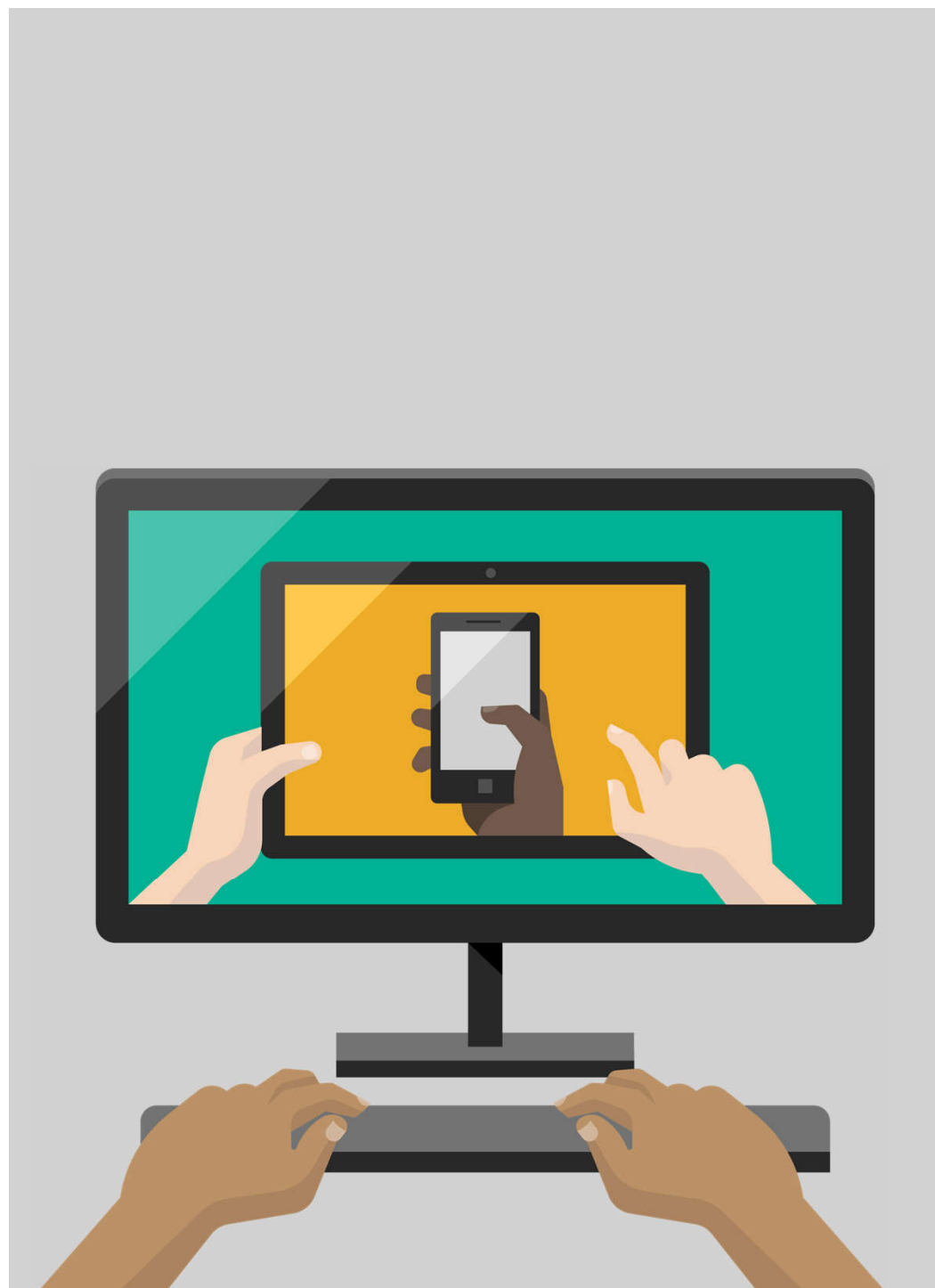




Overview of Teams integration with Moodle and other systems

Cristian Mezzetti - Consultant

Webinar CRUI
17 March 2020



Topics

1

Hub for collaboration integrated with M365 Services

2

Graph API & Powershell integration – University of Bologna use case

3

Full Teams Education class experience

4

Moodle integration v1

5

Skooler App – Moodle integration v2

6

Conclusions

Hub for collaboration and learning

Remote and onsite

Collaborative Teaching & Learning

- Collaborate and save educators time with a single hub for classes and teams, remote and onsite
- Easily chat, create groups, and have audio or video sessions with groups or one-on-one.
- Easily connect with others and co-author in real time.
- Collaboration tools make project-based learning, collective knowledge, and real-time communication effective for students to learn with each other.

Personalized & Accessible

- Integrated accessibility features at no extra cost benefit students of all abilities and backgrounds while reducing the stigmas associated with specialized tools.
- Immersive reader in Office in Teams.

Safe & Secure & Scalable

- Teams is secure, utilizing your identity security.
- Provides effective access control across all instructors and students
- Data protection, redundancy and scalability as the rest of Office 365 services



Integration capabilities

Graph APIs and Powershell



Graph API capabilities

Concepts

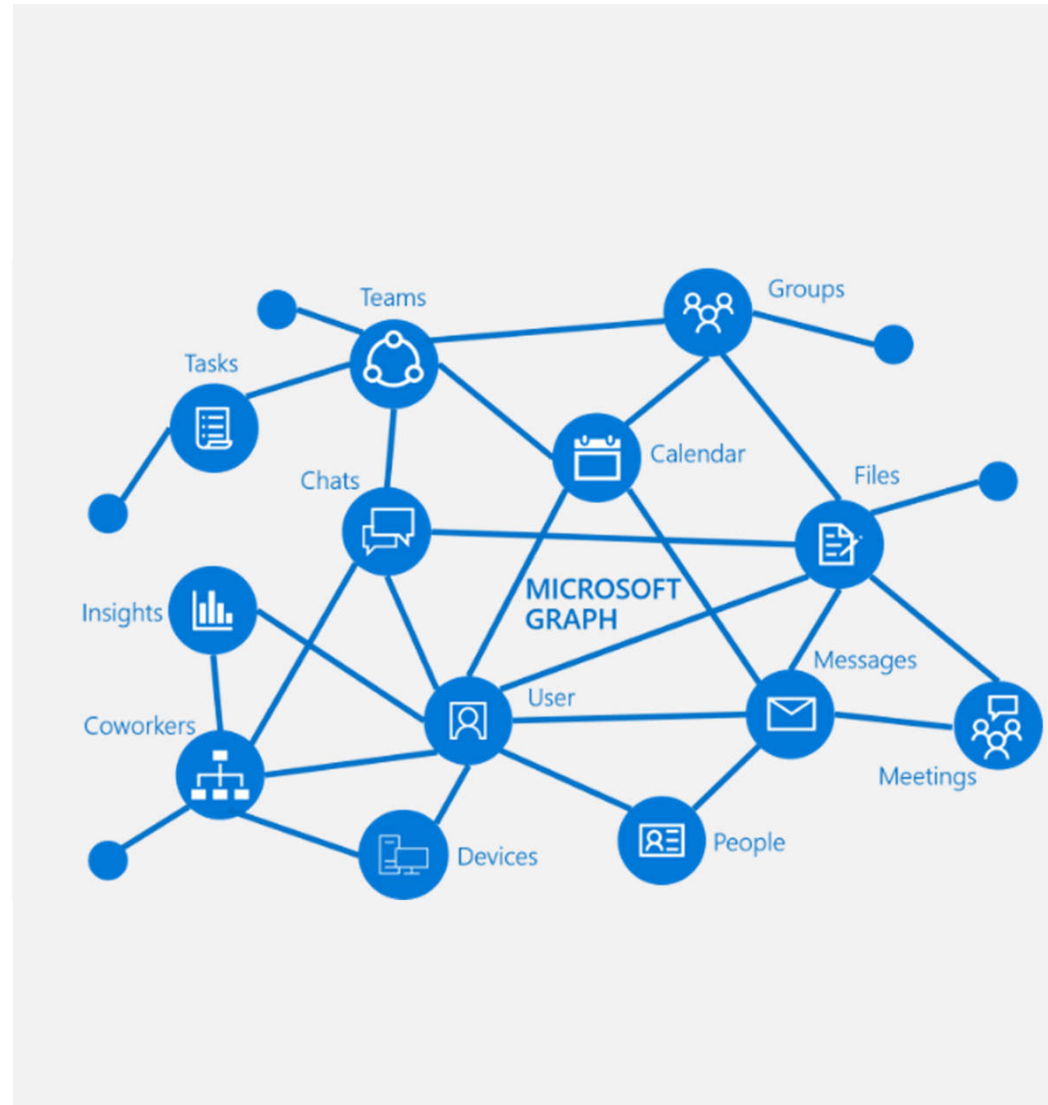
- Authentication
- Security
- Single API endpoint

Integrations

- Programming languages
- [Graph API SDK](#)
- [Docs](#)

Tools

- [Graph API explorer](#)
- [VSCode](#)



Powershell capabilities

- Connect
- Teams
- Members
- Channels
- Settings

- Preview module
 - Template
 - Settings

```
Charbelnemom.com #> $S = New-PSession -WName $WM -Credential "" -Admin:$hostname
Charbelnemom.com #> Enter-PSession -Session $S
[POSH-DIRECT]: PS C:\Users\Administrator\Documents> Get-Childitem D:\Guest\
[POSH-DIRECT]: PS C:\Users\Administrator\Documents> Exit
Charbelnemom.com #> Copy-Item -ToSession $S -Path C:\Host\PowerShell-Direct-IsAwesome.zip -Destination D:\Guest\
Charbelnemom.com #> Enter-PSession -Session $S
[POSH-DIRECT]: PS C:\Users\Administrator\Documents> Get-Childitem D:\Guest\

Directory: D:\Guest

Mode                LastWriteTime         Length Name
----                -
-a-----         4/21/2016 12:27 PM             22 PowerShell-Direct-IsAwesome.zip

[POSH-DIRECT]: PS C:\Users\Administrator\Documents> Exit
Charbelnemom.com #> Remove-Item C:\Host\PowerShell-Direct-IsAwesome.zip -Confirm:$false
Charbelnemom.com #> Get-Childitem C:\Host\
Charbelnemom.com #> Copy-Item -FromSession $S -Path D:\Guest\PowerShell-Direct-IsAwesome.zip -Destination C:\Host
Charbelnemom.com #> Get-Childitem C:\Host\

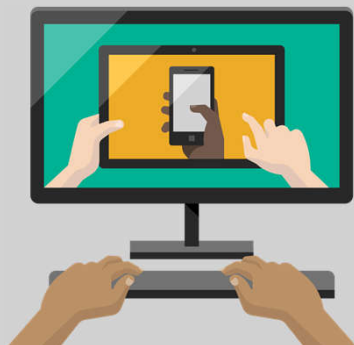
Directory: C:\Host

Mode                LastWriteTime         Length Name
----                -
-a-----         4/21/2016 12:27 PM             22 PowerShell-Direct-IsAwesome.zip

Charbelnemom.com #> ;)
```

Use case

University of Bologna Teams meetings integration with Graph API, web portal and Moodle



Online lessons, graduations and exams

Lessons

- Class web site in Moodle
- Join link in public facing Professor web site

Graduations

- Event management on backend portal, examiners group too. Students provided of join details

Exams

- Team meetings creation and publishing with exams management tool

```
{
  param
  {
    [Parameter(Mandatory=$true)]
    $TenantName
  }
}

Import-Module Azure

$ClientId = "11ee022e9f8-4447-b76c-d2d6d1265d"
$RedirectUri = "ms://auth/tenant/$tenantName"
$ResourceAppIdURI = "https://graph.microsoft.com"
$Authority = "https://login.microsoftonline.com/$tenantName"
$AuthContext = New-Object "Microsoft.IdentityModel.Clients.ActiveDirectory.AuthenticationContext" -ArgumentList $Authority
$SAMLCredential = New-Object "Microsoft.IdentityModel.Clients.ActiveDirectory.UserCredential" -ArgumentList "ccccc"
$AuthResult = $AuthContext.AcquireToken($ResourceAppIdURI, $ClientId, $SAMLCredential)
return $AuthResult
}

Function GenerateMeeting
{
  param ($Meeting, $ListRelater, $Token)

  $presenterToken = ""

  $apiURL = "https://graph.microsoft.com/v1.0/me/meetings"

  $authHeader = @{
    "Content-Type" = "application/json"
    "Authorization" = $Token.CreateAuthorizationHeader()
  }

  $body = {
    "startDateTime": "2020-09-01T00:00:00.0000000-07:00",
    "endDateTime": "2020-09-01T23:59:59.9999999-07:00",
    "subject": " $Meeting",
    "participants": {
      "attendees": {
      }
    }

    foreach ($relater in $ListRelater) {
      if (-not ([string]::IsNullOrEmpty($presenterToken)) {
        $presenterToken += ", "
      }
    }

    $body += $presenterToken
  }

  $relater = Get-Mailbox -UserPrincipalName $relater_username -Property ObjectID, DisplayName

  $body += $relater
  {
    "identity":
    {
      "user":
      {
        "displayName": "$($relater.DisplayName)",
        "id": "$($relater.ObjectId)"
      }
    }
  };
  "app": "$($relater.username)"
};
}

$presenterToken = CreatePresenter $relater_ObjectID $relater_DisplayName
```


Online lessons

The image displays a composite of three overlapping screenshots from the Alma Mater Studiorum University of Bologna's online teaching platform. The top-left screenshot shows a user profile for Vittorio Ghini, an associate professor in the Department of Informatics, Science and Engineering, who is the coordinator of the Bachelor's program in Engineering and Information Sciences. The top-right screenshot shows the main dashboard for 'INSEGNAMENTI ONLINE', featuring navigation icons for Dashboard, Calendar, Badge, All courses on IOL, and Are you a teacher? Below these are the 'I miei corsi' (My courses) section, listing 'Sociologia Generale' with details on its code, lecturers (Alessandro Russo and Chiara Cretella), and associated degree programs. The bottom screenshot provides a detailed view of a 'Corso Laboratorio IOL', including a visibility toggle, lecturer information (Antonella Cirigliano), course code (XYAAAS), and options to add collaborators or students, as well as buttons for online lessons, hiding, and regenerating the virtual classroom.

ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA

Home Curriculum vitae Pubblicazioni **Didattica** Temi di ricerca Collaborazioni Contenuti utili Avvisi

Vittorio Ghini
Professore associato confermato
Dipartimento di Informatica - Scienza e Ingegneria
Settore scientifico disciplinare: INF/01 INFORMATICA
Coordinatore del Corso di Laurea in Ingegneria e scienze informatiche

Didattica
Insegnamenti Appelli d'esame Tesi

Insegnamenti
Anno Accademico 2019-2020 vai

[08574 - SISTEMI OPERATIVI - 12 cfu](#)
Insegnamento in Italiano
Campus: Cesena
Corso: Laurea in Ingegneria e scienze informatiche
Laurea in Ingegneria

[Orario delle lezioni](#)

[86733 - SYSTEMS INTEGRATED](#)
Insegnamento in Italiano
Campus: Cesena
Corso: Laurea in Ingegneria

[Lezioni online](#)

ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA
INSEGNAMENTI ONLINE
SUPPORTO ONLINE ALLA DIDATTICA

Dashboard Calendario Badge Tutti i corsi su IOL Sei un docente?

I miei corsi

[Sociologia Generale](#) [Iscrizione aperta](#)

Docente: Alessandro Russo
Docente: Chiara Cretella

Codice: 28349 (Educatore nei servizi per l'infanzia)
Codice: 28349 (Educatore sociale e culturale)
Docente: Alessandro Russo
A.A. 2013-2014
Corsi di laurea:

- Educatore nei servizi per l'infanzia
- Educatore sociale e culturale

Corso Laboratorio IOL [Gestisci iscrizioni](#)

Visibilità corso

Docente: Antonella Cirigliano

Codice: XYAAAS
Laurea Magistrale in Scienze e tecnologie alimentari (cod. XXXX)
Scuola: Agraria e Medicina veterinaria - Campus di XYAAA
Anno Accademico: 2017/2018
Sito Web del Docente

[Aggiungi collaboratore](#) [Aggiungi studente](#)

[Lezioni online](#) [Nascondi](#) [Rigenera aula virtuale](#)

Exams and graduations

[Aggiungi studenti](#) [Esporta esiti](#) [Importa esiti](#) [Inserimento voti/quesiti](#) [Firma](#) [Invia notifiche](#)
[Archivio notifiche](#) [Crea esame online](#)

Dettaglio seduta

[Invia notifiche...](#) [Archivio notifiche](#) [Crea laurea online](#)

Sei in: [Le tue richieste](#) » Dettaglio richiesta

[Laurea Online](#) [Ospiti](#)

Appello di laurea

Data dell'appello: 06/02/2020 - 13/02/2020

Seduta di Laurea

Data e ora	06/02/2020 09:00
Sede	aula Ranzani - via ranzani 14
Numero di lodi	0
Media ponderata laurea nuovo ordinamento	20,86 su 30 (calcolata su 29 esami)
Media ponderata laurea nuovo ordinamento	76,49 su 110 (calcolata su 29 esami)
Commissione	Spampinato Santi Mario, Neyroz Paolo, Morroni Fabiana

Dettaglio richiesta ▾

■ Richiesta conclusa: Il processo di laurea è concluso, la pratica è stata verbalizzata.

[Chiudi](#)



Full Teams Education Class



Classrooms

The screenshot displays the Microsoft Teams interface. On the left is a navigation sidebar with icons for Activity, Chat, Teams, Meetings, Files, Assignments, and Apps. The main area shows a team named 'Physical Science 9B' with a 'General' channel. The 'Assignments' tab is active, displaying a task: 'Practice solving KM equations in your class NoteBook, questions 14-31'. Below the task, there are progress indicators: 'Viewed: 23/28', 'Turned in: 15/28', and 'To review: 15/28'. A table lists student work:

Name	Student work	Date turned in
Adah, Simon	KM Equations Stats	Jan 24, 2018
Chih, Yeh	KM Equations Stats	Jan 23, 2018
Dalia, Gutkauskaitė	KM Equations Stats	Not turned in
Eduardas, Zukas	KM Equations Stats	Jan 23, 2018
Eerik, Valbe	KM Equations Stats	Not turned in
Erkko, Collin	KM Equations Stats	Jan 24, 2018 at 8:31am

Overlaid on the right is a mobile notification for 'Advanced English' assignments. It includes a 'Go to today' button, a date separator for 'Fri Jan 12', and two assignment items: 'Choose three topics for your essay drafts' and 'Anne Frank: Reading journal reflection on refugees, 25-77'. A 'Turned in' status with a green checkmark is also visible. Below this is a date separator for 'Mon Jan 15' and another assignment item: 'Create a Works Cited page'.

Assignments

The screenshot displays the Microsoft Word Online interface for an assignment submission. The top navigation bar includes a search bar and user profile. The left sidebar contains navigation icons for Activity, Chat, Teams, Calendar, Files, Assignments, Store, and Feedback. The main document area shows the following content:

Christie Cline
Ms. Arden
AP English
World Voices Essay Unit 2

The Role of the Messenger in *The Iliad* and Today's Hero Stories

We know that there are a lot of heroes in Homer's epic poem, *The Iliad*. However, alongside larger-than-life warriors like Achilles and Hector and their quest for "kleos" (a Greek word for glory in battle), characters like Thetis and Cassandra have foresight into how events are fated to unfold and try to warn the other players in the story. Although no one heeds their warnings, both women have important insight into the fatal weaknesses of other characters and into how the Trojan War has a much wider impact on the world than the war itself. Similarly, many comic stories of the present day recreate the drama of larger-than-life heroes who discern the divine of the past and try to warn them.

Page 1 of 3 | 1329 words | English (U.S.) | 100% | Give Feedback to Microsoft

The right sidebar shows the submission details for student Christie Cline:

- Student work
- Submitted Feb 14th, 2019 at 9:51pm
- WorldVoiceEssay.docx
- 14% similarity | View Turnitin report
- Rubric: Essay Evaluation Rubric
- Feedback: Enter feedback for this assignment (max. 1000 characters)
- Points: / 50
- Return button

Demo

Microsoft Office Home x + v

https://www.office.com/?auth=2

Office 365 Search

Install Office v

Apps

Outlook OneDrive Word Excel PowerPoint OneNote SharePoint Teams Class Notebook Sway Forms

Admin Stream Calendar

Explore all your apps →

Documents Upload and open... New v

Recommended

You edited this 12m ago

An Inside Look at Our Oceans

Ocean Presentation

You edited this Sat at 2:05 AM

An Inside Look At Our Oceans

Oceans Presentation PowerPoint

Henrietta Mueller commented on ... Jan 24

An Inside Look at Our Oceans

An Inside Look at Our Oceans

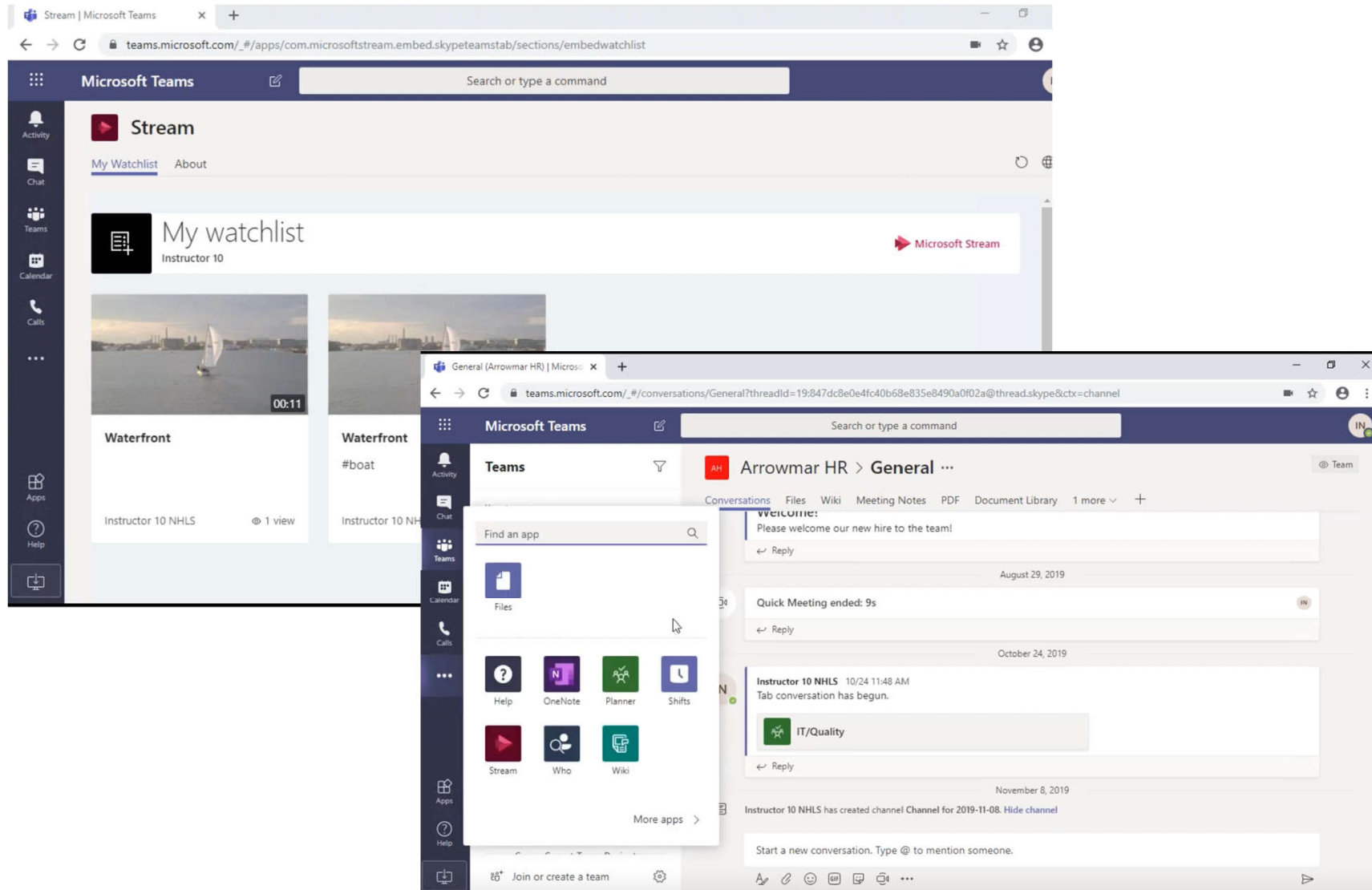
This document was edited Jan 15

An Inside Look At Our Oceans

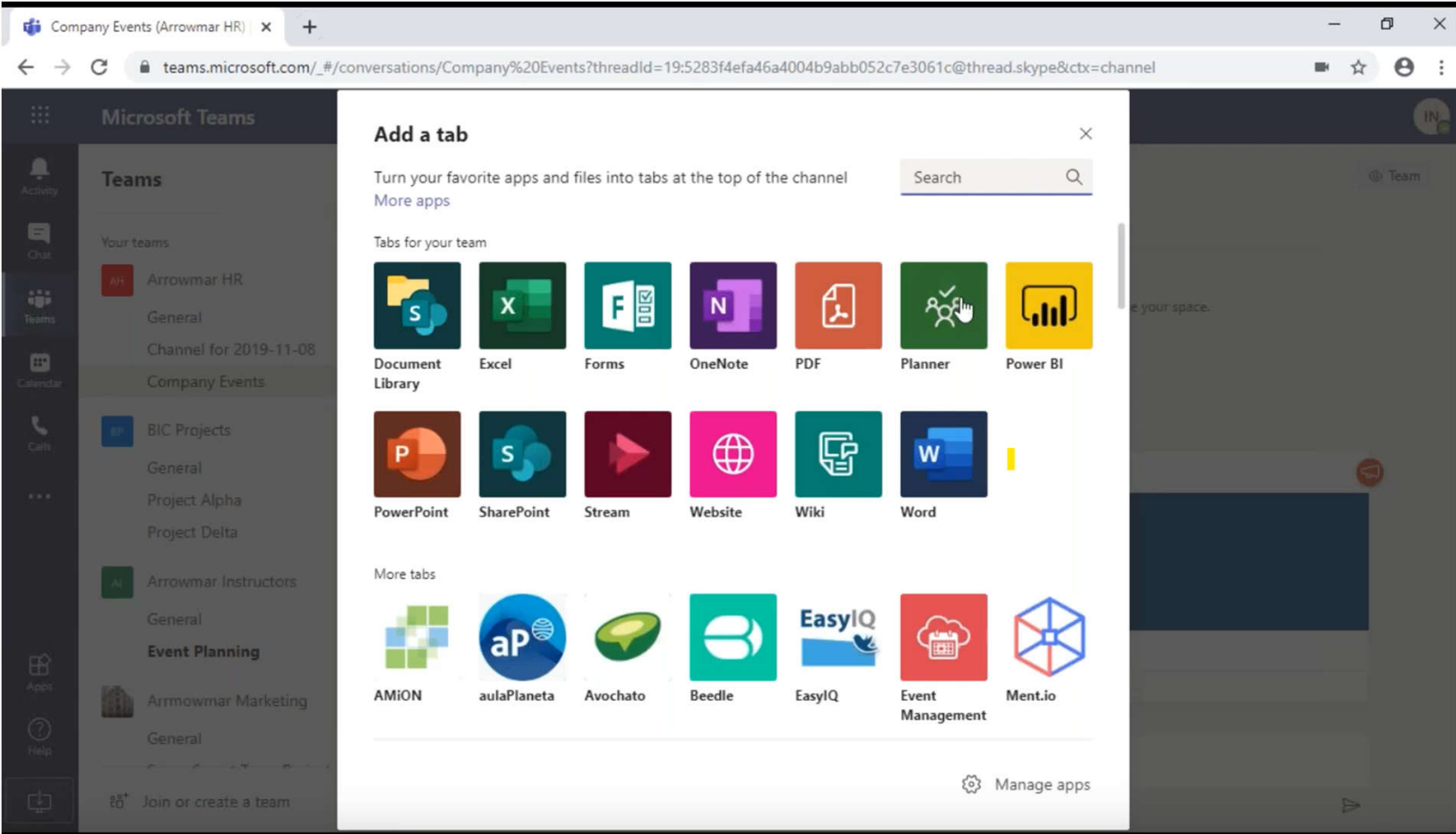
OceansPresentation Powerpoint For...

Feedback

Recordings, KB, discussions, polls



Apps



Moodle integration v1



Why Moodle in Teams

Moodle is a very important part of the learning experience in many institutions

One integrated environment:

- **Moodle (Learning):** Work with courses in Moodle, as before.
- **Teams (Collaboration):** Extend with collaboration functionality and get access to thousands of 3rd party Teams apps.
- **Office365 (Productivity):** Get deep integration with Word/Power Point/Excel cloud and desktop applications.



Office 365 Plugin Suite

A few key features only found in the Office 365 plugin suite:

- [User sync](#) from Office 365/Azure AD to Moodle
- Automatic and manual [user matching](#) from Office 365/Azure AD to Moodle
- [Calendar sync](#)
- Course to Office 365 [group sync](#) and shared file repositories
- [OneNote assignment](#) submission and feedback types
- Office document embedding using Office web apps
- Fully customizable sign-in experience

[Plugin suite installation instructions](#)

[Moodle plugin instructions](#)

Requirements & features

Requirements

- An Office 365 subscription.
- A Microsoft Azure subscription.
- Moodle version 3.1 or above.

Features

- **Office 365 Local Plugin** (local_office365)
- **OpenID Connect Authentication Plugin** (auth_oidc)
- **Microsoft Block:** provides a user-facing menu to access various Office 365 integration features, resources, and settings.
- **Microsoft Office 365 Integration Local plugin**
 - Calendar sync from/to Office 365 Outlook.
 - User Sync and Matching
 - Office 365 Groups for each Moodle course
- **OneDrive for Business Repository**
- [Office 365 Teams Theme](#)

Plugin configuration

The screenshot displays a Moodle dashboard for an Admin User. The browser address bar shows the URL <https://moodleteamsuk.azurewebsites.net/my/>. The site name is "teamsmoodleschool".

Dashboard Navigation:

- Dashboard
- Site home
- Calendar
- Private files
- Site administration

User Profile: Admin User (with a "Customise this page" button)

Course overview: Includes tabs for "Timeline" and "Courses". Below the tabs are buttons for "Sort by dates" and "Sort by courses", and a "View more" button.

Private files: No files available. Includes a "Manage private files..." link.

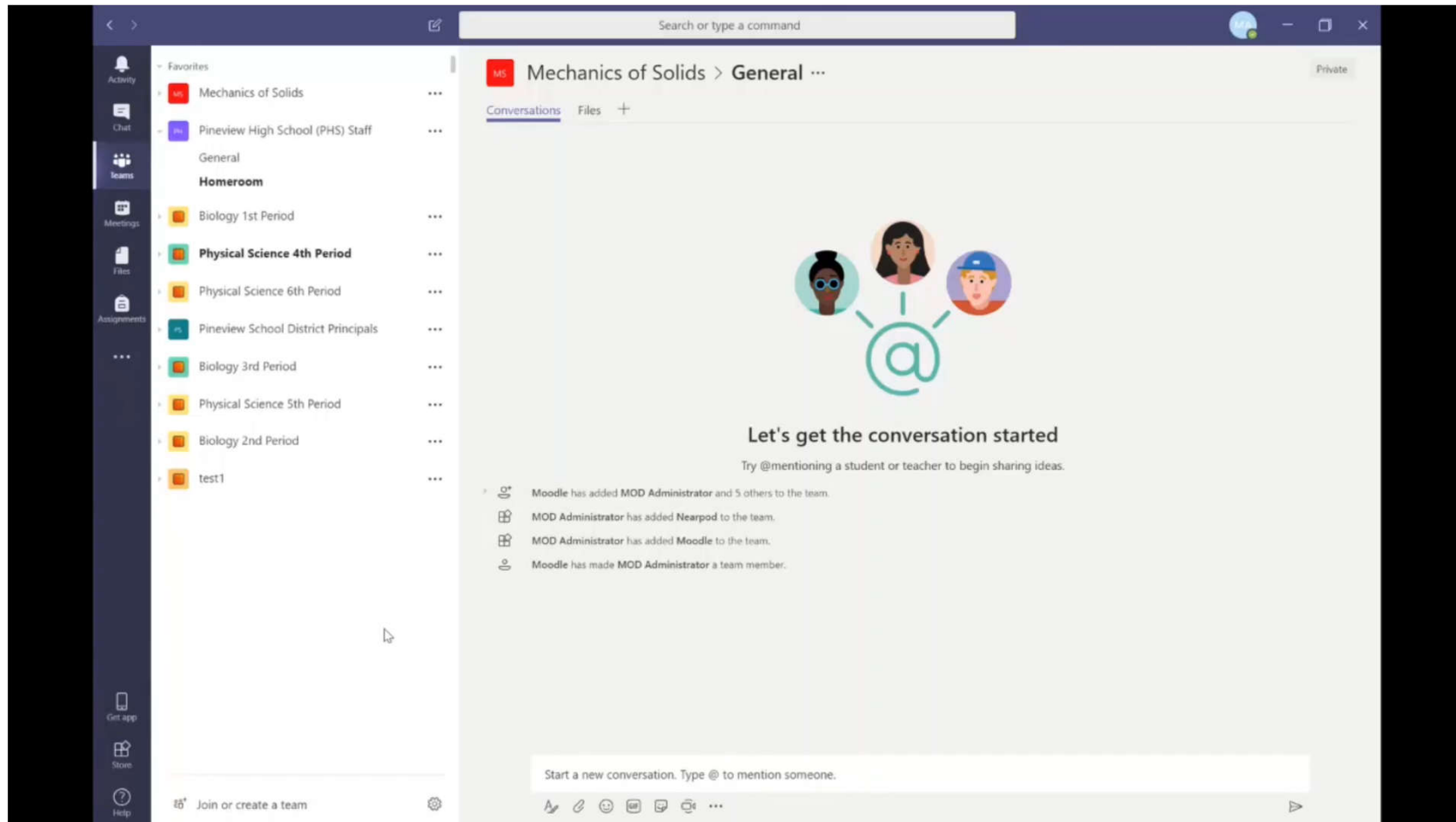
Online users: 1 online user (last 5 minutes): Admin User.

Latest badges: You have no badges to display.

Calendar: January 2019. Shows days of the week (Mon, Tue, Wed, Thu, Fri, Sat, Sun) and dates (1, 2, 3, 4, 5, 6).

The Windows taskbar at the bottom shows the search bar, system tray, and taskbar icons. The system clock indicates 3:53 PM on 1/14/2019. A user profile icon for Emmanuel Storm (ES) is visible in the bottom right corner.

Teams Moodle app



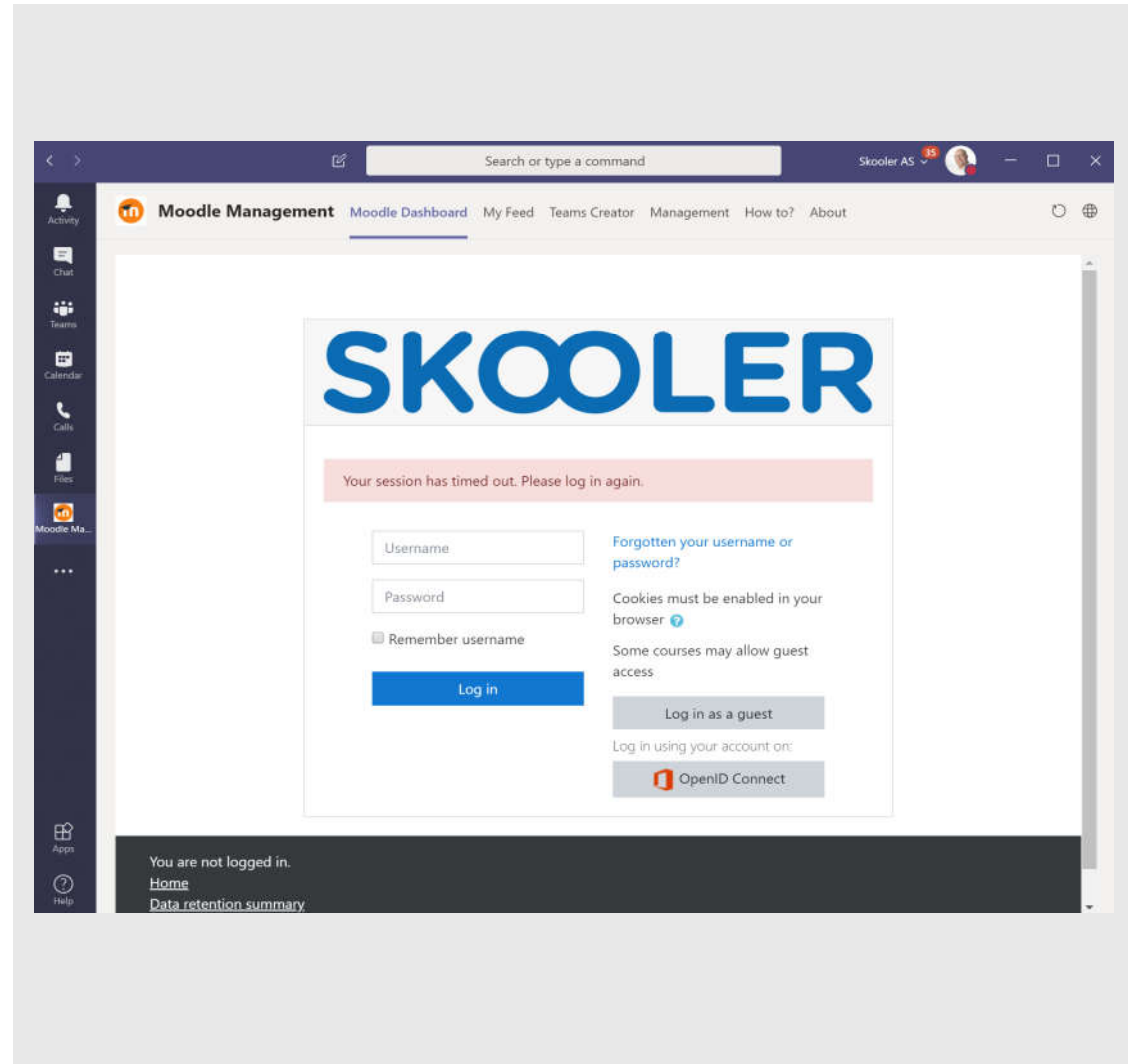
Skooler app for Teams

Moodle integration v2



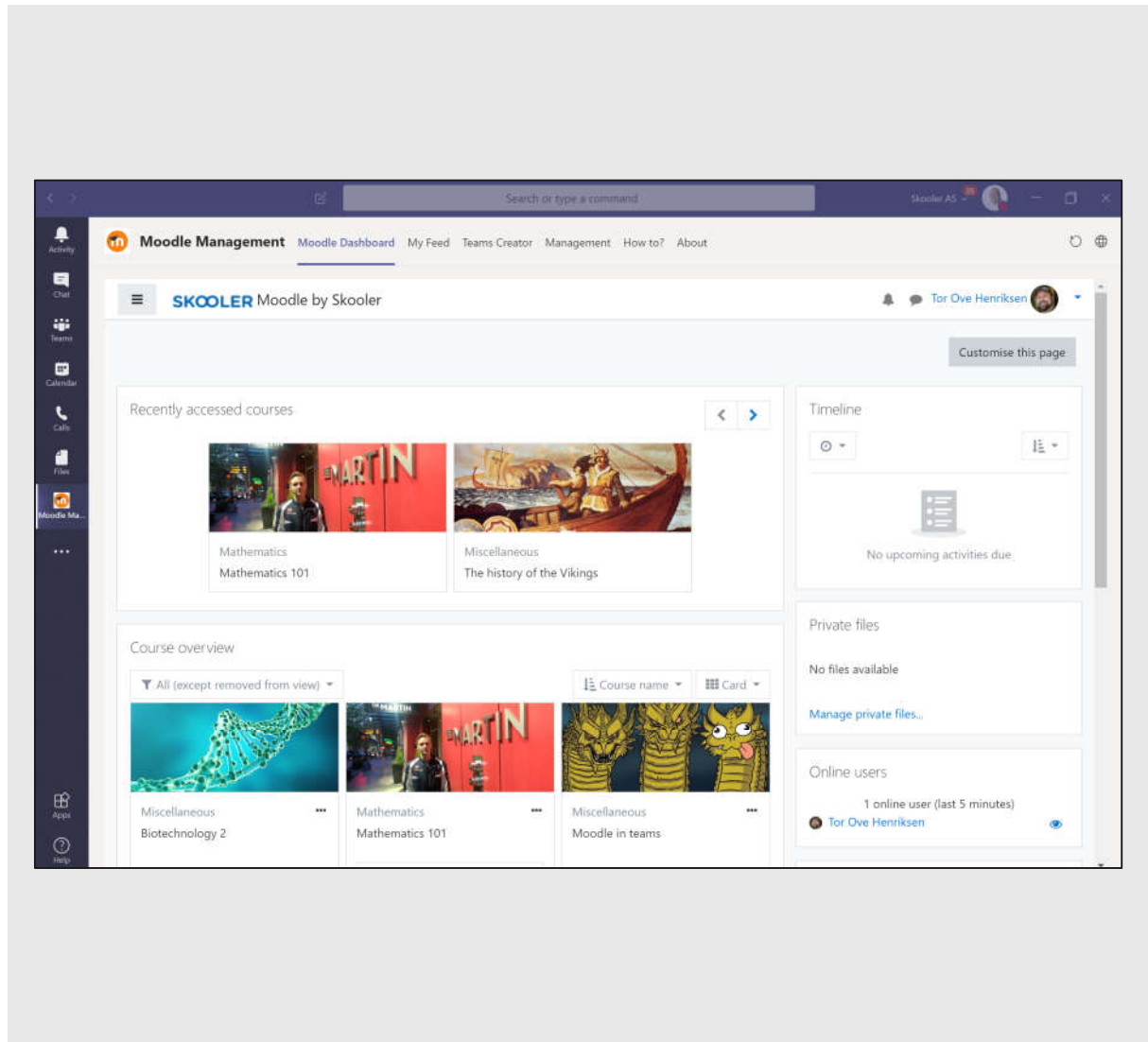
Simpler onboarding

- <https://moodlemanage.skooler.com/> to start the onboarding
- Install the Moodle prereq <https://moodlemanage.skooler.com/howto>
- After the Moodle administrator has connected the Moodle installation to the Office 365 instance, everyone can use the Moodle from within Teams.



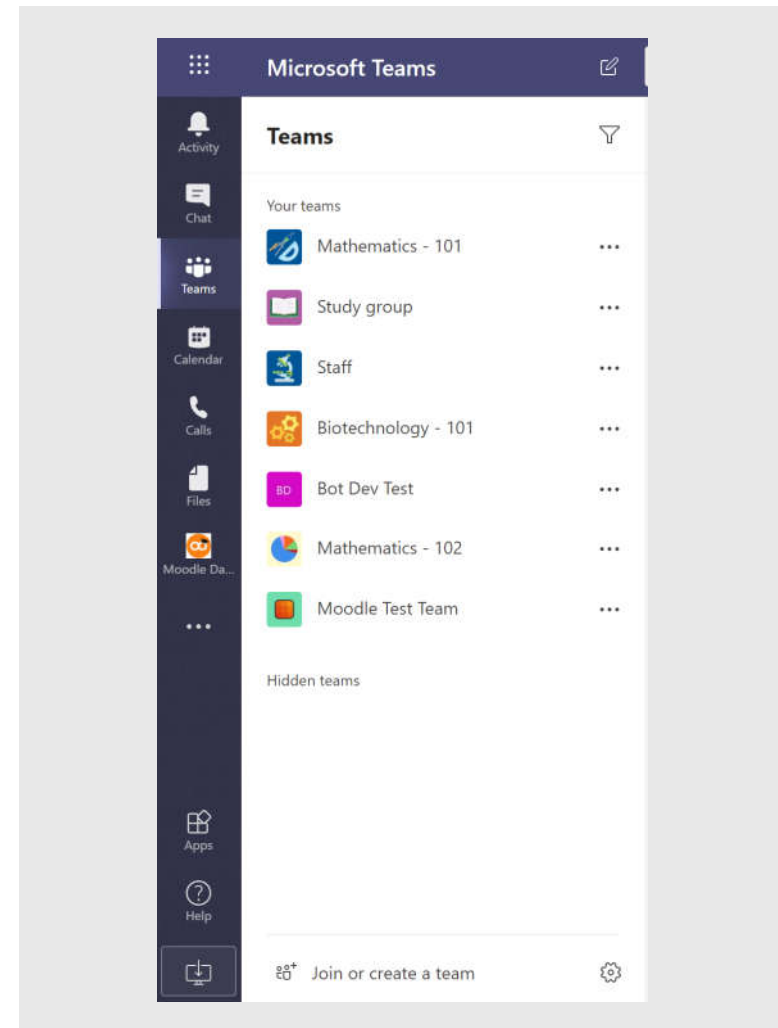
Skooler Moodle app

- The Moodle App deliver the complete Moodle dashboard inside Microsoft Teams.



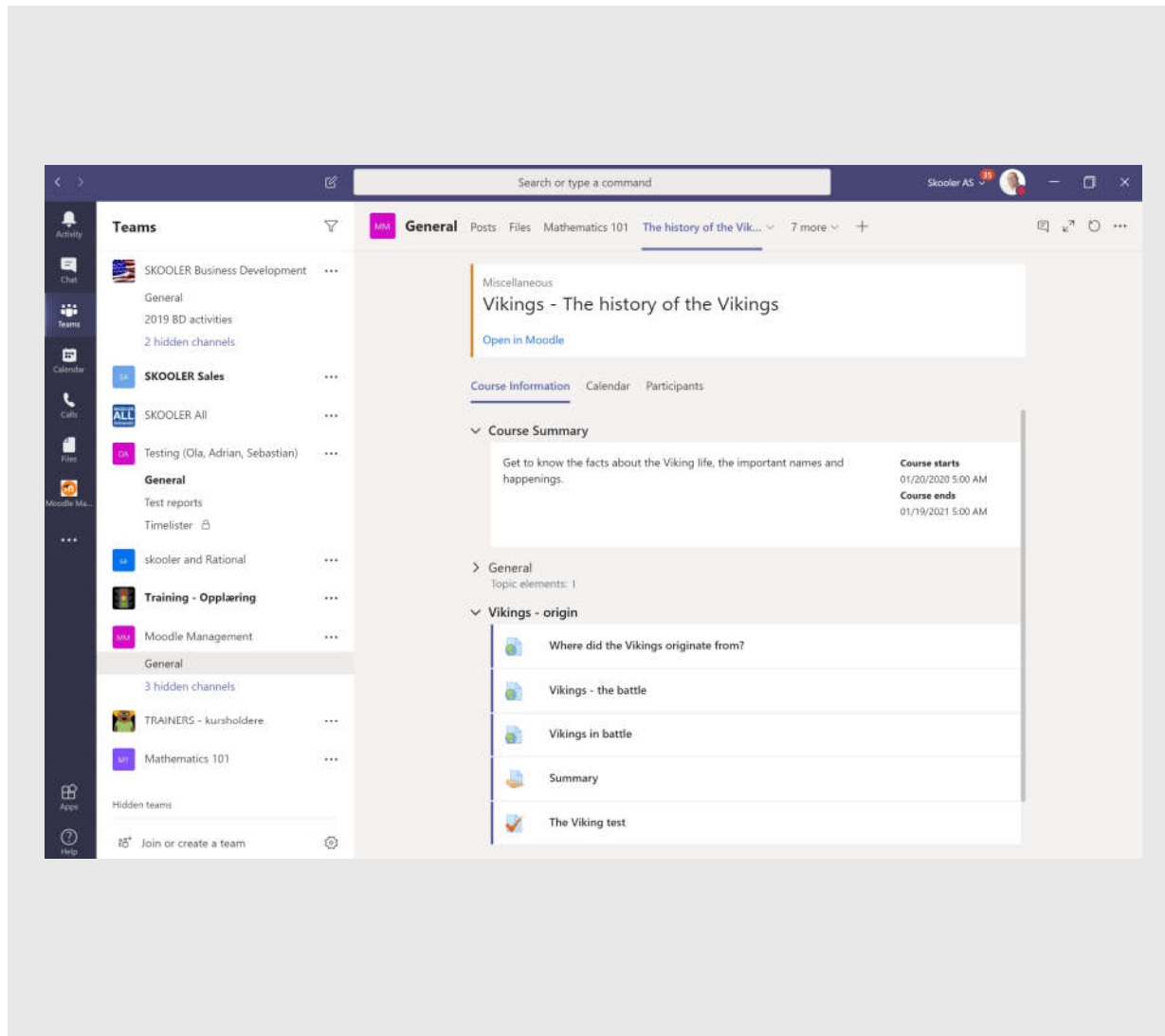
Leverage Teams and O365 in Moodle

- Through the left toolbar, the user is one click away from its personal files in OneDrive and calendar in Outlook, which now can be used along with Moodle.
- In addition, all private calls and chats with students are directly accessible.



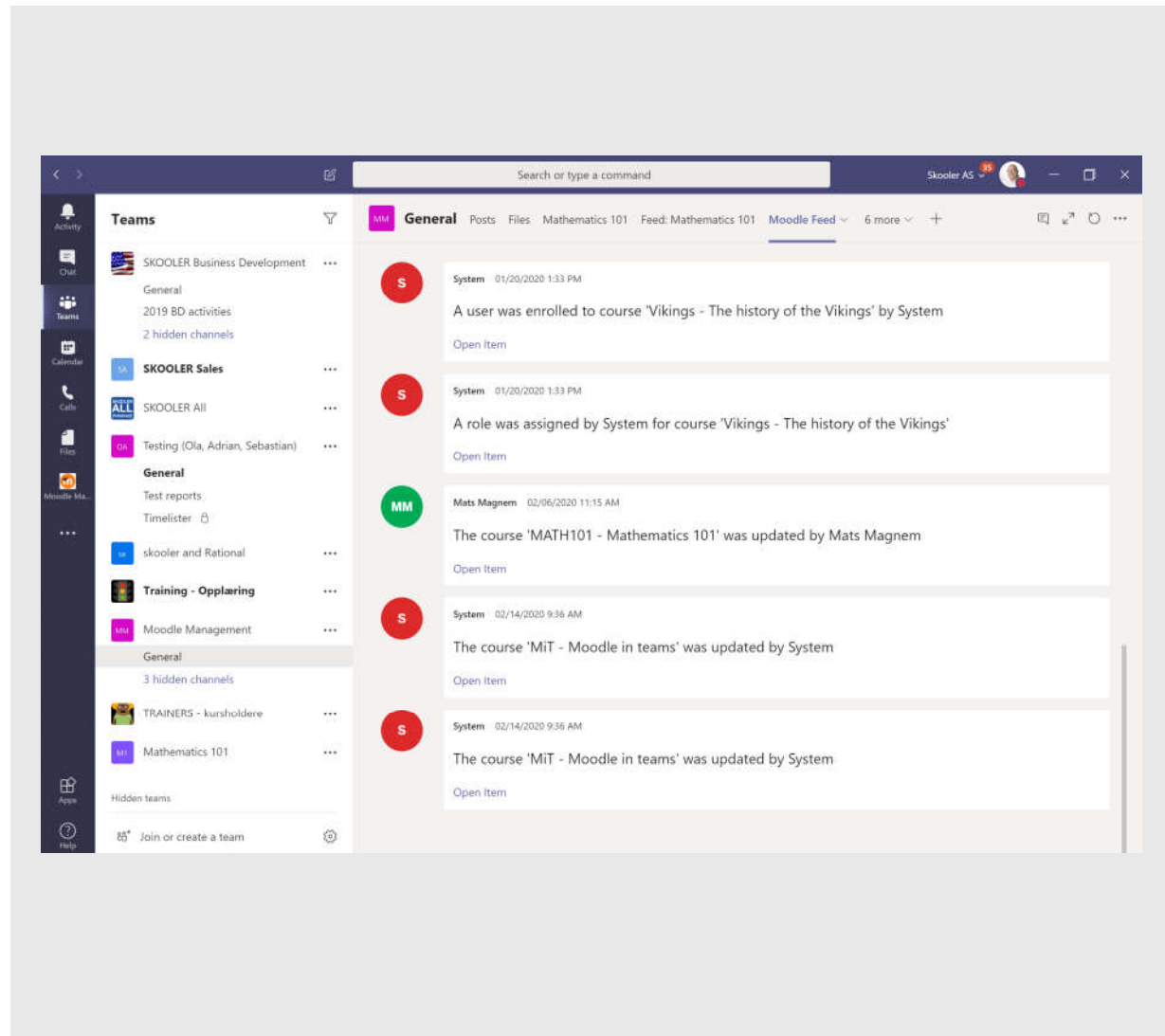
All Moodle topics and assignments directly in Teams

- When accessing a particular Team, corresponding to a Moodle Course, all relevant information from Moodle will be displayed.
- The user can now use all standard Teams functionality together with Moodle.



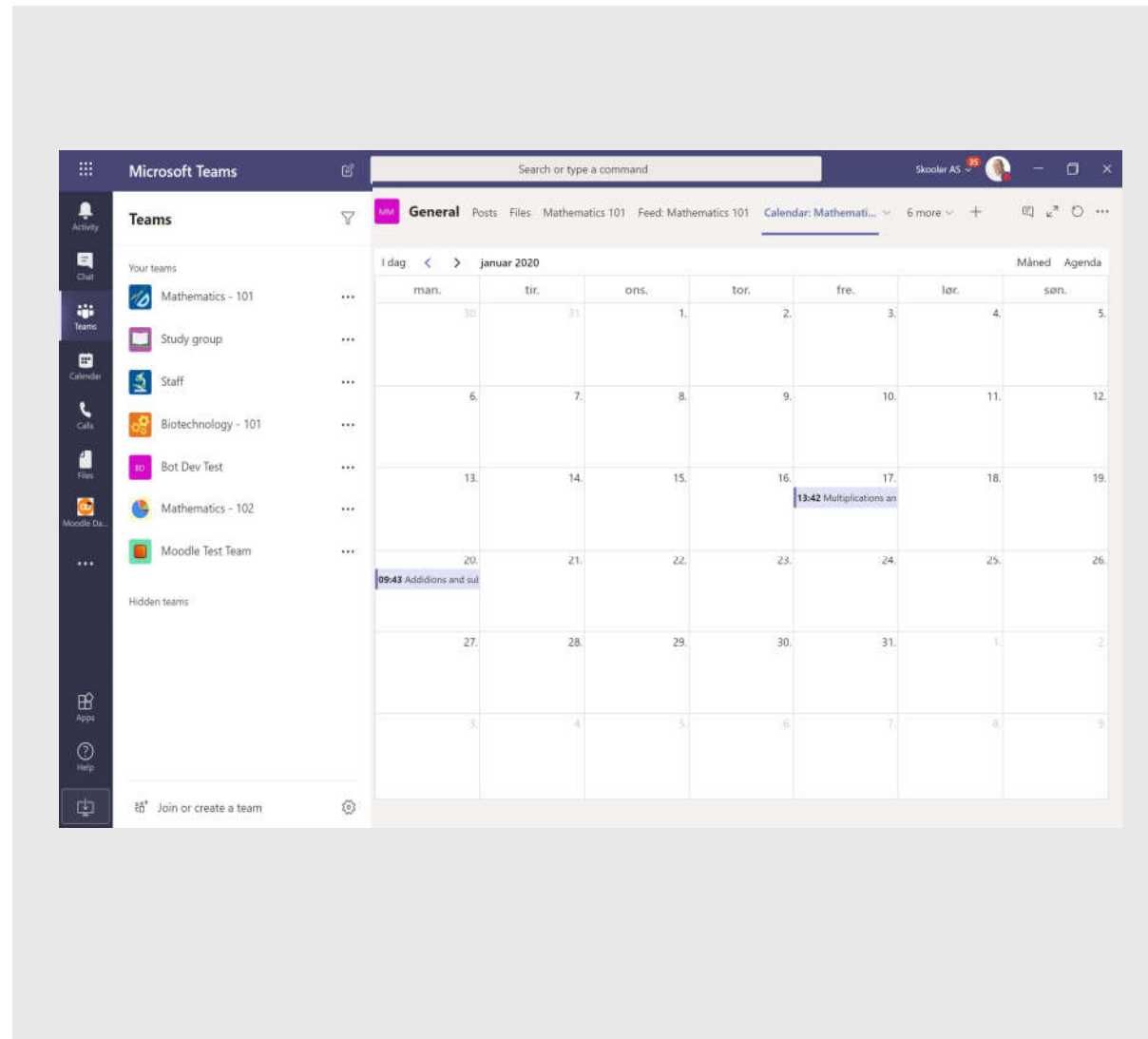
Feeds from Moodle directly in Teams

- The Moodle Course Feed and system feed is accessible directly from within Teams.



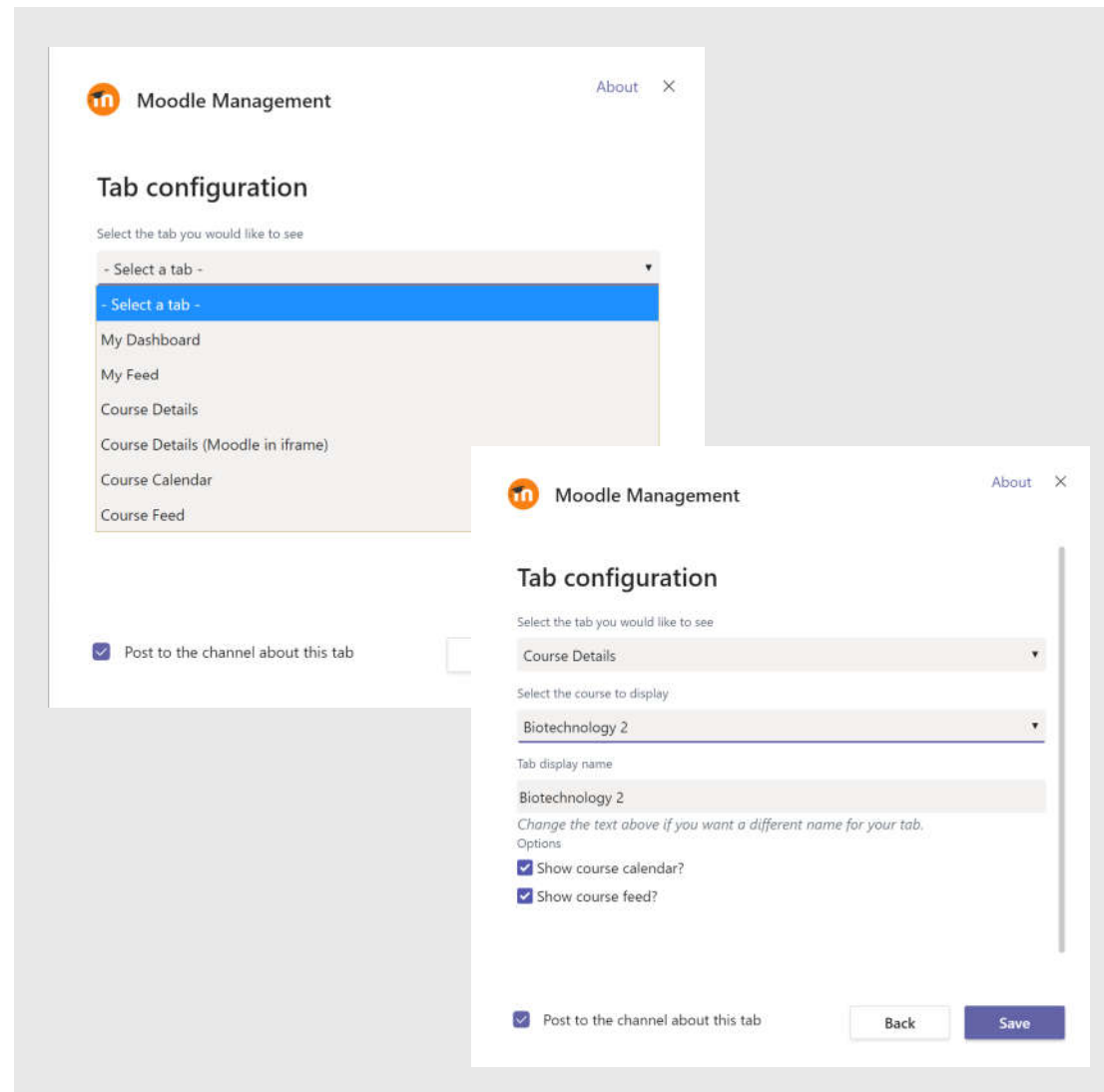
Moodle course calendar with sync to Teams

- The Moodle Course calendar can be synced into the corresponding Teams/outlook calendar.



Add any tab to Teams

- The administrator for the Team can add and configure Tabs within the Team.
- Go to teams appstore and find the Moodle App to configure the Team as you want it.



Customise the team with the tabs you need

The screenshot displays the Microsoft Teams interface. On the left, the 'Teams' sidebar lists various teams under 'Your teams' and 'Hidden teams'. The main area shows a 'General' channel with a custom menu open, listing several tabs: Biotechnology 1, Moodle Feed, Wiki, The history of the Vikings (no feed), My Dashboard, and My Moodle!. The channel content shows messages from users like Tor Ove Henriksen and Mats Magnem, with links to these custom tabs. The top navigation bar includes a search bar and user profile information.

Microsoft Teams

Search or type a command

Skooler AS 35

Teams

Activity

Chat

Teams

Calendar

Calls

Files

Moodle Da...

Join or create a team

General Posts Files Mathematics 101 Feed: Mathematics 101 Calendar: Mathematic... 6 more + Team

La til en ny fane øverst i denne kanalen. Her er en kobling.

The history of the Vikings (no feed)

Reply

February 7, 2020

Tor Ove Henriksen 2/7 2:38 AM

Added a new tab at the top of this channel. Here's a link.

My Dashboard (Moodle in iframe)

Reply

Mats Magnem 2/7 8:05 AM

Added a new tab at the top of this channel. Here's a link.

My Moodle!

Reply

February 10, 2020

Tor Ove Henriksen 2/10 7:03 PM

Added a new tab at the top of this channel. Here's a link.

Biotechnology 1

Moodle Feed

Wiki

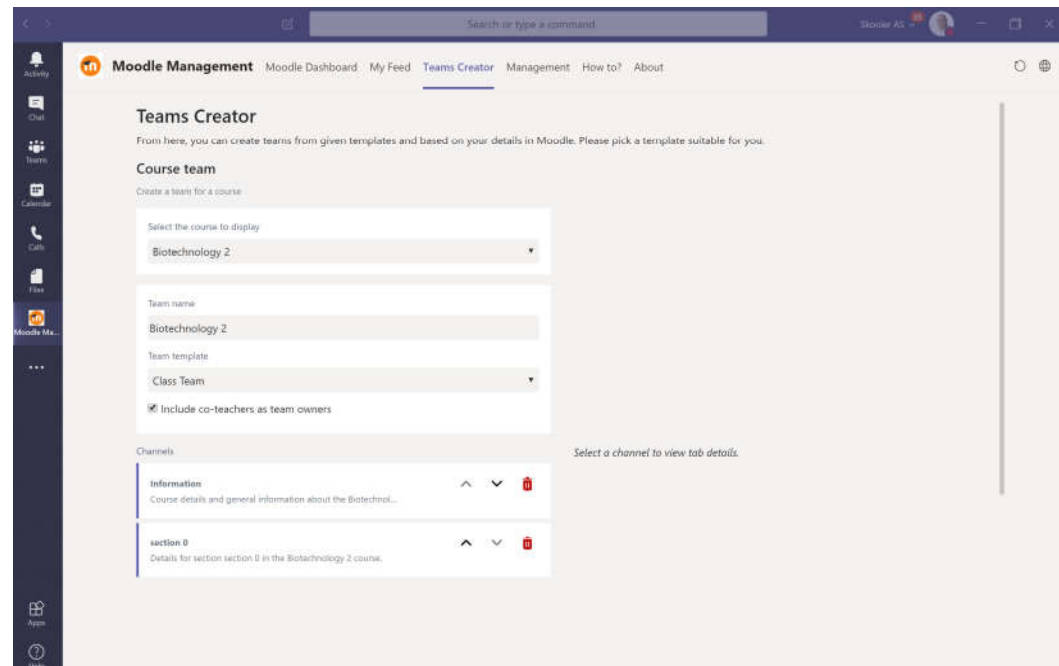
The history of the Vikings (no feed)

My Dashboard

My Moodle!

Add any tab to Teams

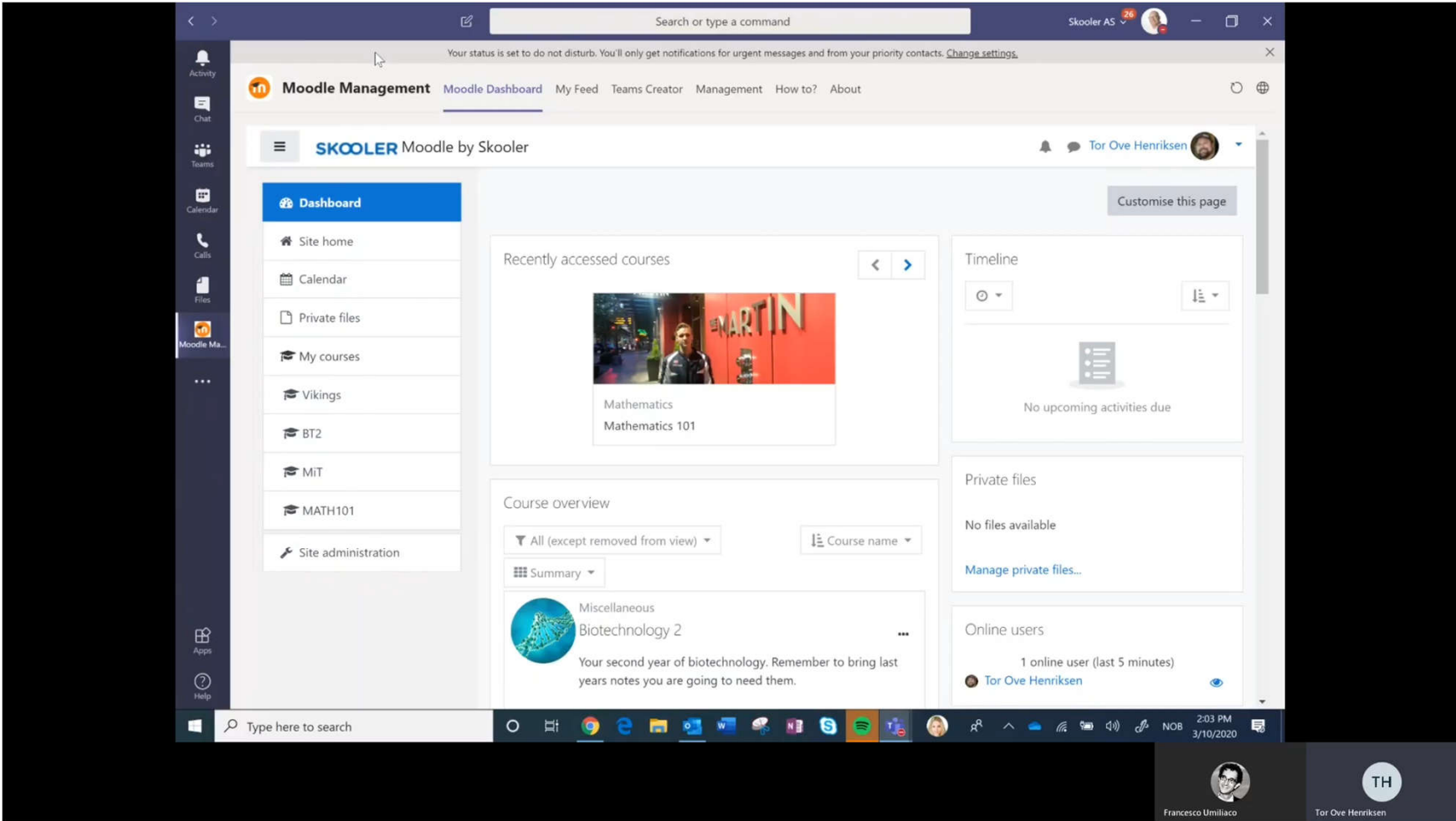
- Moodle/Teams administrators (or users if allowed) can easily create Teams corresponding to Courses in Moodle.
- Each topic in Moodle can be created as Channels in Teams.
- Administrators can bulk-create Teams for every Moodle course.



Licensing and support

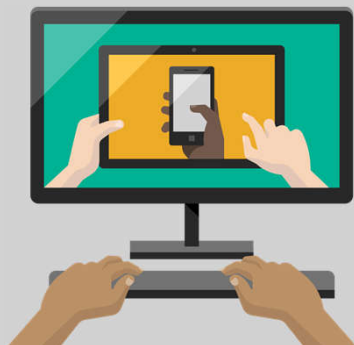
- The Moodle Teams App by Skooler is **FREE** to download and use
- Professional services provided by **Skooler**:
 - Deployment / setup-service
 - Updates, new features and full support SLA: cost per-user per-year
 - Customization or development

Demo



Conclusions

What the future can bring



Availability

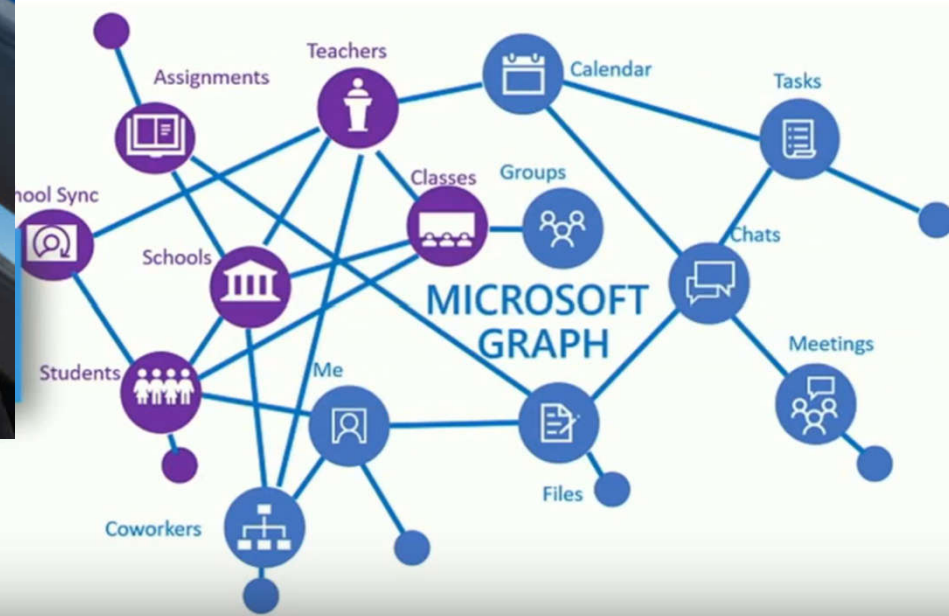
- End of March, in Teams app store, preview available
- Office 365 Moodle integrations available right now
- Teams app, Graph API and powershell capabilities available now

Pushing the limits

Dr. David Kellerman – Inspire 2019

Advanced Team integration (Chatbots, AI, recording, streaming, collaboration) for a digital classroom.

<https://youtu.be/uVQIK7vd1Cs>





Thank you!