

Supercomputing Core Laboratory High-Performance Computing Systems Procedures for Terms and Conditions of Usage

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Responsible Executive: Vice President for Research

Responsible Offices: Supercomputing Core Laboratory

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جامعة الملك عبد الله
للتكنولوجيا

King Abdullah University of
Science and Technology



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1 Purpose

The purpose of this document is to establish the procedures for the terms and conditions of usage of High-Performance Computing (“HPC”) systems, including the flagship supercomputer of Shaheen III CPU partition and complementary cluster computer of IBEX, hosted in the Scientific Computing Center (“SCC”), managed by King Abdullah University of Science and Technology (“KAUST” or the “University”)’s Supercomputing Core Laboratory (“KSL”).

These HPC systems are subject to U.S. export control regulations, including certain access and usage restrictions. Per KAUST’s Export Control Compliance Policy, the University is committed to complying fully with all applicable export control restrictions.

2 Scope

These procedures address areas that include but are not limited to access, use, data, and acknowledgement of the HPC systems. These procedures apply to all University personnel, including faculty and staff; students; contractors; and authorized visitors, collaborators and partners who use the HPC systems of KSL.

3 Definitions

- KSL: KAUST Supercomputing Core Laboratory
- HPC: High-Performance Computing
- RCAC: Research Computing Allocation Committee
- OAA: Organizational Access Application
- IAA: Individual Access Application
- Export Controls: Export Controls are laws and regulations that govern the transfer or disclosure of goods, technology, software, and services originating from certain countries.

4 Export Regulations Compliance Requirements

4.1 Usage Restrictions

- 4.1.1 IBEX users may undertake any research consistent with University’s policies, except for that which is prohibited by export control regulations, including Export License conditions.
- 4.1.2 Shaheen III CPU partition must only be used for student’s education, scientific research, and collaborations in the following areas: energy and environmental sustainability, water desalination, clean combustion, catalysis, membranes, crops, material science (soft, composite and nanomaterials); climate and ecology, geosciences, complex multi-physics simulations (including aero-acoustic and particle transport), computational science and visualization (including computational biology, computational fluid dynamics, computational chemistry, parallel algorithms, programming models, large-scale data analysis, computational steering, mathematical modelling, and system software); data science and engineering; health and wellness, microbiology, bioscience; industrial and economic development, optoelectronics, and nanoelectronics.

4.2 Access Permission Granted

- 4.2.1 Authorized faculty, students, and staff of KAUST.
- 4.2.2 Organizations and respective nationals of Tier 1 and Tier 3 countries (see Appendix A), subject to conditions 4.3, 4.4 and 4.5 below and any additional restrictions under applicable regulations and export control regulations, including Export License conditions.
- 4.2.3 Other organizations and institutions specifically approved by the US Government within the Export License(s).
- 4.2.4 For IBEX users external to KAUST, access is permitted to GPU resources only as approved by the Research Computing Allocation Committee ("RCAC") and after screening against the US Government Consolidated Screening List.

4.3 US Government Consolidated Screening List

- 4.3.1 No access to the KSL HPC systems at KAUST is authorized to organizations, governments or nationals listed on the US Government Consolidated Screening List at <https://www.trade.gov/data-visualization/csl-search>, except that the RCAC may approve access on a case-by-case basis to entities designated only on the Unverified List after consultation and approval by the Office of General Counsel.

4.4 Prohibited Activities

- 4.4.1 Military, national security and/or intelligence work.
- 4.4.2 The design, development, production, testing, or use of conventional, nuclear, chemical, biological, or radiological weapons, or any component or subsystem specially designed for such devices.
- 4.4.3 Complete rocket systems (including ballistic missiles, space launch vehicles, and sounding rockets) or unmanned air vehicle systems (including cruise missile systems, target drones, reconnaissance drones, and pilot optional aircraft) capable of delivering conventional, nuclear, chemical, biological or radiological weapons, including any specially designed component or subsystem of such systems.
- 4.4.4 The design, development, production, use or maintenance of nuclear fuel cycle facility (including facilities engaged in nuclear propulsion and related activities) or heavy water production plant in a country not party to the Nuclear Non-Proliferation Treaty.
- 4.4.5 Any facility for the production of chemical, biological or radiological weapons.
- 4.4.6 Any facility for the manufacture of chemicals, biological agents or radioisotopes capable of being used in chemical, biological or radiological weapons.

4.5 Right to Deny Access

- 4.5.1 KAUST reserves the right to deny access to any other end-user at its discretion if KAUST identifies information indicating that the individual or entity are engaged in actions or functions that support military, national security, or intelligence work.

4.6 Usage of Credentials

- 4.6.1 Once granted, User IDs must NOT be used by anyone other than the person to whom that User ID was issued.

4.7 Business Users

4.7.1 Business visitors at KAUST are considered as external users. For:

- Shaheen III CPU partition access requests, the Organizational Access Application (“OAA”) document is required to be submitted for review and approval (see section 5).
- IBEX access requests, the user must either have an approved KAUST credential or be approved by the RCAC review process.

4.8 KSL HPC User Account Management

4.8.1 User account access to KSL HPC systems:

- Shaheen III CPU partition user accounts that are not used for more than 60 days, will have their access to the system disabled and users will be required to apply to the KSL HPC System Administration (Sys Admin) Team via help@hpc.kaust.edu.sa for the account to be re-enabled.
- IBEX user accounts have access to the system while the account is active in the KAUST IT managed Active Directory.

4.8.2 Note that the US export control policy and regulations are evolving. This document will be revised in order to reflect updated export control policy, regulations and/or Export License condition requirements.

4.8.3 All users must comply with the University’s Export Control Compliance Policy.

5 Project Requirements

The HPC systems and supporting services available through KSL are managed by RCAC which was established by KAUST to manage KAUST’s research and training missions on the HPC systems. The HPC systems and services at KAUST are heavily utilized and KSL resources are allocated competitively.

5.1 Proposal Requirements for Shaheen III CPU Partition

5.1.1 Principal Investigators (PIs) must submit detailed proposals for their projects to obtain access to the system and services at KSL and will be required to report on progress relative to their approved proposal and work plan on a regular basis. Further, usage of the system and supporting services will be priced and charged in accordance with KAUST policies and procedures, and the endorsement of the RCAC and approval of the Vice President for Research.

5.1.2 For non-KAUST users, their organization or department must submit the OAA, establishing a relationship between the home organization and the KSL. The form must be completed, printed, signed, scanned and emailed to help@hpc.kaust.edu.sa. Each external organization must have submitted a completed OAA before its account requests or project proposals can be considered. The external organization must carefully consider who is an approved authorized representative with the authority to sign the OAA on the external organization’s behalf. By signing this application, the external organization acknowledges that they are responsible for updating the authorized signatory information upon any changes.

- 5.1.3 Project proposals must be submitted using the KSL Project Proposal Form (“PP Form”). The PP Form indicates elements which will be taken into consideration when assessing a project proposal for the allocation of resources and services, when reviewing project progress after it has been approved, and when analysing the costs of the project.
- 5.1.4 Project PIs are also required to submit progress reports on their project to the KSL at least every three (3) months. In addition to details of the project itself, these progress reports must, at a minimum, include the following details:
 - A description of all activities on the Shaheen III CPU partition since the previous report;
 - Progress against the work schedule submitted with the Project Proposal;
 - Expected completion date of the project; and
 - Any additional resources required to complete the project.

Note that projects will not be approved and set up without the organization/institution having submitted an OAA and all users working on that project having submitted an Individual Access Application (“IAA”).

Users and organizations will be checked against the Consolidated Screening List published by the US Government.

The OAA form is available for download at: <https://hpc.kaust.edu.sa/>

The IAA and PP Form can be completed online at <https://apply.hpc.kaust.edu.sa/add/>

5.2 Proposal Requirements for IBEX System

- 5.2.1 All faculty automatically have access to IBEX and are granted 80TB of storage from which they can create projects. For an aggregate allocation of more than 80TB a PP Form must be submitted to the RCAC (upon adding the proposal to the meeting agenda by the RCAC secretary, a temporary allocation will be made pending approval).
- 5.2.2 For storage allocations >80TB, the approval from the RCAC is limited to a maximum of one year, after which the PI must re-apply.
- 5.2.3 For projects with an external Principal Investigator:
 - PP Form must be submitted to the RCAC.
 - 80TB of storage is automatically allocated, beyond which an application must be submitted to the RCAC.
 - Allocations are time limited as approved by the RCAC.

6 Data Purge Policies

6.1 Shaheen III CPU Partition Data Purging Policy

- 6.1.1 /scratch/<username> and /scratch/project/<projectname>: files not modified AND not accessed in the last sixty (60) days will be deleted.
- 6.1.2 /scratch/tmp: temporary folder - files not modified AND not accessed in the last three (3) days will be deleted.

6.1.3 /project/<projectname>: 80 TB limit per PI. all data in /project/<projectname> and /scratch/project/<projectname> will be deleted permanently two (2) months after core hour allocations for the project have expired unless a further application has been submitted for RCAC consideration.

6.2 IBEX Data Purging Policy

6.2.1 /ibex/tmp - files not accessed in the last sixty (60) days will be deleted; contact ibex@kaust.edu.sa for allocations in this area.

6.2.2 /ibex/project/<projectname> - data will be purged one (1) month after the earlier of: the project end date, or the Principal Investigator is no longer affiliated with KAUST.

6.2.3 /ibex/user/<username> - data will be purged six (6) months after the user account is deactivated by KAUST IT.

7 Use of Publicly Available Software

Most information and software (programs, audio, video, data files, etc.) that is publicly available (including that on the internet) is subject to copyright or other intellectual property right protection.

7.1 Material of Use on KSL HPC Systems

7.1.1 Do not obtain software from such sources for use on KSL HPC systems unless express permission to do so is stated by the material owner and the KSL Sys Admin Team.

7.1.2 All software for use on:

- KSL HPC systems must be installed by the KSL Sys Admin Team. If you require any software that is not already installed on the KSL HPC systems, you must place a request for that software with the KSL Sys Admin Team. The KSL Sys Admin Team will examine any applicable software copyright restrictions and discuss any issues with the requestor prior to the software being installed on the KSL HPC systems. If the KSL Sys Admin Team believes that KAUST will not be able to comply with any part of the terms and conditions of use, then that software will not be installed on the KSL HPC systems.
- The KSL team will assess software installation requests – if a software installation request is rejected, the user may install the software themselves provided that it does not violate any aspects of the procedures for KSL HPC terms and conditions of usage or the KAUST's policies, procedures and standards.

7.1.3 If you are unsure about the meaning of the restrictive language or have questions about it, you should contact the KSL Sys Admin Team before using the material.

8 Acknowledgement of KAUST in Research Publications

Whenever the results of research conducted on the KSL HPC systems at KAUST are published, or the research involved personnel from KSL, Principal Investigators (PIs) are required to acknowledge the usage of the KSL HPC systems at KAUST and/or the involvement of KSL personnel in their research in their publications. For example, the following statement could be used: "For computer time, this research used the resources of the Supercomputing Core Laboratory at King Abdullah University of Science and Technology (KAUST) in Thuwal, Saudi Arabia."

9 Compliance

All users must comply with KAUST Policies, Standards, and Procedures. In particular, Export Control Compliance Policy, Data Privacy Policy, Confidentiality Policy, Information Security Policy, and Acceptable Use Policy.

Failure to Comply: All users are responsible for understanding and complying with the procedures for KSL HPC terms and conditions of usage requirements and KAUST policies, procedures and standards. A violation of these requirements may result in appropriate disciplinary action, including revocation of access and/or possible separation or termination from KAUST. Please refer to the [Disciplinary Policy](#).

10 Related Documents

[Export Control Compliance Policy](#)

[Charter of the KAUST Research Computing Allocation Committee \(RCAC\)](#)

[Research Computing Allocation Committee Procedures](#)

[SCC Data Center Procedure](#)

[Data Privacy Policy](#)

[Disciplinary Policy](#)

[Identity and Access Management Policy](#)

[Confidentiality Policy](#)

[Information Security Policy](#)

[Acceptable Use Policy](#)

KSL Project Proposal Form

Organizational Access Application Form

For questions about this procedure, please contact: hpc@kaust.edu.sa.

11 Appendix A - Computer Tier 1 and Tier 3 Countries

Computer Tier 1 and Tier 3 Countries

Updated as of 17 October 2024

(To confirm the current country tier lists, see 15 C.F.R. § 740.7)

Computer Tier 1:

Albania, Antigua and Barbuda, Argentina, Aruba, Australia, Austria, Bahamas (The), Bangladesh, Barbados, Belgium, Belize, Benin, Bhutan, Bolivia, Botswana, Brazil, Brunei, Bulgaria, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Chile, Colombia, Congo (Democratic Republic of the), Congo (Republic of the), Costa Rica, Cote d'Ivoire, Croatia, Curaçao, Cyprus, Czech Republic, Denmark, Dominica, Dominican Republic, Ecuador, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, Gabon, Gambia (The), Germany, Ghana, Greece, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hungary, Iceland, Indonesia, Ireland, Italy, Jamaica, Japan, Kenya, Kiribati, Korea (Republic of), Latvia, Lesotho, Liberia, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Marshall Islands, Mauritius, Mexico, Micronesia (Federated States of), Monaco, Mozambique, Namibia, Nauru, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Rwanda, St. Kitts & Nevis, St. Lucia, St. Vincent and the Grenadines, Sao Tome & Principe, Samoa, San Marino, Senegal, Seychelles, Sierra Leone, Singapore, Sint Maarten (the Dutch two-fifths of the island of Saint Martin), Slovakia, Slovenia, Solomon Islands, Somalia, South Africa, Spain, Sri Lanka, Surinam, Swaziland, Sweden, Switzerland, Taiwan, Tanzania, Togo, Tonga, Thailand, Timor-Leste, Trinidad and Tobago, Turkey, Tuvalu, Uganda, United Kingdom, Uruguay, Vatican City, Venezuela, Western Sahara, Zambia, and Zimbabwe.

Computer Tier 3:

Afghanistan, Algeria, Andorra, Angola, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia & Herzegovina, Burma, Cambodia, China (People's Republic of), Comoros, Djibouti, Egypt, Georgia, India, Iraq, Israel, Jordan, Kazakhstan, Kosovo, Kuwait, Kyrgyzstan, Laos, Lebanon, Libya, Macau, Macedonia (The Former Yugoslav Republic of), Mauritania, Moldova, Mongolia, Montenegro, Morocco, Oman, Pakistan, Qatar, Russia, Saudi Arabia, Serbia, Sudan, Tajikistan, Tunisia, Turkmenistan, Ukraine, United Arab Emirates, Uzbekistan, Vanuatu, Vietnam, and Yemen.

Group E Countries

(To confirm the current country list, see 15 C.F.R. Supplement No. 1 to Part 740—Country Groups)

Cuba, Iran, North Korea, and Syria