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Sharing of information

The `acs-discuss (at) eso.org` mailing list is the official way ACS communicates with its customers and we are going to use that for this workshop too. Make sure to be subscribed to the mailing or drop us an email.

There is also an email-based interface for users of your list; you can get info about using it by sending a message with just the word `help' as subject or in the body, to: `acs-discuss-request (at) eso.org`

When

From July 27th to 31st, 2020

Where

The workshop will be held virtually, co-hosted by ALMA and CTA observatories. The connection details will be updated as soon as they get confirmed.

Logistics info

[ACS Workshop #12 - Logistics](#)

Coordination

- Slack (ACS Community):
 - Expectations: [ACS Workshop #12 - ACS Community Slack Chat](#)
 - Link: https://join.slack.com/t/acsccommunity/shared_invite/zt-g4vko0rl-PztPu_IBARQ5GF4QvJbZxw
 - Channel for each group on the basic track

Sessions

- Zoom (2 Sessions)
 - Expectations: [ACS Workshop #12 - Zoom Sessions](#)
 - Basic Track: <https://zoom.us/j/95277139657>
 - Advanced Track: <https://zoom.us/j/97253535523>
 - Zoom pass: `acsws2020`

Working Environment

- Virtualization
 - Vagrant Image
 - Virtual Box Image (Could be used in VMWare as well)
 - Docker Container

Integration VPN

- [VPN Configuration](#)

Peer Programming

- [Visual Studio Code Configuration](#)
 - [Visual Studio Code](#)
 - [Live Share Plugin](#)

Groups Assignment

- [Groups List](#)

Who

Legend of background colors:

- PARTICIPANT
- SPEAKER
- INSTRUCTOR

Instructors/Speakers

#	Name	Role	Institute	Project	C++	Java	Python	Incompatible Timezone
1	Tomas Staig	SPEAKER INSTRUCTOR	JAO (AUI)	ALMA	✓	✓	✓	
2	Igor Oya	SPEAKER INSTRUCTOR	CTAO gGmbH	CTA	✓	✓	✓	
3	Jorge Avarias	SPEAKER INSTRUCTOR	JAO (AUI)	ALMA	✓	✓	✓	
4	Unknown User (pablo.burgos)	SPEAKER INSTRUCTOR	JAO (AUI)	ALMA	✓		✓	
5	Unknown User (jorge.sepulveda)	SPEAKER INSTRUCTOR	JAO (AUI)	ALMA	✓		✓	
6	Joseph Schwarz	INSTRUCTOR		CTA		✓		
7	Gianluca Chiozzi	INSTRUCTOR	ESO		✓		✓	
8	Heiko Sommer	INSTRUCTOR	ESO			✓		

Basic Track

#	Name	Institute	Project	Listening	C++	Java	Python	Incompatible Timezone
1	Emilio Garcia	IEEC-CSIC	CTA		✓			
2	Alessandro Grillo	INAF Catania	ASTRI			✓		
3	Pietro Bruno	INAF-OACT	ASTRI, CTA			✓		
4	Ronan Cunniffe	FZU (Czech Institute for Physics)	CTA		✓		✓	
5	Franca Cassol	CPPM-CNRS	CTA		✓		✓	
6	Stefano Germani	University of Perugia (Italy)	CTA, ASTRI			✓	✓	
7	Thomas Murach	DESY Zeuthen	CTA			✓	✓	
8	Rosita Hormann	JAO (AUI)	ALMA					
9	Martin Tourneboeuf	JAO (AUI)	ALMA					
10	Vincent Voisin	LPNHE / IN2P3 / CNRS	CTA		✓		✓	
11	Alessandro Costa	INAF	CTA, ASTRI			✓	✓	
12	Iftach Sadeh	DESY	CTA	✓	✓		✓	
13	Vitalii Sliusar	University of Geneva	CTA			✓	✓	
14	Susumu Nakayama	NAOJ	ALMA	✓	✓			✓
15	Makoto Shizugami	NAOJ	ALMA	✓	✓	✓		✓
16	Gianluca Giavitto	DESY	CTA		✓		✓	
17	Stewart McLay	ESO	ALMA		✓	✓	✓	

18	Kevin Munari	INAF-OACT	CTA			✓	✓	
19	Adrián Pablo José Sedoski Croce	ITeDA	LLAMA		✓		✓	
20	Guillermo Giménez de Castro	CRAAM	LLAMA		✓		✓	
21	Matias Hampel	ITeDA	LLAMA		✓		✓	
22	Juan Cabral	IATE-OAC-CONICET	LLAMA			✓	✓	
23	Julia Rezende	CRAAM	POEMAS				✓	
24	Dominik Neise	ETH Zurich	CTA	✓	✓		✓	
25	Hasmik Gasparyan	DESY	CTA				✓	
26	Nicolò Parmiggiani	OAS-Bologna INAF	CTA				✓	
27	Leonardo Baroncelli	OAS-Bologna INAF	CTA		✓			
28	Andrea Bulgarelli	OAS-Bologna INAF	CTA		✓		✓	
29	Antonio Addis	OAS-Bologna INAF	Personal				✓	
30	Federico Russo	INAF	ACADA			✓		
31	Carlos Reyes	ITeDA	LLAMA		✓		✓	
32	Markus Gaug	CTAO	CTA		✓		✓	
33	Tiago Giorgetti	CRAAM	HATS		✓			
34	Fabio Vitello	INAF - IRA	Personal	✓	✓	✓	✓	
35	Patrick Sizun	CEA/Irfu	CTA		✓		✓	
36	Clemens Hoischen	Potsdam University	CTA				✓	
37	Mathieu de Bony	LAPP	CTA				✓	
38	Eva Sciacca	INAF	ASTRI	✓		✓		
39	Fabrizio Lucarelli	INAF-OAR & ASI-SSDC	ASTRI, CTA		✓		✓	
40	Pierluca Sangiorgi	INAF	ASTRI, CTA	✓		✓		
41	Mattia Corpora	INAF	ASTRI			✓		
42	Unknown User (daniel.donoso)	JAO (AUI)	ALMA		✓		✓	
43	Elizabeth Sharp	NRAO (AUI)	ALMA			✓		
44	Jose Luis Ortiz	JAO (AUI)	ALMA				✓	
45	Sonja Vrcic	NRC-CNRC		✓	✓	✓		
46	Mike Smith	NRC-CNRC		✓	✓		✓	
47	Unknown User (jose.ogalde)	JAO (AUI)	ALMA			✓	✓	
48	Mark Gallilee		ALMA				✓	
49	Barbara Sepulveda	JAO (AUI)	ALMA				✓	
50	Patricio Galea	UFRO	-		✓		✓	
51	Sebastian Carrasco	UFRO	-		✓		✓	
52	Gonzalo Rojas	UdeC	-		✓		✓	
53	Jeremias Torres	UdeC	-					
54	Cristian Herrera	ESO	APEX		✓		✓	
55	Camilo Saldias	JAO (AUI)	ALMA		✓	✓	✓	
56	Omar Gabella	LUPM	CTA		✓		✓	
57	Victor Baena	IEEC-CSIC	CTA		✓		✓	
58	Federico Incardona	INAF	CTA			✓	✓	
59	Kurt Plarre	JAO (AUI)	ALMA				✓	
60	Enrique Macias	JAO (AUI)	ALMA	✓			✓	
61	Emilio Barrios	JAO(AUI)	ALMA	✓			✓	
62	Weidong Jun	University of Alabama	CTA				✓	

Advanced Track

#	Name	Institute	Project	C++	Java	Python	Incompatible Timezone
1	Paolo G. Calisse	CTAO gGmbH	CTA			✓	
2	Gino Tosti	CTAO / University of Perugia(Italy)	CTA, ASTRI		✓	✓	
3	Scott Zang	NAOJ	ALMA	✓	✓	✓	✓
4	Vito Conforti	INAF	CTA, ASTRI	✓	✓		
5	Jose Antonio Rugel	?	LLAMA	✓		✓	
6	Francisco Beltran	Yebes Observatory	RT40m-ARIES	✓	✓	✓	
7	Torsten	DES Y Zeuthen	CTA	✓		✓	
8	Philipp Wagner	Freelancer	CTA		✓	✓	
9	Alvaro Aguirre	JAO (AUI)	ALMA			✓	
10	Hiroshi Yatagai	NRAO (AUI)	ALMA				✓
11	Ullrich Schwanke	Humboldt University	CTA, HESS	✓	✓	✓	
12	Danilo Cezar	IAG	LLAMA	✓		✓	
13	Alejandro Saez	JAO (AUI)	ALMA	✓		✓	
14	David Melkumyan	DES Y	CTA		✓		
15	Kris Haskins	NRAO (AUI)	ALMA	✓	✓	✓	
16	Tzu-Chiang Shen	NRAO (AUI)	ALMA	✓	✓	✓	
17	Cristian Lopez	JAO (AUI)	ALMA	✓		✓	
18	Cesar Strauss	INPE	LLAMA	✓		✓	

Agenda

It is assumed that all participants are sufficiently knowledgeable about object oriented programming in C++, Java and/or python. Links to relevant information can be found in the reference documentation (see below). The course is based on [previous experiences](#) that have been organized since 2004 and consists of a technical hands-on course using the ALMA Common Software (ACS) framework, alternated with short technical talks and discussions.

The advanced column is intentionally left open to decide items to discuss all together as the workshop evolves.

- Course project: [Observatory Software Toy Model](#)
- [Reference documentation](#)
- [Group Exercises](#)

Legend

- : Will be a live presentation
- : Live presentation on-going
- : Pre-recorded and available presentation
- : It was a live session and no video is available

Day 1 (Monday, July 27th) – Starting at 12:00 UT

Videos for Day 1: <https://cloud.alma.cl/s/RcXrsXc5WHNgje7>

Time UT	Duration	Basic Track	Guiding instructor	Duration	Advanced Track	Speaker / Moderator
12:00	0:30	Welcome & Round Table				Tomas Staig
12:30	0:30	ACS Workshop - Distributed Systems and CORBA Standard	Unknown User (pablo.burgos)	0:30	Advanced Component Types	Jorge Avarias
13:00	0:40	General overview of ACS	Tomas Staig	1:00	Issue Tracking and Integration	Unknown User (pablo.burgos)
13:40	0:20	Component/Container Model and Lifecycle Management	Unknown User (jorge.sepulveda)			
14:00	0:30	ALMA Software Big Picture	Tomas Staig	0:30		
14:30	0:15	Coffee break				
14:45	0:30	A Trip through ACS Functionality	Igor Oya	0:45	ACS Threads	Tomas Staig

15:15	0:15	Course welcome: Project definition and group assignments ✓	Jorge Avarias			
15:30	0:30	Group exercises: Basic ACS environment and functionalities ✓	Unknown User (jorge.sepulveda)			
16:00	0:30	Project Lifecycle and Software Engineering Basics ✓	Tomas Staig	0:30	BulkData Introduction ✗	Unknown User (pablo.burgos)
16:30	4:30	End of day				

Day 2 (Tuesday, July 28th) – Starting at 12:00 UT

Videos for Day 2: <https://cloud.alma.cl/s/RcXrsXc5WHNgje7?path=%2FDay%202> ✓

Time UT	Duration	Basic Track	Guiding instructor	Duration	Advanced Track	Speaker / Moderator
12:00	0:30	CTA Observatory Presentation ✓				Igor Oya
12:30	0:45	Group exercise: Setting up a Development Environment ✓	Unknown User (pablo.burgos)	1:00	ACS Wish List – New Features / Improvements ✓	Igor Oya
13:15	0:45	Software deployment: Configuration Database and GIT ✓	Tomas Staig	0:30	ACS Workshop - Asynchronous Calls ✓	Jorge Avarias
14:00	0:30	Group exercises/Demonstration: Inspecting example components and CDB / Set up test CDB with a simulated component ✓	Jorge Avarias	0:30	Component Caller / Event Converter Services ✓	Tomas Staig
14:30	0:15	Coffee break				
14:45	1:15	Group exercise: Component functionality development ✓ Documentation: Java: https://confluence.alma.cl/display/ICTACS/ACS+Java+Component+Tutorial C++: https://confluence.alma.cl/display/ICTACS/BACI+Device+Server+Programming+Tutorial Python: http://www.eso.org/projects/alma/develop/acs/OnlineDocs/ACSPython.pdf		0:45	Coordinated Access To Several Monitor/Control Points ✓	Igor Oya
16:00	0:30	Group exercise: First integration ✗	Jorge Avarias			
16:30	4:30	End of day				

Day 3 (Wednesday, July 29th) – Starting at 12:00 UT

Videos for Day 3: <https://cloud.alma.cl/s/RcXrsXc5WHNgje7?path=%2FDay%203> ✓

Time UT	Time	Basic Track	Guiding instructor	Duration	Advanced Track	Speaker / Moderator
12:00	0:30	LLAMA Observatory Presentation ✓				Danilo Cezar Zanella
12:30	0:45	Group exercise: Recap from Day 2 ✓		0:45	ACS Workshop - Notification Channel ✓	Jorge Avarias
13:15	0:45	Group Exercise: HelloComponent Example Python Session: https://zoom.us/j/91826315268 ⓘ Java Session: https://alma.zoom.us/j/98632179637 ✓ C++ Session: https://zoom.us/j/95277139657 ✓	Unknown User (pablo.burgos) , Unknown User (jorge.sepulveda) Mario Garces Tomas Staig			
14:00	0:45	Group exercise: Component functionality development ✓		0:30	(14:15) BulkData ZeroMQ State ✓	Mauricio Araya
14:45	0:15	Coffee break				
15:00	1:00	Group exercise: Component functionality development ✓				
16:00	0:30	Group exercise: Integration of the day ✗	Unknown User (pablo.burgos)	0:30		
16:30	4:30	End of day				

Day 4 (Thursday, July 30th) – Starting at 12:00 UT

Videos for Day 4: <https://cloud.alma.cl/s/RcXrsXc5WHNgje7?path=%2FDay%204> ✓

Time UT	Time	Basic Track	Guiding instructor	Duration	Advanced Track	Speaker / Moderator
12:00	0:30	UFRO University Presentation ✓				Patricio Galeas
12:30	0:30	ACS Workshop - Project Details ✓ ACS Workshop - Day 4 ✓				
13:00	0:30	Logging and Error Systems Overview ✓	Unknown User (pablo.burgos)	0:30	ACS Workshop - ACS Daemons ✓	Jorge Avarias
13:30	0:45	Group exercises: Component functionality development				
14:15	0:15	Coffee break				
14:30	0:45	Group exercises: Component functionality development				
15:15	0:15	Logging and Error Systems Hands-on ✓	Tomas Staig	0:30	Official Docker Image ✓	Dominik Neise
15:30	1:00	Group exercises: Component functionality development / Adding logging and error handling				
16:30	4:30	End of day				

Day 5 (Friday, July 31st) – Starting at 12:00 UT

Videos for Day 5: <https://cloud.alma.cl/s/RcXrsXc5WHNgje7?path=%2FDay%205>

Time UT	Time	Basic Track	Guiding instructor
12:00	0:20	ACS Community Presentation ✓	Tomas Staig
12:20	0:20	Integration Status ✓	Jorge Avarias
12:40	1:40	Group exercises: Project integration and testing	
14:20	0:30	Characteristic components: BACI Properties and DevIOs ✓	Igor Oya
14:50	0:20	Final Integration ✓	
15:10	0:30	Round table: Final discussion and conclusions ✓	
15:40	0:20	Closing Words ✓	Tomas Staig
16:00	3:30	End of day	

Advanced Track Topics

Suggestions:

- Organization:
 - ACS Daemons
 - Advanced Component Types (Default, AutoStart, Immortal, Dynamic, Collocated)
 - Asynchronous Calls
 - Notification Channels
- [Unknown User \(pablo.burgos\)](#):
 - ACS Threads
 - BulkData
- [Tomas Staig](#)
 - ComponentCallerAPI (CORBA to REST) / EventConverter (NotificationChannel to Redis)
- [Dominik Neise](#)
 - DockerHub Official ACS Image
- [Igor Oya](#)
 - Coordinated Access To Several Monitor/Control Points
- [Jorge Avarias](#)
 - Developing and Debugging in ACS