



Al Bridging Cloud Infrastructure "ABCI" Tutorial (Preparation)

Digital Architecture Promotion Center

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CONTENTS

- Setup Client PC Environment
 - Windows: Using Windows Subsystem for Linux
- ABCI System Usage Procedure (Assuming you have already applied for and obtained an account)
 - Access to the User Portal
 - Initial Login
 - Declaration for the Applicability of the Specific Categories
 - Features
- Generate public and private key pairs
 - Key generation with commands from Terminal
 - Key generation with PuTTYgen
 - To convert keys generated by another tools for PuTTY
- Register a public key
- Log in to the ABCI system
 - Log in from Terminal
 - Using PuTTY
- Reference Links Summary



Setup Client PC Environment



The ABCI system consists of the following hardware and software.

- 1,088 nodes of Compute Nodes (V) with a total of 4,352 NVIDIA V100 GPU accelerators
- 120 nodes of Compute Nodes (A) with a total of 960 NVIDIA A100 GPU accelerators
- Approximately 47 PB of shared file system and ABCI cloud storage

Linux-based operating systems are used for these Compute nodes.

To run jobs on the Compute Nodes of the ABCI system, users access them via an access server.



Setup Client PC Environment - In case of Windows PC -

Using <u>Windows Subsystem for Linux (WSL)</u> to build an environment that runs Linux on Windows

WSL is a mechanism to run a Linux environment on Windows, allowing Linux commands and applications to run on Windows. However, since the installation procedure differs depending on the Windows version, please update your Windows to the latest version before installing WSL.

Please refer to the "Reference Links" below for detailed procedures. The main procedure is as follows.

(Tip: Some BIOS settings may be required depending on your PC to use the virtual machine functionality.)

- 1. Enable Windows subsystem for Linux.
- 2. Enable the "Virtual Machine Platform (Hyper-V)" optional feature.
- 3. Download and install Linux kernel package.
- 4. Download and install Ubuntu.

Reference Links:

- https://qiita.com/boss_ape/items/6f1e1f731b5385f4b31a
- https://qiita.com/fumikomatsu/items/01e5cfa09347176f4d1a
- https://chigusa-web.com/blog/wsl2-win11/



ABCI System Usage Procedure - Access to the User Portal -

Access to the "ABCI User Portal", which manages various information in using the ABCI system, to register, manage, and check necessary information.

The "ABCI User Portal" is a site that manages information required to use the ABCI System. Before using the ABCI system, access the "ABCI User Portal" to register and confirm necessary information. After accessing the "ABCI User Portal" and completing the necessary procedures, you will receive an e-mail with a login URL.







ABCI System Usage Procedure - Initial login to the User Portal -

When you log in to the User Portal for the first time, agree to the Terms of Use and change from a temporary password.

- Initial login to the User Portal -

When you register to use the ABCI system, you will receive an e-mail containing your initial login URL, temporary password, and account. Please access the "User Portal" from the URL for initial login, agree to the Terms of Use, and change the temporary password.

ABCI ABCI User Portal	ABCI ABCI User Portal	Change password	
User Login ABCI account name Password Topin	Agree to Terms of Use (Updated on 2024 04 08) Please refer to the following and agree. Hyou do not agree, ABCI can not be used, please understand. Please refer to the following and agree. Hyou do not agree, ABCI can not be used, please understand.	Please enter the password in the form below, click "Change" button. Current password New password (Confirm)	
Click here if you have forgotten your password	 Agreement of Use for ABCI/Amended on 2024/04/01. Effective on 2024/04/01. Users of ABCI Cloud Storage: Terms of Use for ABCI Cloud Storage/Amended on 2024/04/01. Effective on 2024/04/01. ABCI Privacy Policy based on "The amended Act on the Protection of Personal Information fully, put into effect on April 1. 2022) "(Amended on 2024/04/01/Sorry_Japanese only.) Agree ONot agree Please read the following identity confirmation request and if you agree, please click to "I agree with all and move on to the next". 	 Previous Change Password policy Please specify a random character string of 15 characters or more. It must not be a word that appears in the dictionary. We recommend that you generate it automatically by using password creation software, etc. as a way to select characters randomly. shoud not contain characters from current password specify a character string that includes lower case letters, upper case letters, special characters rand arabic numbers. specify a character string that includes lower case letters, upper case letters, special characters rand arabic numbers. specify a character string that includes lower case letters, upper case letter	
① Access URL for initial login	② Agree to the Terms of Use	③ Change from temporary password	

Reference: ABCI Portal Guide - 2. User Portal



ABCI System Usage Procedure

- Declaration for the Applicability of the Specific Categories -

When you log in to the User Portal for the first time in each fiscal year, please complete the "Declaration for the Applicability of Specific Categories".

- When logging in to the "User Portal" for the first time in each fiscal year -

You will receive two E-mails containing a special password and the URL of the website for "Declaration for the Applicability of Specific Category".

Please access to the "User Portal" from the URL for declaration, log in with the temporary password sent to you, and answer the questions displayed.





ABCI System Usage Procedure

- User Portal: When the URL for login has expired -

When the URL for login in the User Portal expires please access "User Portal" again.

The login URL sent to you by e-mail has an expiration time.

If the URL has expired, please access the "User Portal" (https://portal.abci.ai/user/?lang=en) again,

Pass the image authentication and receive another e-mail with the login URL.

Enter your account name and temporary password on the User Portal login screen.



Example: E-mail sent from "User Portal"



ABCI System Usage Procedure - User Portal: Features -

The "ABCI User Portal" allows you to manage users of the ABCI system, add points, check history of additional/usage point, and register public keys to connect to the ABCI system.

Upon logging in to the ABCI User Portal, you can view and manage information necessary for using the ABCI system.

For details on each function, please refer to "ABCI Portal Guide: 2. User Portal, 3. User Administrator Authority".

[Users]

- Change / Reissue password
- Register / Browse / Delete public key
- List of Node reservation / cancellation
- Usage History for ABCI Point
- Cloud Storage Management

[Requires Supervisory User or User Administrator privileges]

- Node reservation / cancellation
- Details of Usage History for ABCI Point
- Additional history for ABCI point additions
- Group Management
- Cloud Storage Management

APCI	1	ABCI Use	er Porta	I				
Al Bridging Cloud Infrastructure			l	ogin user: Katac	oka Satoshi <u>Logo</u>	ut		
Home Change password	Users	Information				•		
Declaration for the Applicability of the Specific Categories Register public key	Full name Affiliation	Kataoka Satoshi Office Yuriko Hanazono, Inc.						
Browse / delete public key Node reservation /	Email addre ABCI group	ess satoshi.kataoka@hanazono.com					See the groups and	
cancellation <u>Usage history for ABCI</u> <u>point</u> 	ABCI group name	Theme	Responsible person	Administrator	Period of use		group members that you belong to or	
Additional history for ABCI point Group Management Cloud Storage Management	gaa54321	How long can we keep the Secret Garden?	<u>Kataoka</u> Wataru	<u>Kataoka</u> <u>Satoshi</u> <u>Kataoka</u> <u>Hinata</u>	2023/04/06 - 2024/03/30		manage.	
						*		

(*Screens vary depending on the authority of the person who logged in)

Reference: ABCI Portal Guide - 2. User Portal

3. User Administrator Authority



Necessary steps to connect to the ABCI system

- Public and private key generation required for SSH public key authentication
- Create tunneling and login by SSH port forwarding

Generation and registration of the "key" necessary for authentication and connection using SSH port forwarding are required to connect to the ABCI system, since the SSH public key authentication method is used.

We will introduce the below two types of these procedures starting on the next page.

- Using a terminal
- Using SSH client software (PuTTY is covered in this content)

It is not necessary to perform both types of procedures.

There are also other methods not introduced here.

Please use them according to your environment.



Generate public and private key pair

- Key generation with commands from Terminal -

Generate a public/private key pair using the "ssh-keygen" command in the terminal for SSH encrypted communication with the ABCI system.

To connect to the ABCI system, you will need an SSH client and a secure public/private key pair.

Available key pairs for ABCI are RSA keys (2048bit or higher), ECDSA keys (256bit, 384bit, or 521bit), and Ed25519 keys.

Example: Generate a public/private key pair with a terminal (Create a 4096-bit RSA key, add a comment with your e-mail address, and create the key in the /.ssh directory)

Substitute where "satoshi.kataoka@hanazono.com" with your own e-mail address.

```
yourpc$ install -m 0700 -d ~/.sshMake a directory to put key and set permissionyourpc$ cd ~/.sshGenerate key with "ssh-keygen" commandyourpc$ ssh-keygen -t rsa -b 4096 -C "satoshi.kataoka@hanazono.com" -f ~/.ssh/id_rsaGenerate key with "ssh-keygen" commandGenerating public/private rsa key pair. Enter passphrase (empty for no passphrase):Enter your passphrase (strongly recommended)Your identification has been saved in id_rsa.Enter the passphrase again (strongly recommended)Your public key has been saved in id_rsa.pub.Check that public/private keys have been generated
```



Generate public and private key pairs - Key generation with PuTTYgen -

Generate public/private keys with "PuTTYgen", a key generation tool for PuTTY

After installing PuTTY, start "PuTTYgen" from the Windows Start menu, and the "PuTTY Key Generator" dialog box will appear. Generate keys from this dialog box. (The version of PuTTY is assumed to be "0.81".)

	Selec	t the	key t	ype	e and press "Genera	te".
😴 PuTTY Key Generator				? ×	😴 PuTTY Key Generator	
File Key Conversions Help					File Key Conversions Help	
Key No key.					Key Please generate some randomness by moving the mouse ove	r the blank are
Actions Generate a public∕private key pair Load an existing private key file			Generate		- Actions	
Save the generated key		Save public key	Save private	кеу	Save the generated key	Save pu
Parameters Type of key to senerate: I RSA ODSA Number of bits in a generated key:) ECDSA	() EdDSA	() SSH-1 [R 4096	ISA)	Parameters Type of kay to generate: ⊙ DSA ○ ECDSA Number of bits in a generated kay.	

For "Parameters", select "RSA", enter "4096" for "Number of bits ...", press "Generate".

(In this example, the key format is the same as in the previous section.)

Parameters Type ofkey to generate: SSH-1 (RSA RSA ODSA Number of bits in a generated key: (3) Move the mouse until the key generation starts and the

? X

green progress bar fills up.

Save the key PuTTY Key Generato Right-click to copy File Key Conversions Heli Public key for pasting into OpenSSH authorized keys file the public key h-rsa AAAAB3NzaC1 yo2EAAAADAQABAAACAQCZRHigymnS6AXw9LdiDO2oi2b7yAWv /AZfEn9Hgrhfv1uZkoZteozr9CPea1DTK8u0/q3sEVIYaOe3mjhIri3VRCCakCGN3yPI63P5RTocH8NxGx7EkvYyKP JEkofkISRUT2wiEnkEhITReDNa4S5RWGRi99I9YUkGGL90+2Nners8koX lpbCzHuohOxCjjJY5LWOBUqL57Wo/fTtbB8eX RaDQBVNpTDI/WFT5iCBEReen VL/JUC/RK×V15H/nzSoVQmV4x/CUJvZXzE8RR58x2rRiFZKC1 kUkoD1 uRBMut Any comment can h-rsa 4096 SHA256;FS VvimluiQ4eW/x6OMMHzZrFSkHGWaQfRbuK+4r9sl rsa-key-20220525 Keycomment be included Key passphrase ------....... Confirm passphrase Actions Generate Any Passphrase Generate a public/private key pa Load an existing private key file Load can be brought Save public key Save the generated key Save private key O ECDS A OEdDSA () SSH-1 (RSA 4096

Enter a comment and passphrase, and press "Save Private Key" to save the private key.

Copy the public key by right-clicking with the mouse. (This step is necessary for the public key registration on the next step.)



Generate public and private key pairs

- To convert keys generated by another tools for PuTTY -

If you have a public/private key generated by another tool and you want to continue to use the public key already registered with the host, you need to convert the private key for PuTTY.

✓ ♂ Search.ssh

Select the key type and press "Generate". PuTTY Key Generator 😴 Load private key File Key Conversions Help ← → ✓ ↑ → Satoshi Kataoka → .ssh Kev Import key Organize 🔻 No ker Export OpenSSH key Pictures 💧 Music Export OpenSSH key (force new file format) Export ssh.com key OneDrive 💻 This PC E Desktop Actions Generate a public/private key pai Generate Music Load an existing private key fi Load Pictures Video: Save the generated key Parameters Type of key to generate RSA ODSA O ECDS A ○ EdDSA ⊖ SSH-1 (RSA) Number of bits in a generated key: 2048

----2 Date modified Type id rsa id rsa Note that the "Type" 3D Objects field says just "File". Documents 👆 Downloads WINDOWS (C:) File name: id_rsa Open 🗸 Cancel

New folde

- (1)Launch "PuTTYgen" and go to "Conversions" \rightarrow "Import key" from the menu bar.
- (2)Find the key pair you created with another tool and select the private key.
- Private keys created with standard Windows command tools are usually located \geq in the ".ssh" folder directly under the "C:\Users\{username}" folder. "id_rsa" "file".



- (3) Enter a comment and passphrase, and press "Save Private Key" to save the private key.
- (4)Copy the public key by right-clicking with the mouse. (This step is necessary for the public key registration on the next step.)
- If your public key is already registered, this step is not necessary.



Register a public key

Register a public key generated in previous section to the "User Portal"

Copy a public key generated in previous section. Login to the "ABCI User Portal", open "Register public key" page, select "Direct Input", paste into the rectangle space, and press [Register].

(If your public key is already registered, this step is not necessary.)

Generated by terminal: Show the generated key by cat command and copy.

yourpc	<pre>\$ cat ~/.ssh/id_rsa.pub</pre>		
ssh-rs	a		
abcdef	ghijklmnopqrstuvwxz12345678	90ABCDEFGHI	
E	hTBbCel satoshi.kataoka@han	azono.com	
yourpc	\$	1	
Generate dialog box	d by "PuTTYgen": After generate key, x.	, copy the public key from the	
PuTTY Key Gener File Key Conversi	rator ? ions Help	×	
Key Public key for pasting	s in to OpenSSH authorized Jkeys file:		
ssh-rsa AAAAB3N; +VAZfEn9Hgrhf/I /JEkpfk/SRUT2wiEr +fNJzb5xd/pbC2Hu +sRaDQBVNpTDI/V	zad1 yo2EAAAADAQ BAAAADAQ2FHIsymo5 AXw8Ldi002ci2b7yAWv Zkożeczor290 el DTrisu0/c3251Yn9e0 simili V NPOskoGN3 yel63P5RTocH8NxGx7EkvYyKPf nEhTReDNa456FWGR498191 VLkGBL90+2Nnegs8kcX nDxGlu/5LWDEUgL57 Wx/fftb89eX MFTGICEReen U/TU/CRKx/thF1/c35V/DW/m/dx/DUJvZXzE9RR56x2rR[FZKC1 kUkc01 uRBMuh		
Key fingerprint:	ssh~rsa 4096 SHA256;FS VvimluiQ4eW/g6OMMHzZrFSkHGWqQtfRbuK+4r9sM	Drag the public key, right	۱t-
Key comment:	rsa-key-20220525	aliak in calacted area a	~ ~
Key passphrase:	•••••	click in selected area, a	ПC
Confirm passphrase: Actions		choose "Copy".	

ABCI User Portal ABCI Login user: Kataoka Satoshi Logo Home Re 1 Open "Register public key" Change password · Declaration for the Applicability of the Specific Categories Register public key Direct input 2 Select "Direct input" Browse / delete publ Method File Upload Node reservation. cancellation Usage history for ABC point (3) Paste the public key here Cloud Storage Management Previous Register 4 Press [Register] Please note the following points when registering public key. No line feed character is included. (Please be aware that line feeds are not include The headers (ssh-rsa, ecdsa-sha2-nistp256, ecdsa-sha2-nistp384, ecdsa-sha2-nistp521, ssh-ed25519) must be attached at the beainnina In the case of RSA public key, public key must be created with 2048 bits or more For ECDSA public key, create public key with 256 bit, 384 bit or 521 bit For Ed25519 public key, you have created a public key with 256 bits. Do not include illegal characters such as double-byte characters

Login to the "ABCI User Portal" and paste key in "Register public key"



To connect to an interactive node, which is the front end of ABCI, follow the steps below.

- 1 Login to the access server using SSH public key and create a tunnel between the client PC and the interactive node.
- 2 Login to the interactive node (es or es-a) through the SSH tunnel using SSH public key authentication.



* ABCI has two types of nodes, (V) and (A). Compute Node (V) and Compute Node (A) for Compute nodes, es and es-a for Interactive nodes as well, each of these nodes are dedicated.



Log in to the ABCI system - Login from Terminal (1/2) -

Login to the access server via SSH and establish a route for port forwarding access from the client PC side to the interactive node. (*The access to the interactive node uses port:22, but the client PC side uses a vacancy number such as port:10022).



Command ssh -L 10022:es:22 -1 aaa12345xx as.abci.ai

-L {port number to receive on Client PC}:{interactive node name to connect to}:{port number of interactive node} -I {ABCI account name} {access server name}

the Access Server and port forwarding to yourpc\$ ssh -L 10022:es:22 -l aaa12345xx as.abci.ai -Example the Interactive Node. The authenticity of host 'as.abci.ai (0.0.0.1)' can't be established. This message is shown only at first login. Are you sure you want to continue connecting (yes/no)? yes -Type "yes" and [Enter]. Warning: Permanently added 'XX.XX.XX' (RSA) to the list of known hosts. Enter passphrase for key '/home/username/.ssh/id rsa': ----Enter the "passphrase" you set. Welcome to ABCI access server. After successful login, the message Please press any key if you disconnect this session. "Welcome to ABCI ..." is appeared.

Reference: <u>ABCI 2.0 User Guide – Getting Started ABCI Login using an SSH Client</u>

Create a tunnel between the client PC and



Log in to the ABCI system - Login from Terminal (2/2) -

Example: After establishing an SSH connection to the access server (as.abci.ai) and a port forwarding route, open another terminal and login to the interactive node (es) from the configured localhost port:10022.



syntax -p {port number to receive on client PC} -I {ABCI account name to login} {host name}

Evenne le		Login to interactive Node es:22, port
Example	yourpc\$ ssh -p 10022 -1 aaa12345xx localhost	forwarded from localhost:10022
	The authenticity of host 'localhost (127.0.0.1)' can't be established. RSA key	fingerprint is
	XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:XX:	This message is shown only at first login.
	Are you sure you want to continue connecting (yes/no)? yes	Type "yes" and [Enter].
	Warning: Permanently added 'localhost' (RSA) to the list of known hosts.	
	Enter passphrase for key '/home/username/.ssh/id rsa':	Enter the "passphrase" you set.
	[username@es1 ~]\$	After successful login, the prompt is
		appeared.

Reference: <u>ABCI 2.0 User Guide – Getting Started ABCI Login using an SSH Client</u>



- Using PuTTY (1/6) -



① Open PuTTY and set SSH tunnel parameters.



1 In the Category menu on the left side of the dialog box,

select "Connection" => "SSH" => "Tunnels", then fill in the following values in the "SSH port forwarding" field on the right.

- ✓ Source port: 10022 (Specify a vacancy port number in your system)
- ✓ Destination: es:22 or es-a:22
- ✓ Choose "● Local"

After entering the setting values, press the [Add] button to reflect the setting values.



- Using PuTTY (2/6) -



2 Enter the SSH authentication information.



- (2) 1. In the Category menu on the left side of the dialog box, select "Connection" => "SSH" => "Auth" => "Credentials", then specify the path to the private key in the "Public-key authentication" field.
 - Private key file for authentication: Enter the path to the private key.
 - ✓ You can also select a file by pressing the [Browse] button.

- 2 2. Page "Session" in the Category menu on the left side and enter login parameters.
 - ✓ Host Name (or IP address): as.abci.ai
 - ✓ Port: 22



- Using PuTTY (3/6) -

	3 Save and load the set parameters.	
R PuTTY Configuration X	😵 PuTTY Configuration X	😵 PuTTY Configuration X
Category: Session Image: Looging Image: Looging <td>Category: Basic options for your PuTTY session Locgins Specify the destination you want to connect to Keyboard Bell Reatures Connection type: Window Appearance Besic options for your PuTTY session Sell 22 Connection type: Window Appearance Behaviour Selection Selection Setextings Colours Default Settings Proxy Sawe SSH Sawe Colpher Auth About Open</td> <td>Category: Basic options for your PuTTY session Basic options for your PuTTY session Specify the destination you want to connect to Host Name (or IP address) Port as abolai Onnection type: Window Appearance Bell Connection type: Onnection type: Connection Data Proxy SSH SH Net Net Besic options for your PuTTY session Secify the destination you want to connect to Host Name (or IP address) Port as abolai Connection type: Besic options for your PuTTY session Saved Sessions Saved Sessions Saved Sessions Save Colours Copiner Auth Open Dancel</td>	Category: Basic options for your PuTTY session Locgins Specify the destination you want to connect to Keyboard Bell Reatures Connection type: Window Appearance Besic options for your PuTTY session Sell 22 Connection type: Window Appearance Behaviour Selection Selection Setextings Colours Default Settings Proxy Sawe SSH Sawe Colpher Auth About Open	Category: Basic options for your PuTTY session Basic options for your PuTTY session Specify the destination you want to connect to Host Name (or IP address) Port as abolai Onnection type: Window Appearance Bell Connection type: Onnection type: Connection Data Proxy SSH SH Net Net Besic options for your PuTTY session Secify the destination you want to connect to Host Name (or IP address) Port as abolai Connection type: Besic options for your PuTTY session Saved Sessions Saved Sessions Saved Sessions Save Colours Copiner Auth Open Dancel

③ - 1. Name and save the settings entered so far.

Enter "as-es" in the "Saved Sessions" field and press the [Save] button to place it on the saved list.

When you want to reuse the saved settings, select them from the save list and press the [Load] button to recall them. 2.



- Using PuTTY (4/6) -

Log in to the access server (as.abci.ai) and create an SSH tunnel. (4)

🔀 PuTTY Configuration	×				Enter ABCI accoun	nt name.
Cate <u>s</u> ory:					login as: aaal2345xx	^
Session Locsing Locsing Locsing Terminal Reyboard Bell Features Window	Basic options for your PuTTY session Specify the destination you want to connect to Host Name (or IP address) Port as abolai Connection type: Connection type: The tage	PuTTY S	Security Alert The host key is not cached for this server: as abciai (port 22)	×	Authenticating with public key "yourpe" Passphrase for key "yourpe" Enter t Welcome to ABCI access server. Please press any key if you disconnect this session of the second	the passphrase set private key.
SH SH	Load, save or delete a stored session Saved Sessions as-es Default Settings as-es Load Save ter filling or loading the values, click [Open].		You have no guarantee that the server is the computer you think it is. The server's ssh-ed25519 kay fingerprint is: ssh-ed25519 2555 SHA2566:2bJmoS+rFPKA/HNrIShGH38xxIkIdWF4BFDDWwC If you trust this host, press "Accept" to add the key to PuTTY's cache and o connecting. If you want to carry on connecting just once, without adding the key to the of "Connect Once". If you do not trust this host, press "Cancel" to abandon the connection. More info	IsXO arry on ache, press Qancel	Note: You must keep this login session while with ABCI. Do not press any key on this screen, as	working s it will
< >	Diniy on clean exit					~

- (4) 1. After all values are entered or loaded, press the [Open] button.
 - 2. When logging in for the first time, you will see the message in the center above and press the [Accept] button.
 - The access server login screen will be displayed, enter the following... 3.
 - ✓ "ABCI Account Name"
 - ✓ "Passphrase" of the private key

If the login is successful, "Welcome to ABCI Access Server" will be displayed.



- Using PuTTY (5/6) -

Date <u>s</u> ory:	
Logging	Credentials to authenticate with
j Terminal	Public-key authen tication
Keyboard	Private key file for authentication:
Bell	KUSERPROFILEK¥ ssh¥id rsappk Browse
i Features	Cartificate to use with the private key (actional)
Appearance	Browco
Behaviour	Browse
Translation	Plugin to provide authentication responses
🖶 Selection	Plugin command to run
Colours	
J. Connection	
j Connection Data	
Data Proxy	Enter the same
Connection Data Proxy SSH Kex	Enter the same
Connection Data Proxy 	Enter the same SSH authentication
Connection Data Proxy Kex Kex Host keys Opher	Enter the same SSH authentication information as the
Bonnection Data Proxy SSH Ke× Ke× Kex Keys Cipher Auth	Enter the same SSH authentication information as the
- Connection - Data Proxy - SSH - Kex - Host keys Cipher - Auth Creden trais	Enter the same SSH authentication information as the access server

5 Launch PuTTY in another window and configure the connection settings

(5) - 1. In the Configuration dialog box of PuTTY launched in another window, select "Connection" => "SSH" => "Auth" => "Credentials" from the Category menu on the left, then specify the path to the private key in the "Public-key authentication" field, in the same way as for the access server.



- (5) 2. Select "Session" from the Category menu on the left, enter the login information for the Interactive Node.
 - ✓ Host Name (or IP address): localhost
 - ✓ Port: 10022

Specify the port number set in the SSH Tunnel Information. Enter the same SSH authentication information as the Access server.

After entering the configuration parameters, save them again as a name, e.g., "es-terminal".



If you have any questions or need for further assistance,

https://abci.ai/en/how_to_use/user_support.html (In English)
 https://abci.ai/ja/how to use/user support.html (In Japanese)

please refer to the following URL and contact us:

ast login: Wed Nov 29 16:49:28 2023 from asl.abci.ai

aaa12345xx@es1 ~]\$

Log in to the ABCI system

- Using PuTTY (6/6) -

		6 Log in to the Interact	ive Node (e	es or es-a).	
PuTTY Configuration Category: Secsion Terminal Keyboard Bell Features Window Appearance Behaviour Translation Selection Dolours Dolours Set After filling th Dipher Close win Auth	Basic options for your PuTTY session he destination you want to connect to ne (or IP address) Port tt 10022 ion type: Serial Other: Telnet se or delete a stored session sessions inal Settings inal Settings Load Save Delete the values, click "Open".	PuTTY Security Alert Image: Security Alert	X DOWWCIsXO e and carry on o the cache, press on. nce Oancel	<pre>aaa12345xx@es1:~ login as: aaa12345xx Authenticating with public key for Passphrase for key "yourpe": ABCI Information Welcome to ABCI system Operation Schedule 10/27 (Fri) 15:00 - Memon ng services. 12/14 (Thu) - 02/12 (Mon) ABCI Progracy For more information, please set https://abci.ai/en/about_abci https://abci.ai/ja/about_abci How to use Please set below for ABCI Users</pre>	Enter ABCI account name.
About	 OpenCancel			- https://docs.abci.ai/en/ (In - https://docs.abci.ai/ia/ (In	English) Japanese)

- (6) 1. After all values are entered or loaded, press the [Open] button.
 - 2. When logging in for the first time, you will see the message in the center above and press the [Accept] button.
 - 3. The Interactive Node login screen will be displayed, enter the following...
 - ✓ "ABCI Account Name"
 - ✓ "Passphrase" of the private key

If the login is successful, "Welcome to ABCI System" will be displayed.



Reference Links Summary

- ABCI Official Website (<u>https://abci.ai/</u>)
- ABCI 2.0 User Guide (<u>https://docs.abci.ai/en/</u>)

This guide explains the technical details of ABCI 2.0 and how to use it. This content mainly introduces the "Connecting to Interactive Node" section in the "Getting Started ABCI" chapter of the User Guide.

ABCI Portal Guide (<u>https://docs.abci.ai/portal/en/</u>)

A portal site for managing ABCI 2.0 users and other necessary information.

• Windows Subsystem for Linux (WSL)

Reference information on the environment settings required to use ABCI2.0 from Windows terminals. Please refer to the latest information as it is updated from time to time on external sites.

- <u>https://learn.microsoft.com/en-us/windows/wsl/install#manual-installation-steps</u>
- <u>https://qiita.com/fumikomatsu/items/01e5cfa09347176f4d1a</u> (Japanese)
- <u>https://chigusa-web.com/blog/wsl2-win11/</u> (Japanese)
- About SSH client software PuTTY
 - WinSCP (included PuTTYgen, <u>https://winscp.net</u>)
 - PuTTY (<u>https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html</u>)



A Bridging Cloud Infrastructure

https://abci.ai/