iPad for a class period. The Screen View feature in Classroom allows teachers to see the screen of any iPad their students are using.

New Management Features

With iOS 9.3 technology, managers and IT admins have even more management features and capabilities that benefit both classroom workflow and the overall management of your school's deployments. These updates include enhanced MDM controls, device restrictions and configuration payloads. The following is a summary of these new features:

- **Home screen layout.** Manage how apps, folders and web clips are arranged on the Home screens of supervised devices.
- **Lost Mode.** A feature of Shared iPad that lets you see an "If lost, return to" message on the device. Can be viewed on the login window and the Lock screen.
- **Notifications.** Allows app badges, sounds, banners and alerts to be managed on a per-app basis on supervised devices.
- **Safari domain additions.** Lets you restrict the saving of website passwords to only those in an approved list.
- **User-specific configurations.** Specify Home screen layout, notifications, restrictions and Safari AutoFill for each user with Shared iPad.

- **New device restrictions**

- Allow Apple Music
- Allow Apple Music Radio
- Allow changes to Notifications settings
- Show/hide specific apps on Home screen

- **New MDM commands**

The following are new commands that can be issued by MDM solutions, such as Profile Manager:

- Set maximum cached user accounts with Shared iPad so you can control the number of accounts that are cached
- Delete user
- Log out user
- Enable Lost Mode
- Disable Lost Mode

- **New MDM queries**

The following are new queries that can be issued by MDM solutions, such as Profile Manager:

- User list
- Device location
- Device information
- Is Lost Mode enabled?
- Maximum cached users

Deployments Steps

The deployment process has been simplified so that your school can get up and running more quickly and easily. There are four phases to consider when planning your deployment. Here's an overview of how to complete deployment for all your institution-owned devices.

1. Prepare. The first step in any deployment is to consider your existing environment. This includes your wireless infrastructure and basic systems.

2. Set up. Apple School Manager simplifies deployment and unifies the admin experience by providing one place to manage people, devices and content.

3. Deploy. Here you'll deploy apps, books and device settings with MDM, and distribute devices to students and classrooms.

4. Enable. The Classroom app plays an essential role in helping teachers manage their classroom workflows. And admins can deploy additional apps, content and device settings to students and classes throughout the school year.

1. Prepare Your Environment

Planning for a successful deployment begins with preparing the right network and systems. The following considerations will help you plan your network infrastructure as well as work with your mobile device management (MDM) solution and your management information system (MIS).

Preparing your network

A great wireless network is an essential ingredient of any successful iPad rollout to support classroom workflows and access education content. Consider the following items when building your network plan.

Coverage and capacity

One goal of designing a network based on coverage is to make sure the Wi-Fi signal reaches all areas where Wi-Fi will be used. How will your students access content and collaborate around the school? When thinking about coverage areas, make sure you consider all your spaces, including common spaces, the gym and cafeteria. With great Wi-Fi coverage, the walls of the classroom are expanded.

While Wi-Fi coverage is important, the fundamental capability your network needs is support for a sufficient density of devices. You will have many devices and users connecting to the network, so make sure you have plenty of access points to support the number of simultaneous users in your environment. A design model based on capacity could include one or more access points for each classroom. The power output of each access point could then be reduced to prevent the Wi-Fi signal of one access point from crossing into multiple classrooms.

Always plan for capacity and use enterprise-class Wi-Fi gear for your infrastructure. Sufficient Internet bandwidth is necessary to support access to educational content and classroom workflows. Consult your Internet service provider and consider deploying a carefully planned and monitored test group of devices first, which can provide essential data for full-scale deployments.

Finally, evaluate your current Internet and intranet bandwidth to determine if they can best support the learning experience for students in your organisation — now and in the future.

Content filtering

iOS supports multiple forms of content filtering, including restrictions (parental controls), global HTTP proxy and advanced content filtering, so you can cover all your network requirements. Devices running iOS 9 or later support advanced content filtering plug-ins from content filtering vendors.

Caching Server

Caching content within your network reduces Internet bandwidth and speeds up software installations. This capability is especially important when deploying apps and books, as well as using services such as iCloud and iTunes U. Caching can also speed up the download and delivery of software updates from Apple.

OS X Server includes a caching service for iOS devices and Mac computers. Caching Server speeds the download of software distributed by Apple through the Internet and can dramatically reduce Internet bandwidth utilisation. Strategically deploying Caching Server within your organisation's infrastructure is essential to providing a great user experience.

If your organisation's network has multiple sites or schools, an optimal configuration would include at least one Caching Server per site. A Mac mini makes an excellent Caching Server. To learn more about Mac mini, see [Mac mini](#).

Caching Server can serve hundreds of clients concurrently. You get the best performance from your caching service by connecting it to your network using Gigabit Ethernet. And when your network has more than one Caching Server, the servers automatically share cached software.

When users receive their devices, they will probably download apps and content. Make sure your OS X Caching Servers are installed and configured for use within the deployment space. To ensure that apps and content are served from Caching Server, use a client to download the required apps before the deployment event. You can monitor caching performance in the Server app.

For more information, see [About Caching service](#).

Preparing systems

Before you can deploy, you will want to prepare two primary systems — mobile device management (MDM) and your management information system (MIS). MDM is an essential service that helps you configure and deploy all your school's devices. While MIS integration is optional, it provides a simplified way to create Managed Apple IDs and integrates class registers with Shared iPad and the Classroom app.

Prepare your mobile device management (MDM) solution

iOS has built-in mobile device management capabilities that can be used by third-party MDM solutions to configure devices, deploy apps and books, and remotely manage devices over the air. MDM is an essential component of any deployment, so you'll want to adopt an MDM solution that fits your school's needs.

Select an MDM solution for your school

MDM solutions are provided by Apple and third-party providers, offering a variety of server platforms, management consoles, education features and pricing structures. Consider your unique institutional needs and evaluate your options. The following tips will help with your decision.

- **Support for iOS 9.3.** When selecting an MDM solution, make sure your vendor supports Apple School Manager and the new education features of iOS 9.3.
- **Education-centric functionality.** Some MDM solutions offer functionality that is specific to learning scenarios. For example, some MDM solutions may provide a simplified user interface for technology managers, teachers, support staff and students.
- **Local-hosted or cloud-hosted MDM?** MDM can manage devices anywhere in the world, making it well suited for cloud hosting. If your organisation chooses a cloud-hosted service, it may simplify some of the steps outlined below.
- **Vendor support.** In case you need assistance, understand how to access support services and training from your MDM vendor.
- **Query and reporting services.** MDM servers can query iOS devices for a standard set of values, including hardware, software and settings information. This data can be useful for asset management, compliance monitoring and automated notifications.

Configure your MDM solution

When installing your MDM solution, consider the following tips for configuring it with your network and Apple services. You may want to test each of these services while you prepare to deploy devices on your school's network.

- **Connecting to Apple services.** MDM servers must connect to the Apple Push Notification service to manage devices. The MDM solution must also connect to Apple School Manager in order to enrol devices, distribute apps and books, and pull registration data.
- **Connecting to directory services.** Most MDM solutions work with directory services to leverage user directories and groups. Integrating with your organisation's Active Directory, Open Directory or LDAP service allows the MDM server to prompt users for their directory credentials upon enrolment, as well as associate users with devices. Some MDM solutions also integrate with management information systems (MIS).

Configuring your MDM server requires assigning the server a static IP address, a fully qualified domain name, and a TLS certificate to secure communications, as well as opening specific firewall ports to enable access by clients. If your solution is externally managed or hosted in the cloud, your vendor may handle many of these items on your behalf. Learn more about [configuring MDM with your network](#).

- **Back up your MDM solution.** Back up your MDM server regularly to ensure it continuously manages clients. Confirm that your backups can be validated and result in a functional MDM server with the appropriate certificates, tokens and client relationships. Cloud-hosted or externally managed services can include automatic backup functionality. Contact your MDM vendor for more information on backup.

Prepare your management information system

A management information system (MIS) is what many schools and local authorities use to manage student data — including everything from enrolment to class registers to transcripts. You can import registration data into Apple School Manager by uploading CSV files or by linking your MIS.

Depending on which MIS your school uses, Apple School Manager may be able to directly import registration data from your MIS. This data can then be used to create Managed Apple IDs and set up the Classroom app with MDM. Contact your MIS provider for information regarding integration with Apple School Manager.

2. Set Up Apple School Manager

Apple School Manager is a new web-based portal from Apple that enables your school or local authority to configure device assignments to your MDM server, create Managed Apple IDs, buy content and set up iTunes U courses. Apple School Manager makes it easy to get set up for your deployment, providing a single place to manage people, devices and content.

Getting started with Apple School Manager

Programme requirements

Before you enrol in Apple School Manager, make sure you're using a supported browser, have the necessary information ready for setting up your account, and check whether your devices are eligible. Devices must be purchased through specific channels to be eligible for device enrolment in Apple School Manager. To verify that your device purchase methods are compatible, see [Eligible devices](#).

Enrol in Apple School Manager

Once you've verified that you've met the programme requirements, sign up for Apple School Manager.

- **New accounts.** Go to [Apple School Manager](#), click Enroll and enter the required information. During the review process, the verification contact will be contacted by phone or email and asked for additional info before your enrolment is approved.
- **Existing accounts.** If you've already enrolled your institution in the Volume Purchase Programme (VPP) or the Device Enrolment Programme (DEP), you can use that same programme agent account to enrol in Apple School Manager. Go to [Apple School Manager](#), sign in using your existing DEP or VPP programme agent account, and you will be presented with the option to migrate your account.

After you've enrolled your institution in Apple School Manager, log in to the website to assign devices to your MDM solution; buy apps and learning materials; and create accounts for staff, instructors and students.

Using Apple School Manager

When you first log in, Apple School Manager provides a simple Setup Assistant that makes it easy to get going. You can follow the recommended steps, or close the Setup Assistant and access the portal directly. You can also return to the Setup Assistant to complete additional steps at any time.

Adding managers

If you have other staff members in your institution who will add people, devices and content, you can invite them to join Apple School Manager. This feature allows you to delegate the responsibility of managing specific functions or tasks. For example, in a large local authority or university, you may have staff at the department level who also make decisions about purchasing apps in bulk for students.

Managed Apple IDs

With Apple School Manager, it's simple for your institution to create Managed Apple IDs in bulk for students, teachers and staff, while maintaining privacy and security for everyone. A Managed Apple ID is used to sign in to devices and access Apple services, including iCloud, iTunes U and Apple School Manager. Unlike consumer Apple IDs, Managed Apple IDs are owned and controlled by each school or local authority and are designed to meet the needs of educational institutions — including password resets, limitations on purchasing and communications, and role-based administration.

Creating Managed Apple IDs

You can create Managed Apple IDs manually by uploading CSV files from your school's directory service or by linking your management information system (MIS).

- **Add individual users.** Managed Apple IDs can be created individually in Apple School Manager by clicking Add New Person at the bottom of the window. For details on adding accounts, see [Add an account](#).
- **Upload CSV files.** User accounts and classes can be created in bulk by uploading CSV files to Apple School Manager. To get started, click Upload CSV at the bottom of the window. For details on adding accounts via CSV, see [Add accounts from a CSV file](#).
- **Connect your management information system (MIS).** By connecting your supported MIS to Apple School Manager, a Managed Apple ID can be automatically created for everyone in your school or local authority, including school administrators, staff, teachers and students. You can then manage roles and set initial passwords. Apple School Manager will import only the necessary data from your MIS to create and maintain your Managed Apple IDs and classes. It will also periodically update changes from your MIS. At no time is data written back to your MIS.

Using Managed Apple IDs

Manage roles

Once a Managed Apple ID is created, the administrator can then assign roles for the user. These roles define what tasks users can perform in Apple School Manager, and include Managers, Teachers, Staff and Students.

Manage classes

A class is a collection of instructor and student accounts. Classes have at least one instructor added when the class is created. Once a class is created, it's used with your MDM solution to enable classes to appear in the Classroom app and to simplify the login experience for students using Shared iPad.

Manage accounts

Administrators can complete a range of tasks within Apple School Manager to manage accounts, such as searching for accounts when assigning roles or resetting passwords for a specific set of users. In addition, you can manually add an account at any time, such as when a temporary instructor joins your school. You can view and edit account information, such as the user's name, ID number, year and more.

Depending on your role, you can also reset a user's Managed Apple ID password. [Learn more](#) about managing accounts.

Create additional accounts for staff

You can delegate control from Apple School Manager to the appropriate staff by creating additional "managers." This capability is essential to ensure that if your initial Administrator leaves the organisation, you will not lose access to Apple School Manager. To create additional roles, see [Manage administrators](#).

Connect your MDM to Apple School Manager

Your MDM solution connects to Apple School Manager to enrol devices, distribute apps and books, and pull registration data. Apple School Manager connects to your MDM using secure tokens, which expire annually. Make note of the renewal date of the token upon installation.

To download a token so MDM can configure device enrolment and access registration data, see [Add MDM servers](#).

Assign devices to your MDM server in Apple School Manager

You can assign your devices to MDM from within Apple School Manager. Device assignment can be done automatically and enables your MDM server to configure activation settings on iPad, so the devices you've purchased enrol in your MDM server when they're activated.

3. Deploy Devices and Content

Now that all your iPad devices are configured with settings, apps and books, it's time to get devices into the hands of students and teachers. It's important to plan the logistics of handing out devices to students and staff, and some general recommendations are listed in the following section. In a one-to-one deployment, users will receive their own devices, while in shared deployments, devices will usually be placed in classroom carts.

Understanding deployment scenarios

iOS 9.3 streamlines the tools for both one-to-one and shared devices. It's easier than ever to get iPad into the hands of students and teachers straight out of the box, so everyone is ready to go from day one.

One-to-one deployment

Providing a device to each student is referred to as a one-to-one deployment. This type of deployment can be for a particular year; a department; or an entire local authority, institution or university. A one-to-one deployment provides the greatest opportunity for iOS devices to positively impact the learning process. In a typical deployment, your institution purchases devices for all eligible students and staff.

Shared deployment

Schools can also choose to rotate devices between students, which is referred to as a shared deployment. In this case, iOS devices are purchased for use in a classroom, a lab, a library, or anywhere students share devices throughout the day. iOS 9.3 brings a whole new way to manage shared devices while providing a personalised learning experience with Shared iPad.

Your institution might also deploy a mix of scenarios; here are some examples:

- A secondary school might deploy a one-to-one model for all students in years 7 to 9.
- A large local authority might first deploy a one-to-one model at a single school, then roll out one-to-one deployments for the entire area.
- A primary school might deploy a one-to-one for years 3 to 6, and a shared deployment for Reception up to year 2.
- In higher education, a department might deploy a one-to-one model.

Managing devices

Once you have assigned your devices in Apple School Manager, use your MDM to configure enrolment settings.

The first time an iOS device is turned on, it activates with Apple. You can choose the deployment type and device settings in your MDM console, so that when users activate iPad, it's ready to go. Devices will automatically be enrolled in your MDM server over the air, enabling you to wirelessly send settings and commands.

Supervised devices

An important activation setting is supervision, which provides a higher level of management for iOS devices owned by your institution. Supervision is recommended for both one-to-one and shared device deployments to take advantage of additional management features, allowing restrictions such as defining Home screen layout, or showing and hiding apps. See details on [supervision](#).

General enrolment settings

For one-to-one deployments, your MDM solution can use Apple School Manager to streamline the initial deployment and configuration of devices. For example, skipping specific screens of the iOS Setup Assistant, and enabling mandatory MDM enrolment and over-the-air supervision all make deployment easier for IT. Learn more about [Setup Assistant configuration](#).

Note: MDM can also ensure that users authenticate before enrolling their devices into MDM, from within the iOS Setup Assistant. This feature informs your school which user is using each device so that appropriate settings and content can be deployed.

Enrolment settings for Shared iPad

Shared iPad is configured in Apple School Manager by your MDM server. The Shared iPad setting must be applied in MDM before device activation, in addition to enabling supervision. The device will restart and bypass the remaining Setup Assistant screens. Students can then log in with a Managed Apple ID. To remove Shared iPad, the device must be erased and reactivated with the Shared iPad enrolment setting disabled in MDM. For more information, see [Shared iPad](#).

Configuring device settings with MDM

Your MDM solution can configure a range of powerful device settings, and you can use new supervised restrictions designed specifically for education. iOS 9.3 adds the ability to show or hide certain apps on each user's Home screen and control access to Notification settings and Apple Music. In addition, you can manage the Home screen layout, control the ability of users to modify account settings, and enable Lost Mode.

Managing content

With apps from the App Store and books from the iBooks Store, iPad can transform into almost any tool you can imagine — a calculator, a periodic table, a telescope, a film studio, a musical instrument and more. Apple School Manager makes it easy to buy apps and books in bulk for all your students and teachers. And with iOS 9.3, it's easy to deploy your apps wirelessly to iPad.

Buy apps and books

The App Store and the iBooks Store feature thousands of apps and books for education. Apple School Manager gives schools a simple way to purchase apps and books in bulk. Many apps in the Volume Store offer special pricing for purchases of 20 or more copies to eligible institutions. Note that special pricing is not available for books.

Deploy apps and books with MDM

Apple School Manager and MDM work together so your organisation can purchase apps and books in volume and then assign them to devices or users wirelessly. With managed distribution (an option in the Volume Store to manage content with MDM), you can revoke and reassign apps to different devices and users so that your organisation retains full ownership and control of purchases. You can also purchase books in volume and distribute them to users with MDM.

With iOS 9 or later, MDM can assign and deploy apps to devices without requiring the user to have an Apple ID. Note that books aren't revocable or reassignable. See more on [distributing apps and books](#).

Plan for app and book distribution

Use Apple School Manager to purchase all apps and books required for the initial rollout of devices, including any apps or books needed for the first day of class. Note the size of the apps or books and confirm that your Wi-Fi network can support distributing that amount of data to all devices. For guidance on deploying content with your specific MDM solution, contact your MDM vendor.

When deploying devices for the first time, it's good practice to assign apps to devices or users wirelessly with MDM beforehand. If the device is supervised, apps can be installed silently by MDM. To alleviate bandwidth saturation during the initial deployment, consider distributing only the apps necessary for the first day of class, and make additional apps available to devices for download over time.

Using Caching Server can make this process less bandwidth intensive. For more information about reducing network utilisation, see [Caching Server](#).

Enable your staff to purchase content

Volume pricing requires that 20 or more copies of the same app be purchased at the same time with a single account. Creating too many accounts may limit your organisation's ability to purchase the minimum quantity required for volume pricing. To create additional accounts, see [Manage administrators](#).

Request fulfilment of Apple apps

New iOS devices come with Apple's popular productivity and creativity apps, including Pages, Numbers, Keynote, GarageBand and iMovie. Individual users can claim these licences when using the devices for the first time. To learn how to acquire these apps so your institution can manage the licences, see [Request iOS apps through the Volume Purchase Program](#).

VPP tokens

MDM servers communicate with the Volume Store to assign apps and books to users. A token is required for the MDM solution to communicate with Apple's Managed Distribution service. To download a token, see [Distribute content](#). Contact your MDM vendor for specific information about installing the token in your MDM server. Tokens expire annually. Make note of your token's renewal date upon installation. To avoid interruption, remember to download an updated token and upload it to your organisation's MDM server before your current token expires.

Important: Avoid installing the same VPP token on multiple MDM servers as this results in servers that are unaware of the assignments made by other servers.

Plan events for one-to-one deployments

Planning events to launch your deployment can ensure the smooth handout of devices, so students and teachers are up and running before school begins. Many schools host events to distribute devices and get users up and running quickly in one-to-one deployments. Events give your school the opportunity to educate stakeholders and parents on the benefits of iPad in the classroom, review acceptable use policy and efficiently distribute devices.

Hand out and unbox devices

A deployment event provides the opportunity to hand out and unbox devices. For one-to-one deployments, devices are handed out to students and teachers before switching on; each user enrolls in MDM as part of Setup Assistant. For Shared iPad, devices are typically deployed on carts in classrooms and are ready to go when students arrive in class.

4. Enable the Classroom

During the Enable phase, teachers can manage technology in their classrooms and guide students in new ways. The Classroom app is the primary tool to guide and assist students by taking them into apps, books and websites. And technology managers can use a robust toolset to manage devices, people and content. Apple School Manager and an MDM solution are the central tools to complete remote management tasks such as reassigning apps, querying devices and resetting device passwords.

Deploying Classroom for iPad

Once each teacher's iPad is managed by MDM, you can deploy and configure the Classroom app. MDM creates the classes that your teachers will see when they launch the Classroom app. If your MIS is integrated with Apple School Manager, class information automatically passes to your MDM solution for use in configuring classes.

While restrictions, apps and Home screen layout may differ for student and teacher devices, the class groups in your MDM will be the same. Teacher and student devices should be supervised so they can silently receive assigned apps.

To use Classroom, devices must support Bluetooth 4.0 or later (iPad 3rd generation or later, iPad mini or later).

Download and distribute the Classroom app

Classroom is available for free on the App Store and can be assigned to devices or users with MDM. Download Classroom from the Volume Store so your MDM can deploy it remotely.

Prepare iPad for teachers and students

Once classes are created in MDM, teacher device profiles should update automatically. While restrictions, apps and Home screen layout will differ for student and teacher devices, the class groups in your MDM will be the same. Your institution-owned devices should also be supervised, which will streamline Classroom app distribution, so the devices can receive assigned apps. iPad must support Bluetooth 4.0 or later (iPad 3rd generation or later, iPad mini or later).

Note: The Classroom app requires a dedicated teacher iPad, which cannot be configured with Shared iPad.

Classroom workflows

With the Classroom app, teachers can guide and conduct how students use their iPad — including activities such as sharing a web page, opening an app or viewing student screens remotely. Teachers can also create their own groups within a class — tailoring guidance for a project team, a group of students or the entire class.

To keep students focused, teachers can lock students into an app on their device. They can also temporarily lock all devices in the classroom. Teachers can even share a student's iPad screen with the rest of the class using AirPlay and Apple TV. Learn more about [Classroom](#).

Setting up Shared iPad

Shared iPad simplifies workflows for teachers and students by providing a personal learning experience on shared devices. Using the Classroom app, you can instantly assign devices to students and then return devices to the login screen for the next class. Shared iPad greatly simplifies the transition between classes and maximises teaching time.

Simply tick the Shared iPad option and your devices will be enabled in Shared iPad when activated. When classes are set in your MDM solution, Shared iPad is ready to be assigned to students by the Classroom app, simplifying the login experience for students.

Assigning shared devices with the Classroom app

Before class begins, teachers can assign any student to any Shared iPad. Students know which devices to use because their photo or initials appear on the lock screen. And because data is locally stored on devices, once students log in, their homework, apps and assignments are exactly where they left off. So teachers and technology managers won't lose time backing up or wiping data between classes.

Additional Tools and Ongoing Management

With iOS 9.3, technology managers have a robust set of tools to manage devices, people and content. Apple School Manager and your MDM solution are the central tools to complete remote management tasks such as reassigning apps, querying devices and resetting device passwords. Some MDM solutions include classroom tools that enable teachers to leverage additional capabilities in the classroom.

Commands

An MDM server can perform a wide variety of administrative commands on devices that are managed, including changing configuration settings automatically without user interaction, or locking or wiping a device remotely. Enhancements to the MDM protocol in iOS 9 provide new ways to secure and control devices in the classroom. For example, you can now install and manage apps even if student access to the App Store is restricted.

- **Enable Lost Mode:** Puts the device in Lost Mode with information shown on the Lock screen. You can locate devices using your MDM solution while maintaining student privacy.
- **Fetch device location:** Allows the device to report its location if the device is in Lost Mode.
- **Remote wipe:** Erases the data on a lost or stolen device.
- **Clear passcodes:** Clears the device passcode on a one-to-one device when a user has forgotten it, enabling them to enter a new one.
- **Modify restrictions:** Changes settings and policies for a student or a device.
- **Install iOS update:** Pushes a software update to the device. Requires the device to be in Apple School Manager.

Managing assessments

iPad can provide an easy way to guide a test taker to a single assessment app, and to disable hardware or software features that allow a test taker to circumvent the assessment and invalidate the results. iOS devices that are supervised and enrolled in MDM can use Single App Mode (SAM) or Autonomous Single App Mode (ASAM) to lock an iOS device to a single app. iOS includes a number of features — such as spellchecking, auto-correction, grammar checking and dictionary lookup — that can be temporarily disabled by MDM during an assessment. Your organisation can configure your devices for these settings. Also, a number of MDM vendors offer tools that allow teachers to send these commands straight from their own iPad devices. Learn more about [assessment with iPad](#).

Deploying additional content

After devices are deployed and the initial set of apps and books is installed, your organisation might want to purchase additional apps and books as needed. For apps and books purchased after deployment, use your MDM solution to assign them to users and install them on devices remotely. Some MDM solutions include a self-service app catalogue interface that allows users to initiate MDM app installation for apps and books purchased by the institution.

Queries

An MDM server can query devices for a variety of information, including hardware information, such as serial number, device UDID or Wi-Fi MAC address, as well as software information, such as the iOS version and a detailed list of all apps installed on the device. This information can be used to help ensure the appropriate set of apps is present on devices.

Updating settings and policies

Once devices are deployed, you might want to change how devices are configured. Because MDM enables the wireless management of devices, changing settings can be simple and straightforward. If your deployment is large, consider the impact that configuration changes might have on large sets of users and plan the changes accordingly.

Updating software with MDM

Once devices are running iOS 9, you can use MDM to remotely update future versions of iOS. This capability helps keep all devices current and allows you to take advantage of new features and enhancements. If the device has a passcode, MDM may prompt users to update. If devices do not have a passcode, MDM can silently update iOS.

AirPlay and Apple TV

Now the Classroom app makes it even easier to present with AirPlay from both student and teacher devices. Using AirPlay, teachers and students can wirelessly stream content from iPad to a projector or an HDTV via Apple TV. Teachers can lead a class brainstorm or walk everyone through a presentation. And students can share projects and other work on the big screen.

iOS devices can stream content to Apple TV even if the devices are on different networks. Peer-to-peer AirPlay lets a user connect directly from a supported iOS device to Apple TV without first connecting to your network. This capability eliminates the need to join the right network or disclose Wi-Fi passwords, and it prevents reachability issues in complex network environments.

Support and Resources

The following resources allow you to further explore these topics and opportunities.

Now that you've deployed devices, apps and books, your students and teachers can experience learning with iPad anywhere, anytime. Further inspire and empower your staff with Apple's education collections on the App Store, Apple's creativity and productivity apps, iTunes U, iBooks, and the professional development experiences offered through Apple Professional Learning. For assistance with project management, contact your Apple Education Sales representative.

Online Resources

Explore the following resources to learn more about these topics:

- [Education Deployment Guide](#)
- [Apple School Manager Help](#)
- [Classroom Help](#)
- [iOS Deployment Reference](#)
- [OS X Deployment Reference](#)
- [Education IT and Deployment website](#)

Support options

Apple provides a variety of programmes and support options for iOS users. Before deploying devices, find out what's available for your institution and plan for any additional support you'll need.

AppleCare for iOS devices

Every iOS device comes with a one-year limited warranty and complimentary telephone technical support for 90 days after the purchase date. This service coverage can be extended to two years from the original purchase date with AppleCare+ for iPhone, AppleCare+ for iPad or the AppleCare Protection Plan (APP) for iPod touch. You can call Apple's technical support experts as often as you like with questions. Apple also provides convenient service options when devices need to be repaired. In addition, AppleCare+ for iPhone and AppleCare+ for iPad offer up to two incidents of accidental damage coverage, each subject to an excess fee.

iOS Direct Service Programme

As a benefit of AppleCare+ and the AppleCare Protection Plan, the iOS Direct Service Programme enables your help desk to screen devices for issues without calling AppleCare or visiting an Apple Store. If necessary, your institution can directly order a replacement iPhone, iPad, iPod touch or in-box accessories. Learn more about [AppleCare programmes](#).

AppleCare Help Desk Support

AppleCare Help Desk Support provides priority telephone access to Apple's senior technical support staff. It also includes a suite of tools to diagnose and troubleshoot Apple hardware, which can help your institution manage resources more efficiently. It also improves response time and reduces training costs. AppleCare Help Desk Support covers an unlimited number of support incidents for hardware and software diagnosis, as well as troubleshooting and issue isolation for iOS devices.

AppleCare OS Support

AppleCare OS Support includes AppleCare Help Desk Support and incident support. It includes support for system components, network configuration and administration; integration into heterogeneous environments; professional software applications, web applications and services; and technical issues requiring the use of command-line tools for resolution.

Summary

With iOS 9.3, it's easier than ever to put devices in the hands of your students. Apple School Manager, Managed Apple IDs, Shared iPad and the new Classroom app work together to deliver the best experience for every class. These new updates help simplify and streamline deployment so your school or local authority can get up and running quickly.

[Learn more](#) about integrating iOS into institutions.

For more detailed technical information about deploying iOS, explore the [iOS Deployment Reference](#).

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